



Habitat Conservation Plan for State Trust Lands **2008 Annual Report**

November 2008



WASHINGTON STATE DEPARTMENT OF
Natural Resources
Doug Sutherland - Commissioner of Public Lands

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Ecosystem Services Section
Land Management Division



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http://www.dnr.wa.gov/ResearchScience/Topics/TrustLandsHCP/Pages/annual_reports.aspx

Contents

Page	Title
1.1	1. INTRODUCTION
1.1	Planning Units
1.2	Elements of the HCP
1.3	Highlights from Fiscal Year 2008
2.1	2. SILVICULTURAL MANAGEMENT ACTIVITIES
2.1	Trends
3.1	3. NESTING, ROOSTING, FORAGING AND DISPERSAL/DESIRED FUTURE CONDITION MANAGEMENT
4.1	4. NON-TIMBER MANAGEMENT ACTIVITIES
4.1	Non-Timber Activities
4.8	Recreation/Public Use Activities
4.8	Sustainable Recreation Work Group
4.9	Recreation Rule Changes
4.9	Recreation Plan Development
4.10	Region Public Use Inventory and Assessments
4.12	Natural Areas Program
5.1	5. ROAD MANAGEMENT ACTIVITIES
5.4	Road Use Permits and Easements
6.1	6. LAND TRANSACTIONS
7.1	7. MONITORING AND RESEARCH
7.1	Implementation Monitoring
7.2	Effectiveness Monitoring, Validation Monitoring, and Research
7.2	Riparian Conservation Strategy
7.12	Northern Spotted Owl Conservation Strategy
7.18	HCP Data Management
7.20	Earth Sciences Program
7.21	OESF Research and Monitoring Program
7.22	Old Growth Identification and Management
7.23	Marbled Murrelet Conservation Strategy
G.1	GLOSSARY
R.1	REFERENCES
A.1	APPENDIX A. SILVICULTURAL ACTIVITIES

1. Introduction

The Washington State Department of Natural Resources (DNR) manages roughly 2.3 million acres of forested state trust lands statewide. DNR's trust lands Habitat Conservation Plan (HCP) guides management of approximately 1.8 million acres of forested state trust lands within the range of the northern spotted owl (*Strix occidentalis caurina*). Authorized under the Endangered Species Act (ESA), the HCP is a partnership between the National Marine Fisheries Service—now known as NOAA Fisheries Service, United States Fish and Wildlife Service, (collectively, the Federal Services) and DNR. The trust lands Habitat Conservation Plan was signed in January 1997.

In general, the HCP guides our management of forested state trust lands west of the crest of the Cascade Mountains and those on the eastern slopes of the Cascades, from the Canadian border to the Columbia River. To manage these areas more efficiently and effectively, HCP lands have been broken into nine planning units based primarily on large watersheds (Figure 1.1). The HCP enables us to comply with Endangered Species Act requirements by containing conservation objectives and strategies that provide habitat for listed and unlisted species while providing greater certainty, flexibility, and stability in meeting our trust responsibilities—generating revenue for trust beneficiaries through activities such as harvesting timber and other forest products.

As new scientific data become available and we gain an increased understanding of forest ecosystems, DNR will continue to work with the Federal Services to use adaptive management in adjusting strategies to better accomplish HCP conservation goals.

Planning Units

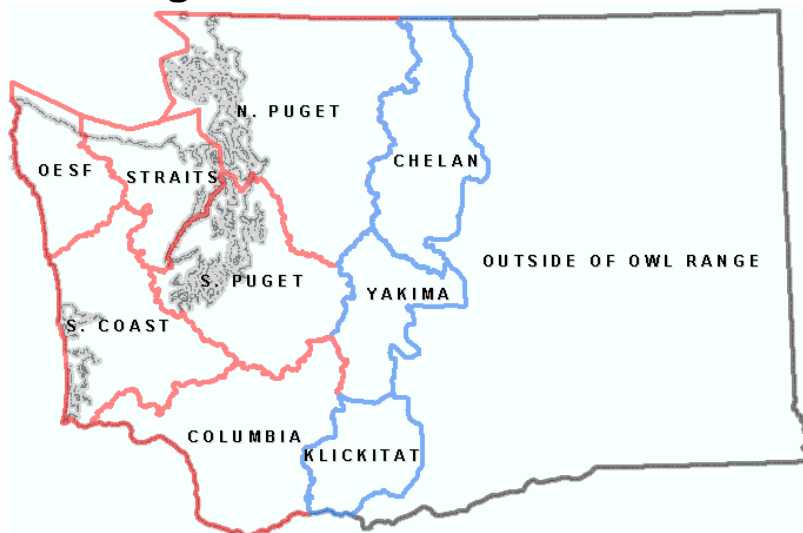


Figure 1.1. Trust lands Habitat Conservation Plan planning units

Westside planning units: Columbia, North Puget, Olympic Experimental State Forest (OESF), South Coast, South Puget, and Straits

Eastside planning units: Chelan, Klickitat and Yakima

The trust lands Habitat Conservation Plan includes habitat conservation strategies for ESA-listed species, unlisted species, and unique habitats.

Elements of the HCP

Conservation Objectives for ESA-listed Species

HCP management objectives focus primarily on habitat conservation and enhancement for species listed under the Endangered Species Act. Our habitat management plan identifies specific conservation objectives for the northern spotted owl, marbled murrelet (*Brachyramphus marmoratus*), and riparian dependent species such as bull trout and salmon. These objectives and the strategies used to achieve them are designed to conserve and enhance suitable habitat for the support of these species and a number of unlisted species.



The peregrine falcon, *Falco peregrinus*, is a species that benefits from conservation of cliffs (a unique habitat), as well as protection of riparian and upland habitat. Photo courtesy of Dale Gomez.

Multiple Species Conservation Objectives

In addition to habitat for ESA-listed species, the conservation objectives developed for the HCP were designed to provide appropriate habitat protection for many other species not currently listed or protected under the ESA. The HCP also provides specific habitat protection appropriate for numerous state-listed plant and animal species of concern. The department approaches land management planning in this manner to avoid future disruptions due to new ESA listings.

Unique Habitat Objectives

Protection of specific habitats includes identifying and protecting critical habitat types such as caves, cliffs, talus slopes, wetlands, balds, mineral springs, snags, oak woodlands, and large, structurally unique trees. These habitats provide nesting, roosting, hiding, and foraging opportunities for many species.

Adaptive Management Component

Ongoing research and monitoring may identify needed changes in management practices to address specific species and habitats; therefore, the HCP also contains a dynamic, scientifically-based adaptive management component.

Highlights from Fiscal Year 2008

Completed Marbled Murrelet Science Team Report: *Recommendations and Supporting Analysis of Conservation Opportunities for the Marbled Murrelet Long-term Conservation Strategy*

In March 2008, we published the final report completed by the Marbled Murrelet Science Team titled *Recommendations and Supporting Analysis of Conservation Opportunities for the Marbled Murrelet Long-term Conservation Strategy*. The report marked the completion of a four-year process that brought together scientists from research institutions, the private sector, and federal and state agencies. This group of marbled murrelet experts was charged with recommending to the department conservation measures designed to meet the requirements identified in the HCP for the conservation of the marbled murrelet on forested state trust lands.

The Science Team undertook a thorough and comprehensive process. They reviewed the stipulations for a Long-term Conservation Strategy identified in the HCP. They also reviewed the interim conservation strategy as implemented by DNR, including habitat modeling, survey methodology and implementation, and data collected. When appropriate, they proposed further investigations into data quality and management in order to ascertain how to best address these issues in their recommendations. In addition to a thorough internal review process that drew on the expertise and backgrounds of each member of the Science Team, they solicited an outside peer review by respected and published scientists in the field to further hone their recommendations and supporting analyses.

The report contributes a landscape-level examination of conservation opportunities for DNR to consider in crafting a Long-term Conservation Strategy. It includes the definition of appropriate biological goals for habitat conservation, an evaluation and rationale of important landscapes for support of those biological goals, and some preliminary forest modeling to demonstrate tools for DNR to use in evaluating alternative approaches to a Long-term Conservation Strategy.

The report provides detailed recommendations developed by the Science Team for DNR's consideration; it is not a draft strategy. The development of a proposed Long-term Conservation Strategy will be done by DNR with input from the U.S. Fish and Wildlife Service, and will be informed by additional analysis and public input. Opportunities for public input will be provided through the environmental review process under the National Environmental Policy Act (NEPA) and the State Environmental Policy Act (SEPA). The entire process, culminating in Board of Natural Resources concurrence, U.S. Fish and Wildlife Service approval and DNR adoption of the Long-term Conservation Strategy, is expected to be completed in 2010.

Restoration of Forested Trust Lands Impacted by the December 2007 Windstorm

In December 2007, the Washington Coast was battered by a severe wind event. Coastal forest lands within DNR's Pacific Cascade Region were hit especially hard, resulting in

approximately 3,100 acres of forested state trust land affected by various degrees of blowdown (trees that are knocked over or have their tops blown out by wind). Most of the blowdown occurred in the Radar Ridge (near Naselle) and Browning (near Menlo) forest blocks located within Pacific County in the South Coast Planning Unit. Impacts to forested stands varied in extent and type of damage. In some cases, the wind blew down whole trees, and in other cases, tree tops were snapped off. Some areas of blowdown had no standing trees left, whereas other stands retained most of their canopies and looked as if they had been thinned.

Blowdown occurred within several habitat categories including riparian management zones (RMZs), reclassified marbled murrelet habitat and occupied marbled murrelet sites. In all cases, sites were evaluated to determine if salvage of blowdown was warranted and if it would be consistent with habitat objectives. In some cases, salvage can help restore affected areas so they achieve or return to suitable habitat conditions more quickly than if the blown down trees were left in place. Salvage activities were modified based on remaining stand conditions and habitat objectives, such as retention of habitat components and standing trees.

Of the 3,100 acres of blowdown, approximately 1,310 acres occurred within RMZs and 800 acres were in marbled murrelet habitat. Following consultation with the Federal Services and the Washington Department of Fish and Wildlife, Pacific Cascade Region was able to conduct limited salvage activities in approximately 730 blown down acres in riparian management zones. These salvage activities had the objective of restoring severely damaged RMZs and assisting their trajectory towards the riparian desired future condition (as defined in Bigley and Deisenhofer 2006) by removing excess down wood, thus allowing planting and natural regeneration to occur. Also, limited salvage activities were allowed to occur in approximately 390 of the blown down acres within marbled murrelet habitat. The scale of these salvage efforts varied from site to site. Approximately 410 acres of wind-thrown marbled murrelet habitat will not be salvaged, either to avoid negatively affecting remaining or adjacent occupied sites and habitat or because the areas are within the South Nema Natural Resource Conservation Area.

Figures 1.2 and 1.3 show the extent of blowdown, including areas of salvage, in the Browning and Radar Blocks of state trust lands.

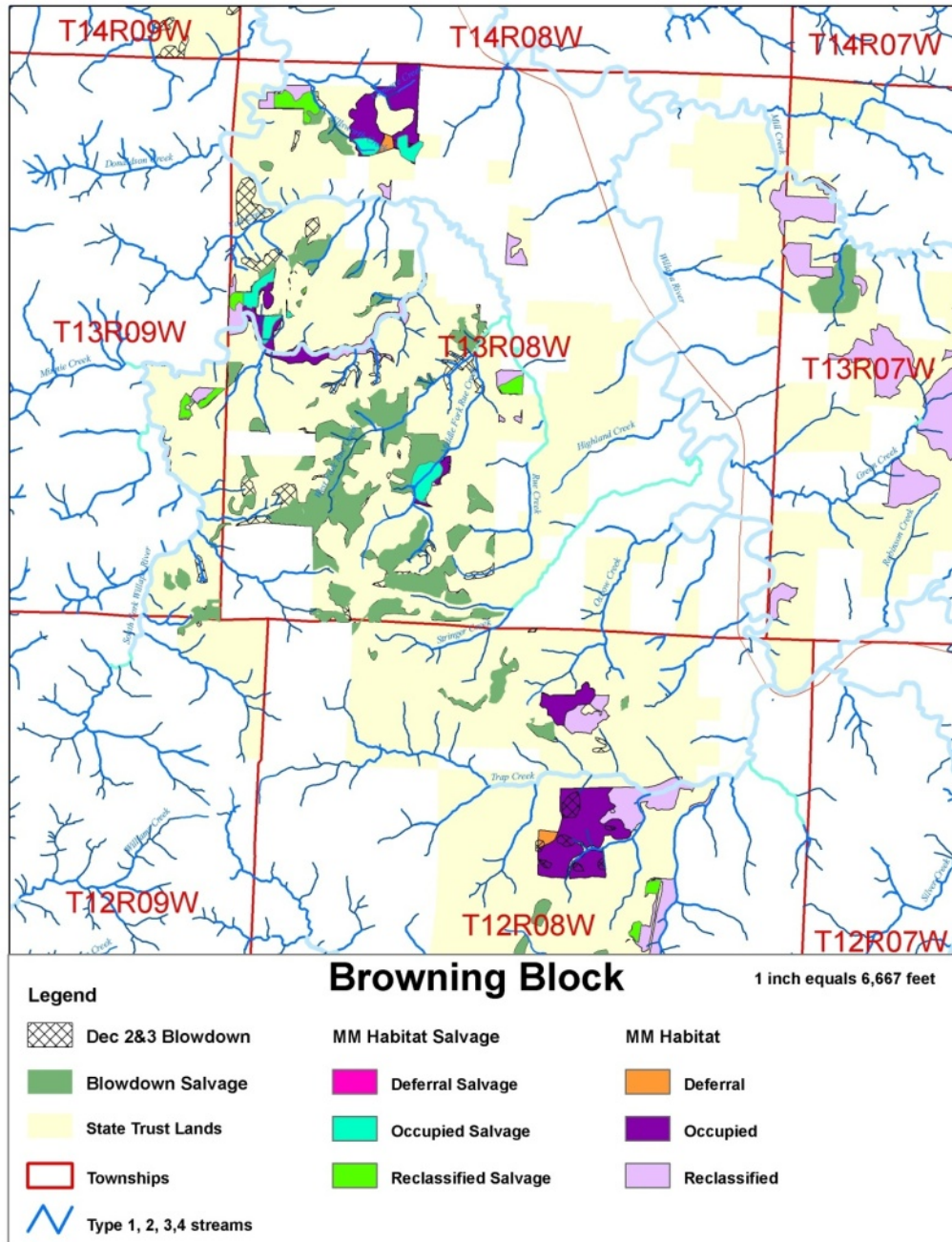


Figure 1.2. Blowdown salvage areas and marbled murrelet habitat in the Browning Forest Block

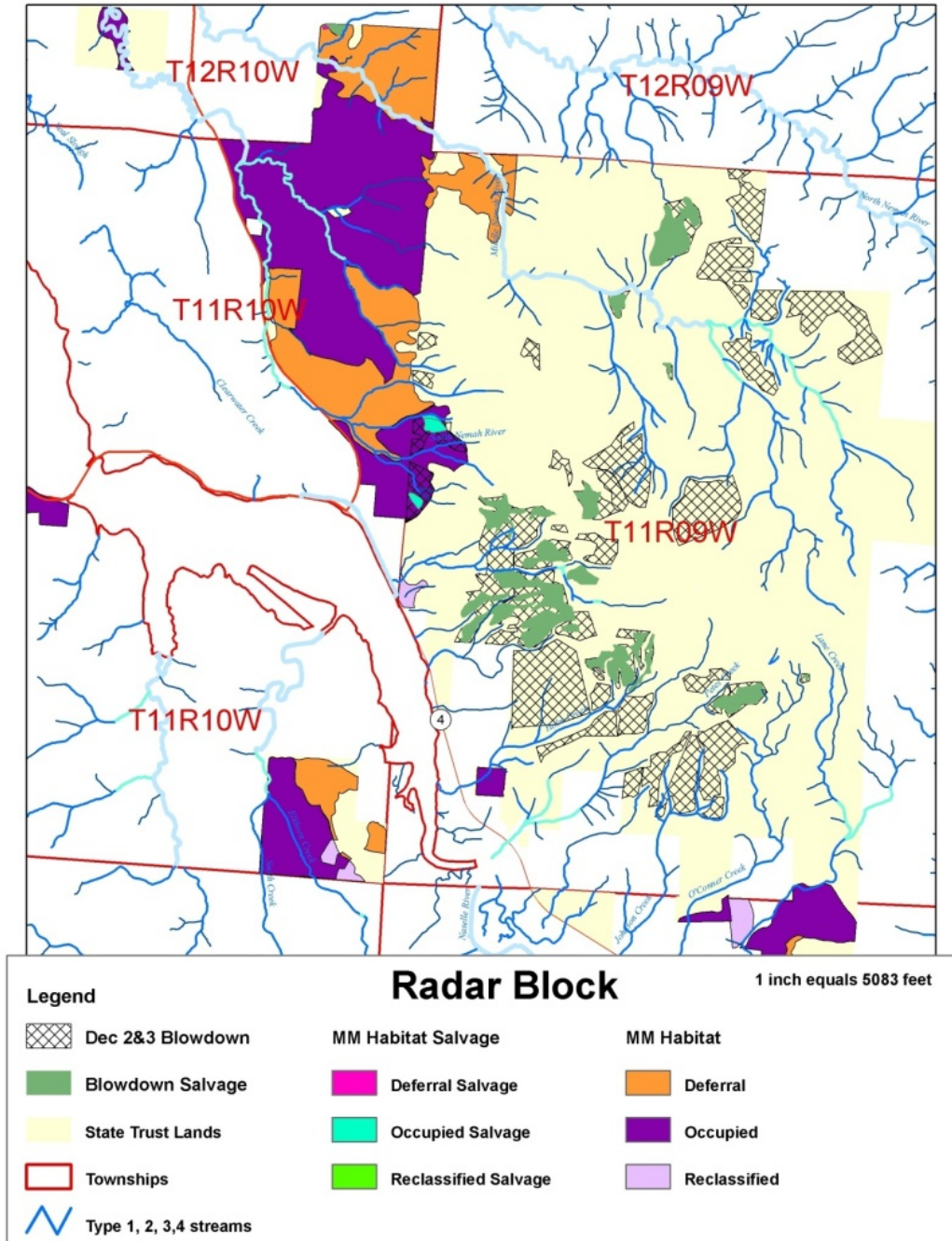


Figure 1.3. Blowdown salvage areas and marbled murrelet habitat in the Radar Forest Block

Northern Spotted Owl Dispersal Habitat Definition Evaluated in the South Puget Planning Unit

The northern spotted owl conservation strategy outlined in the HCP was intended to provide habitat for nesting, roosting, and foraging (NRF), as well as dispersal opportunities in strategic areas referred to respectively as NRF and dispersal management areas. As part of the South Puget Forest Land Planning effort, we examined different approaches to managing designated dispersal management areas to meet the conservation objectives of the Habitat Conservation Plan. The HCP definition for

dispersal habitat does not target stand conditions that provide roosting or foraging opportunities for dispersing owls (there are no snag or down wood requirements). In addition, there is no upper threshold for trees per acre, which may result in stands too dense for owls to fly through. Due to past timber management activities in the South Puget Planning Unit, the current ecological conditions are dominated by forests in the “understory development” stand development stage (DNR 2004) and young, overstocked plantations. Neither condition contributes to the life requirements of dispersing northern spotted owls.

Buchanan (2004) identified five habitat elements previously hypothesized by Carey (1985) that northern spotted owls need to disperse: amelioration of heat stress, prey abundance, prey availability, predation risk, and ecological adaptation. These five habitat elements are used in three northern spotted owl dispersing activities: movement, roosting and foraging. These three biological functions were related to forest structural conditions in a modeling software program called the Ecosystem Management Decision Support (EMDS) system (Reynolds 1999). Future forest structural conditions were generated for alternative landscape management strategies using forest estate modeling software (USDA Forest Vegetation Simulator, ArcGIS and Remsoft Spatial Planning System). DNR staff worked closely with U.S. Forest Service and Washington Department of Fish and Wildlife experts to complete the analysis, which was documented in the alternatives analyzed in the draft environmental impact statement (EIS) for the South Puget Planning Unit Forest Land Plan (DNR 2008).

This project is helping us analyze alternatives for managing dispersal habitat within the context of a draft environmental impact statement. The analysis shows that managing under the threshold identified in the HCP produces poorer quality habitat (understory development stands and young overstocked plantations) over the majority of the planning horizon (90 years). Our proposal for a new dispersal habitat definition on forested state trust lands is encapsulated in the preferred alternative published in the draft EIS (DNR 2008). In short, it proposes that roosting and foraging habitat be part of the definition for dispersal habitat, and seeks to manage 50 percent of each landscape (rather than of each spotted owl management unit [SOMU]) to meet the definition of dispersal habitat. The preferred alternative analyzed in the draft EIS is projected to provide the highest quality habitat of the three alternatives analyzed during the time period studied.

This project will be completed with the South Puget Forest Land Plan, and may be further analyzed in the final EIS due to be released in early 2009.

OESF Research and Monitoring Plan Initiated

In 2008, we instituted a research and monitoring program providing a framework for HCP-related information-gathering activities in the Olympic Experimental State Forest (OESF). Several key accomplishments demonstrate meaningful progress towards meeting DNR’s research and monitoring commitments for the OESF. In July 2008, we announced the availability of the OESF Catalog of Research and Monitoring on our website. The catalog lists nearly 1,000 citations, reporting on information-gathering activities of value to our conservation efforts on the west side of the Olympic Peninsula. This bibliography is a direct outcome of our one-on-one consultations with OESF stakeholders and potential research partners. This will be an invaluable resource, influencing management and

research activities in the OESF. In 2009, we anticipate continued maintenance of the catalog, incorporating more information as it becomes available.

We also initiated a series of workshops, with the Federal Services, to identify feasible hypotheses and suitable landscapes for investigating species-habitat relationships in the OESF. This is a critical step in meeting DNR's commitments for validation and implementation monitoring in the experimental forest. To date, our focus has been on identifying spatial and temporal scales at which we can meaningfully observe and quantify population responses to key habitat influences occurring in the OESF. By the end of 2008, we expect to match these scales to current scales of management in the OESF, as well as to those proposed under various alternatives under consideration for the proposed OESF Forest Land Plan. These varied scales of management will be used to identify meaningful hypotheses to a) evaluate the effectiveness of HCP conservation strategies for the species we intend to benefit, and b) provide information that can be used to improve management of the experimental forest. In 2009, we anticipate working with collaborators to institute a monitoring program that can address these and other related research interests.

Lastly, we have been working with collaborators at the University of British Columbia (UBC), U.S. Forest Service Pacific Northwest Research Station (PNW), and Conservation Northwest (CN) to scope DNR-led research trials in the OESF. We have continued our collaboration with Steve Mitchell (UBC) to begin scoping of the "Experimental Approach" to exterior buffer management, addressing a component of the OESF riparian conservation strategy. We have been working with Connie Harrington (PNW) to scope experimental silvicultural designs to help evaluate approaches that could accelerate habitat development in young stands. In addition, we have been working with Derek Churchill (CN) to scope guidelines for biodiversity pathway treatments, informing a broader investigation of stand-level management strategies to achieve older forest values. By early 2009, we expect to submit draft detailed study plans for peer review. Subsequently, we anticipate working with potential collaborators to institute research programs around trials that address these and other related research topics.

Obtained Forest Stewardship Council Certification for Forested State Trust Lands in the South Puget Planning Unit

On May 15, 2008, DNR earned Forest Stewardship Council (FSC) Certification on approximately 145,000 acres of forested state trust lands within our South Puget HCP Planning Unit, making that planning unit dually certified under both the Forest Stewardship Council Pacific Coast Regional and the Sustainable Forestry Initiative® (SFI) Standards. (Currently, all forested state trust lands are SFI certified.) 'Green' forest certification under these two standards recognizes responsible forest management and the critical role DNR plays in ensuring the long-term health and sustainability of Washington's forests.

Forest Stewardship Council is an independent, non-profit organization that promotes responsible management of the world's working forests through the development of forest management standards, a voluntary certification system, and trademarks that provide recognition and value to products bearing the FSC label. FSC standards ensure forestry is practiced in an environmentally responsible, socially beneficial, and

economically viable way.

Certification under each standard (FSC and SFI) involves an inspection audit of the landowner's forest management activities by an independent third-party accredited team. The team verifies that land management objectives and on-the-ground operations meet specified forest management principles. If the forest unit complies with the specific standard, the landowner receives a certificate of conformance characterizing their forests as 'green.' Both standards encourage integration of perpetual growing and harvesting of trees with strong measures to protect wildlife, plants, soil, water, and air quality. Both standards provide a seal of approval that forests certified under these principles are well-managed. Our HCP played a major role in obtaining certification on DNR-managed forested state trust lands.

FSC certification will open up potential new markets for certified products where DNR can provide certified sources of wood. Through FSC certification and annual audits, this process will continue to uphold the professionalism of the agency and add to public confidence in DNR's management of these certified trust lands. DNR will proceed by adhering to the FSC Standard in our South Puget Planning Unit. As other planning units complete the forest land planning process, DNR will analyze how FSC Certification in those units, working with DNR's vision of creating a sustainable future, can highlight our obligations as trust manager.

Additional Projects Undertaken in Fiscal Year 2008

Northern Spotted Owl

- Initiated identification of "next-best" habitat in spotted owl management units in Northwest Region.
- Continued northern spotted owl demography monitoring in southeast Washington.
- Continued the northern spotted owl and barred owl radio telemetry resource selection study in southwest Washington.

Marbled Murrelet

- Adopted a concurrence letter from U.S. Fish and Wildlife Service for management of marbled murrelet habitat in the North Puget HCP Planning Unit.

Riparian Conservation

- Riparian Forest Restoration Strategy effectiveness monitoring is now being conducted on 11 sites.
- Preparations are underway for the 2009 riparian restoration strategy adaptive management benchmark report.
- Older forest thinning demonstrations are being monitored on 2 sites.
- Completed the headwaters stream retrospective study.



The olive-sided flycatcher, *Contopus cooperi*, is a state species of concern that benefits from conservation of mature and old forest characteristics, particularly snags, where it can breed and forage. Photo courtesy of Dennis Garrison.

- Completed a draft headwaters conservation strategy for the Federal Services to review.

Old Growth

- Completed an eastside old growth inventory and published our findings in a report titled *Extent and Distribution of Old Forest Conditions on DNR-Managed State Trust Lands in Eastern Washington*.
- The Eastside Old Growth Definition Team developed management guidance titled *The Case for Active Management of Dry Forest Types in Eastern Washington: Perpetuating and Creating Old Forest Structures and Functions*.
- Completed eastern Washington old growth guide *Identifying Old Forests and Trees in Eastern Washington* by Robert Van Pelt.
- Conducted old growth training for 20 field staff in western Washington.

Earth Sciences

- Conducted site-scale landslide risk analyses for 119 timber sales: 101 involving remote investigations, 86 involving on-site, field-based investigations, and 10 involving detailed, written reports.
- Completed two landslide hazard zonation (LHZ) projects, both in the OESF Planning Unit, including the Shale/Deception/Prairie Creek LHZ located in the Lower Clearwater WAU and the Snahapish LHZ located in the Upper Clearwater WAU; four other LHZ projects in western Washington are in progress.
- Continued groundwater hydrology research in the OESF.
- Conducted landslide risk management training for about 50 state lands field foresters and engineers.
- Identified, mapped, and assessed approximately 24 landslides in Capitol Forest following the December 2007 storm.
- Clarified the roles and responsibilities of earth scientists in the consultation process related to land management activities.

Other

- Achieved statewide certification of DNR-managed forested state trust lands under the Sustainable Forestry Initiative® (SFI) Certification Standard in 2006. The 2008 annual surveillance audit—held in Northwest and Olympic Regions and conducted by an independent-third party auditing firm—yielded eight notable practices related to: DNR’s performance with riparian restoration studies; providing recreational opportunities consistent with forest management objectives; certification awareness and training; involving tribal members in

cultural resources training; protecting working forests; and our pro-active public outreach approach and collaboration efforts.

- Completed a draft forest land plan and associated draft environmental impact statement for the South Puget Planning Unit.
- Held Westside cultural resources training for 47 people. Of these, 22 were DNR employees and 25 were from other state agencies and tribes.
- Hired a second professional archaeologist to assist in state lands and aquatics cultural resources identification and implementation of the Governor's Executive Order 05-05 (which relates to finding and protecting cultural resources on capital construction project sites).
- Continued research on the impacts of wind on forest stands on the Washington Coast (southwest Washington and the OESF).
- Updated six procedures and wrote one new one in the Forestry Handbook. These procedures help in HCP implementation and include:
 - Protecting Columbian White-tailed Deer Habitat;
 - Controlling Invasive Plants and Noxious Weeds (new procedure);
 - Direct Sales;
 - Forest Management Unit (FMU) Rotational Objectives;
 - Silvicultural Rotational Prescriptions;
 - Forest Stand Tending; and
 - Reforestation.
- Initiated the Central Washington Landscape Analysis, a mid-scale, multi-ownership study examining the consequences of different management strategies on various forest attributes including: older forest conditions, wildlife habitat, wildfire risk, carbon storage, and potential biomass availability for cogeneration plants.
- Participated in a study lead by the Department of Transportation to assess the ability of different species guilds to move across the state and recommend locations where corridors could be built to facilitate animal movement.
- Released a revised HCP-managed lands Geographic Information System (GIS) data layer. Our analysis shows that we now have roughly 1.8 million acres managed subject to the HCP.

2. Silvicultural Management Activities

The department defines silviculture as the art and science of cultivating forests to deliberately attain objectives. Objectives, in this context, include stand conditions desired to be attained over a rotation (rotational forest management unit [FMU] objectives), percentages of landscapes to be sustained in specified stand conditions (landscape objectives), and transient conditions sought at



Clumps of legacy trees are left following timber harvests to provide habitat and a seed source for future generations.

the conclusion of activities (activity objectives) in order to redirect the development of a forest stand. A rotation is the length of time between when a stand of trees is planted or naturally generates and when it is harvested. A forest management unit is an area of trees and related vegetation that is ecologically similar enough to allow it to be managed to achieve common objectives.

Silvicultural data for this report comes from DNR's Forest Management Planning and Tracking (P&T) database. This database incorporates information related to timber harvests, forest site preparation, forest regeneration, vegetation and pest management, thinning, fertilization, and pruning. The data can be queried by date, forest management unit, HCP planning

unit, habitat type, or other criteria. Each year, this report includes data for all activities reported as complete in P&T during the reporting period.

Trends

DNR designs various types of timber harvests and other silvicultural activities on forested state trust lands to achieve specific environmental and economic goals. Many of these activities have been employed on forested state trust lands since HCP annual reporting began (Tables 2.1, 3.2, and 3.3). Some types of activities can be used frequently across landscapes, while others are appropriate only in limited locations with specific conditions. These activities are defined in the glossary at the end of this report.

The levels and types of silvicultural management activities practiced on forested state trust lands are governed by landscape and forest management unit rotational objectives. Emphasis on particular harvest activities may vary from year to year due to market conditions, new policies and procedures, and scientific discoveries implemented through adaptive management. There are a number of environmental and market conditions that influence where and when activities are carried out within the forested landscape. However, the first decision filter always involves the biological capability of each specific site, including suitable tree species and the site's productive capacity. Following is a guide to help the reader understand some of these conditions and factors.

In turn, this may help in interpreting the data presented in the tables and figures in this chapter and chapter 3.

Proper management regimes vary with site conditions. Ecological constraints, such as unstable slopes and critical habitat, dictate which activities are implemented in a given location. All silvicultural activities are applied within a context of specific objectives to achieve ecological outcomes, a long-term sustainable flow of forest products, and other benefits. DNR employees prioritize activities such as ground-based mechanical site preparation based on available resources and relative benefits.

Economic and fiscal factors also dictate what can be done at a particular time. Budget allocations and market conditions influence the timing and extent of silvicultural activities that are carried out.

Purchasers' timber removals, meanwhile, are driven by two main factors: the harvest contract length and market conditions. Timber harvest contract length may be as long as five years, but the average length is currently about 18 months.

To further complicate things, timber stands may be sold in one year, but not harvested until as many as five years later. It should be noted that this report covers only silvicultural activities completed in one fiscal year. Since there is a lag time between changing economic or environmental conditions and changes in levels of reported activities, the reader may not see changes for several years.



Aerial herbicides are used to kill shrubs in a harvested unit so they won't outcompete newly planted trees. The concentrated application delivered by helicopter minimizes drift or spraying of non-targeted plants.

Compared to those in fiscal year 2007 or the mean from fiscal years 1999 through 2007, there are several noticeable differences in activity levels for fiscal year 2008:



Hand planting a harvested area is one step in regenerating a healthy new stand.

- The overall acreage of completed timber harvest activities was similar to, but slightly higher than, the 9-year mean and fiscal year 2007 acreages.
- Forest site preparation was substantially higher in fiscal year 2008 than in fiscal year 2007 or the 9-year mean. Site preparation is directly related to harvest rates and post-harvest site conditions. It is done in the years following logging to enhance the success of the next generation of trees.
- Forest regeneration levels were lower than the last reporting period but very similar to the 9-year mean. DNR replants harvested stands as soon as possible following harvest to achieve the highest long-term potential revenue for the trust.
- Vegetation management acreage was higher than in previous years. Since vegetation management is done to assure the survival and growth of planted seedlings, the increased numbers are likely due to high rates of timber harvest in prior years and/or availability of funding for this work. With the use of effective site preparation, vegetation management is expected to decrease slightly in future years.

Table 2.1. Silvicultural management activities on state trust lands by planning unit

	Chelan	Columbia	Klickitat	North Puget	OESF	South Coast	South Puget	Straits	Yakima	FY 2008 Total	9 Year Mean ¹
Acres of Activity											
Timber Harvest											
Clearcut		1,518	465	2,898	524	2,294	480	596		8,775	10,343
Seed tree intermediate cut									100	100	152
Shelterwood intermediate cut			73							73	329
Phased patch regeneration cut										0	19
Temporary retention first cut										0	59
Salvage cut		109	485	219	122	728	284	13	379	2,339	551
Smallwood thinning		174	178	541		246				1,139	2,347
Late rotation thinning			1,113	240			124		283	1,760	1,913
Variable density thinning		288		146			555		323	1,312	543
Selective product logging		98		65			296	97	139	695	746
Shelterwood removal							40		188	228	33
Two-aged management										0	72
Uneven-aged management			1,745						340	2,085	1,312
Timber Harvest Totals	0	2,187	4,059	4,109	646	3,268	1,779	706	1,752	18,506	18,419
Forest Site Preparation											
Aerial herbicide		1,862		1,136		1,625				4,623	2,244
Ground herbicide		413	190	138	64	481	83	243		1,612	662
Ground mechanical			202						269	471	752
Hand cutting (slashing)			113			7				120	27
Pile and burn/broadcast burn		483	110			1,505	77	11	1,324	3,510	361
Site Preparation Totals	0	2,758	615	1,274	64	3,618	160	254	1,593	10,336	4,045
Forest Regeneration											
Hand planting		3,261	2,143	3,318	670	2,798	651	1,065	192	14,098	14,033
Natural regeneration					114					114	195
Forest Regeneration Totals	0	3,261	2,143	3,318	784	2,798	651	1,065	192	14,212	14,228

	Chelan	Columbia	Klickitat	North Puget	OESF	South Coast	South Puget	Straits	Yakima	FY 2008 Total	9 Year Mean ¹
	Acres of Activity										
Vegetation Management											
Aerial herbicide		215	572	285		533				1,605	2,537
Ground herbicide		514	3,088	2,248	111	1,186	358	656	19	8,180	3,829
Hand cutting		1,244	676	2,390	25	3,858	753	82		9,028	8,810
Seeding grass										0	43
Underburn										0	5
Vegetation Management Totals	0	1,973	4,336	4,923	136	5,577	1,111	738	19	18,813	15,224
Pest Management											
Animal repellent										0	43
Animal trapping										0	22
Shielding or fencing										0	72
Aerial pesticide										0	402
Pest Management Totals	0	0	0	0	0	0	0	0	0	0	540
Other											
Pre-commercial thinning		1,270	324	455	3,444	600	252		1,066	7,411	11,180
Forest fertilization										0	1,471
Tree pruning		122								122	33
Other Totals	0	1,392	324	455	3,444	600	252	0	1,066	7,533	12,684
Grand Totals	0	11,571	11,477	14,079	5,074	15,861	3,953	2,763	4,622	69,400	65,038

¹These data are mean values for fiscal years 1999 through 2007.

Note: totals may not add due to rounding.

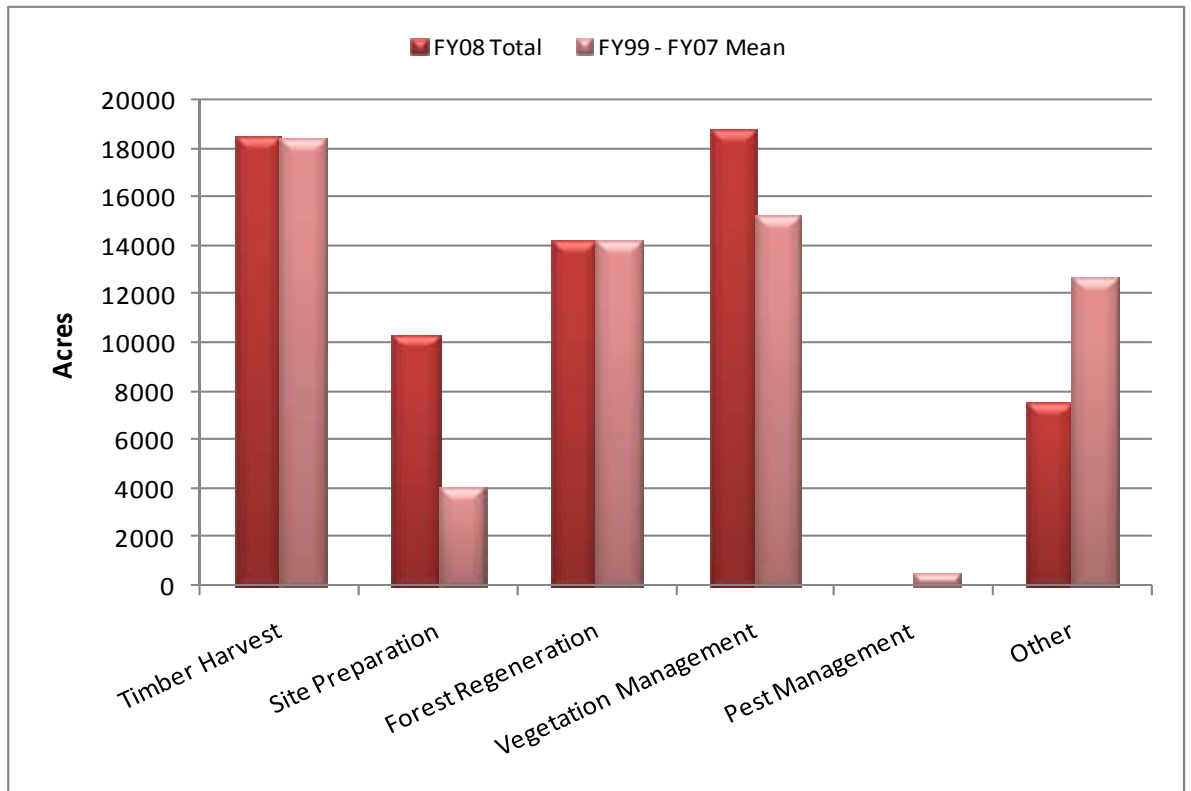


Figure 2.1. Acres of silvicultural activities conducted on HCP-managed lands: fiscal year 2008 totals vs. means for fiscal years 1999 through 2007

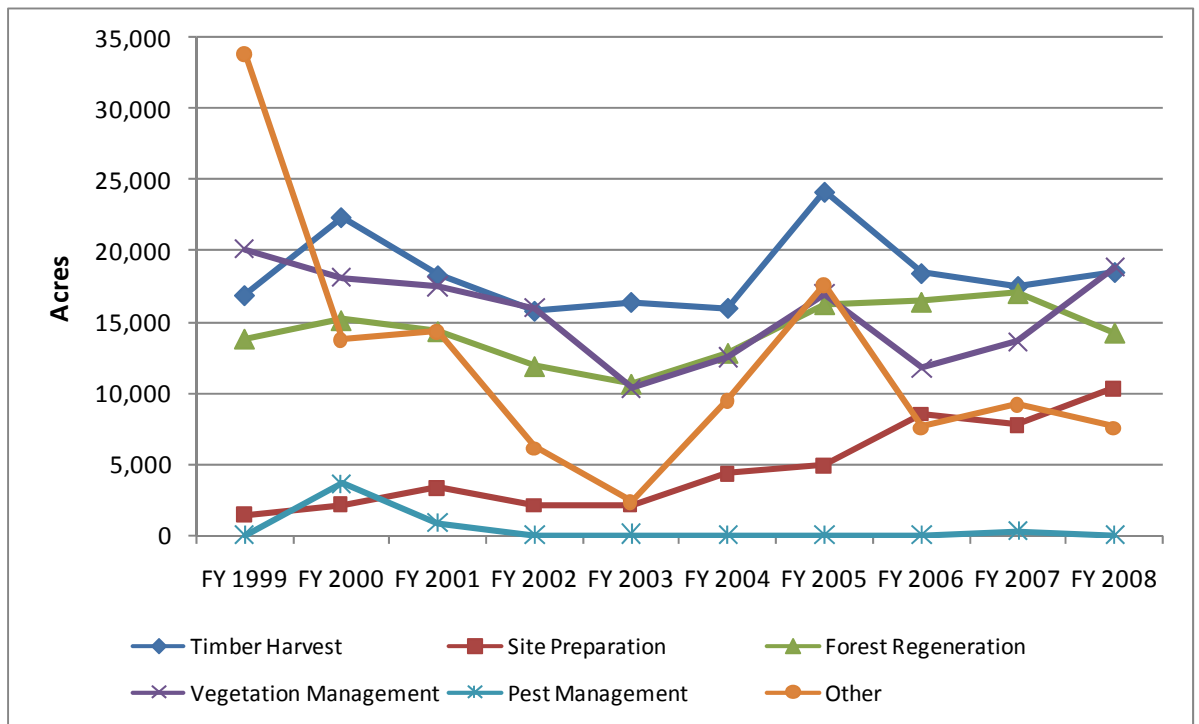


Figure 2.2. Acres of silvicultural activities conducted on HCP-managed lands: fiscal years 1999 through 2008

3. Nesting, Roosting, Foraging and Dispersal/Desired Future Condition Management

DNR is committed to providing habitat to help maintain nesting areas for northern spotted owls and facilitate their movement through the landscape. To aid in this goal, we have designated nesting, roosting and foraging (NRF) and dispersal management areas. Through ongoing research, we are working to develop a better understanding of what comprises functional owl habitat and to learn which silvicultural techniques create suitable owl habitat.

When the HCP was developed, DNR-managed lands were assessed for their potential role in northern spotted owl conservation. Those lands identified as likely to provide



As stands mature into suitable NRF habitat, they develop snags and multiple canopy layers.

demographic support and contribute to maintaining species distribution were designated as NRF management areas. Suitable NRF habitat is primarily high-quality roosting and foraging habitat with enough interspersed nesting structure that the whole area can be utilized by reproducing owls. Lands identified as important for facilitating owl dispersal (movement by young owls from nest sites to new breeding sites) were designated as dispersal management areas. Our conservation strategy calls for maintaining at least 50 percent of designated NRF and dispersal management areas in suitable habitat at any given time (Westside by Watershed Administrative Unit [WAU]; Eastside by WAU for NRF and quarter-township for dispersal). Acceptable management activities depend on the amount of habitat in a WAU or quarter-township and the habitat type present in the potential harvest area. In general, harvest activities must not increase the amount of time required to achieve habitat goals beyond what would be expected in an unmanaged stand. To ensure that procedures are being followed and goals met, the types and amounts of

silvicultural activities in both designated NRF and designated dispersal management areas are tracked.

In the Klickitat Planning Unit, forest health is being degraded by issues associated with stands overstocked with tree species more susceptible to stand-replacing fires, drought, disease, and insect infestations. In addition, some lands originally designated as NRF management areas are not capable of sustaining suitable spotted owl habitat. This makes the original habitat goals difficult to achieve. In April 2004, an amended spotted owl conservation strategy (HCP Amendment No. 1) was implemented to address these issues in the Klickitat Planning Unit. Field assessments, forest inventory data, and spotted owl



This dense, overstocked stand in the Klickitat Planning Unit is declining in health. Without thinning it likely will not remain northern spotted owl habitat.

demography data were used to create new habitat targets for the area. Four sub-landscapes within the planning unit were created, with habitat targets based on those sub-landscapes (rather than WAUs or quarter-townships). In addition, dispersal management areas in the Klickitat Planning Unit have been renamed desired future condition (DFC) management areas. DFC lands have the same habitat commitments as dispersal lands, but are managed by vegetative series, with the goal of maintaining 50 percent of each vegetative series, by sub-landscape, in mature DFC (at least 60 years old). Areas incapable of growing and sustaining habitat, and those better suited for a different habitat classification, have been reclassified. The results of these assessments and reclassifications are reflected in Table 3.1.

The Klickitat Amendment also changed the boundaries of the Klickitat and Yakima planning units to include the portion north of the Yakama Nation’s lands in the Yakima Planning Unit. Through this change, approximately 23,000 acres of dispersal management area were transferred to the Yakima Planning Unit.

Table 3.1. Comparison of forested stand trust land acreage in designated NRF and dispersal/DFC management areas by planning unit

Designated Management Area: Date	Chelan	Columbia	Klickitat	North Puget	South Puget	Yakima	Total Acres
NRF: January 1997	5,647	54,157	20,096	109,409	2,648	13,567	205,524
NRF: June 1999	5,848	53,192	20,943	111,203	2,648	13,567	207,401
NRF: June 2000	5,848	53,192	20,974	111,203	2,648	13,567	207,432
NRF: June 2001	5,851	53,192	20,974	111,363	2,648	13,567	207,595
NRF: June 2002	5,851	53,252	20,974	111,363	2,648	13,567	207,655
NRF: June 2003	5,851	53,252	21,089	111,195	2,453	13,567	207,407
NRF: June 2004	5,851	53,252	21,098	111,359	2,648	13,567	207,775
NRF: June 2005	5,851	53,252	40,427	111,359	2,648	13,567	227,104
NRF: June 2006	5,851	53,252	40,427	111,359	2,648	13,567	227,104
NRF: June 2007	5,851	53,252	40,427	111,359	2,648	13,567	227,104
NRF: June 2008	5,851	53,252	40,427	111,359	2,648	13,226	226,763
Dispersal: January 1997	0	38,645	79,095	16,068	71,492	8,332	213,632
Dispersal: June 1999	0	35,324	79,095	15,344	75,302	8,332	213,307
Dispersal: June 2000	0	35,234	79,095	15,344	75,302	8,332	213,307
Dispersal: June 2001	0	35,234	79,095	15,344	75,302	8,332	213,307
Dispersal: June 2002	0	31,890	79,095	15,344	78,179	8,332	212,840
Dispersal: June 2003	0	31,890	79,095	15,344	78,179	8,332	212,840
Dispersal: June 2004	0	31,890	79,327	15,344	78,179	8,332	213,072
Dispersal/DFC: June 2005	0	31,890	19,066	15,344	78,179	30,819	175,298

Designated Management Area: Date	Chelan	Columbia	Klickitat	North Puget	South Puget	Yakima	Total Acres
Dispersal/DFC: June 2006	0	31,890	19,046	15,344	78,179	30,819	175,278
Dispersal/DFC: June 2007	0	31,890	19,046	15,344	78,179	31,047	175,506
Dispersal/DFC: June 2008	0	31,890	18,187	15,344	78,179	30,927	174,527

Note: totals may not add due to rounding.

The 1997 acreages in Table 3.1 were determined when the HCP was written. To obtain the 1999 figures, we calculated the results of land transactions that had occurred between January 1997 and June 1999. In addition, field verification of the designated habitat occurred during this period, and any acres that were non-forested and not designated to provide spotted owl habitat were subtracted from the 1997 figures. Beginning in June 2000, acreage figures were determined by taking the acres from the prior fiscal year and adding or subtracting any land acquired or disposed in a given habitat type and planning unit (see Chapter 6). For instance, in fiscal year 2000, 31 acres of NRF habitat were acquired in the Klickitat Planning Unit. We've also calculated any acreage changes due to habitat reclassifications and included those in Table 3.1.

We are in the process of reconciling acreage and habitat classification information in the trust land transactions database with DNR's spatial GIS data layer. The GIS layer will account for acquisitions, disposals, trust land transfers, and lands not designated to provide habitat for spotted owls. The reconciliation process is ongoing, and it is expected that the reconciled numbers will be reported in a future HCP Annual Report.

The following tables and graphs detail levels of silvicultural activities in designated NRF and dispersal/DFC management areas. For definitions of timber harvest types or other activities, see the glossary. The data were derived from reports of activities reported as completed in DNR's Planning & Tracking (P&T) database in fiscal year 2008.

Table 3.2. Silvicultural activities in designated NRF management areas by planning unit

	Chelan	Columbia	Klickitat	North Puget	South Puget	Yakima	FY 2008 Total	9 Year Mean ¹
Total designated NRF acres	5,851	53,252	40,427	111,359	2,648	13,226	226,763	214,064
Percent of total designated NRF acres	2.6%	23.5%	17.8%	49.1%	1.2%	5.8%	100%	100%
Acres of Management Activity								
Timber Harvest Type								
Clearcut		13	77				90	404
Seed tree intermediate cut							0	17
Phased patch regeneration cut							0	1
Temporary retention first cut							0	8
Salvage cut							0	101
Smallwood thinning		92		44			136	102
Late rotation thinning			49	240			289	151

	Chelan	Columbia	Klickitat	North Puget	South Puget	Yakima	FY 2008 Total	9 Year Mean ¹
Acres of Management Activity								
Variable density thinning		280		146			426	190
Selective product logging							0	18
Shelterwood removal cut							0	3
Two-aged management							0	1
Uneven-aged management							0	57
Timber Harvest Totals	0	385	126	430	0	0	941	1,053
Forest Site Preparation								
Aerial herbicide							0	166
Ground herbicide			46				46	57
Ground mechanical			92				92	139
Pile and burn			61				61	31
Hand cutting			109				109	0
Forest Site Preparation Totals	0	0	308	0	0	0	308	394
Forest Regeneration								
Hand planting		5	642	8			655	858
Natural regeneration							0	3
Forest Regeneration Totals	0	5	642	8	0	0	655	861
Vegetation/Pest Management								
Aerial herbicide			368				368	342
Aerial pesticide							0	325
Ground herbicide			1,069	10			1,079	359
Hand cutting (slashing)		127	226	299			652	551
Vegetation/Pest Management Totals	0	127	1,663	309	0	0	2,099	1,576
Other								
Pre-commercial thinning			1	56		375	432	754
Forest fertilization							0	93
Tree pruning		20					20	3
Other Totals	0	20	1	56	0	375	452	850
Grand Totals	0	537	2,740	803	0	375	4,455	4,734

¹These data are mean values for fiscal years 1999 through 2007.

Note: totals may not add due to rounding.

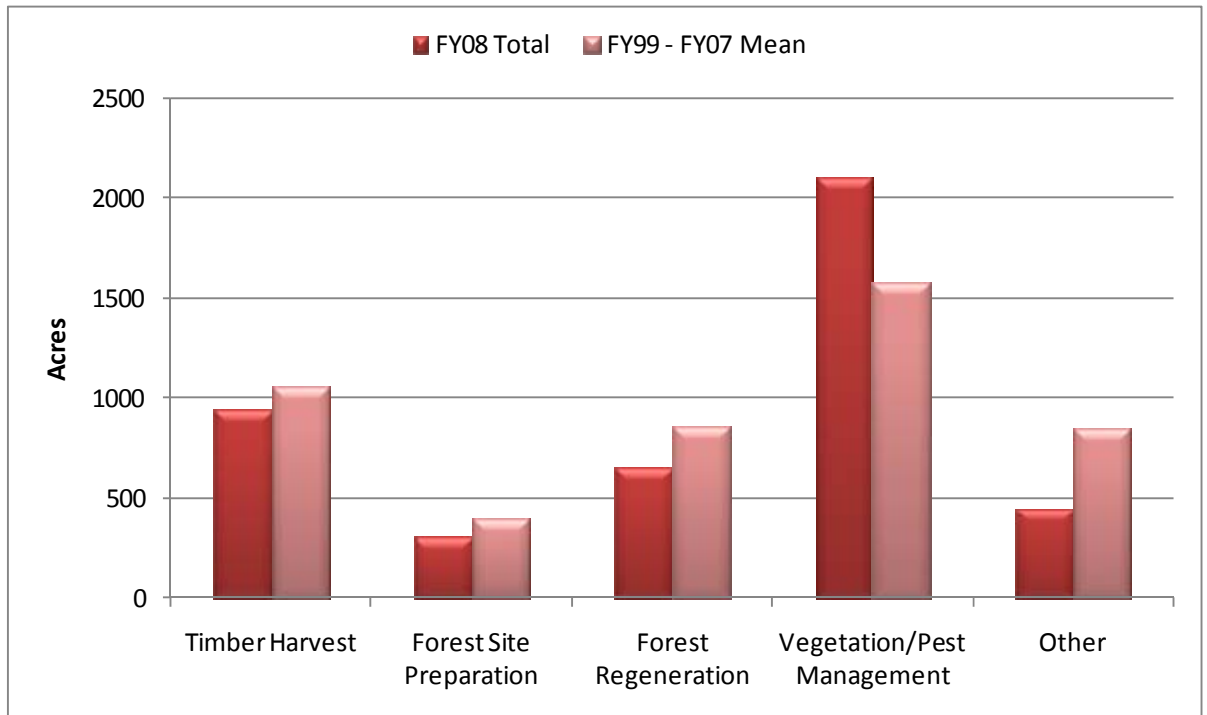


Figure 3.1. Acres of silvicultural activities completed in designated NRF management areas: fiscal year 2008 totals vs. means for fiscal years 1999 through 2007

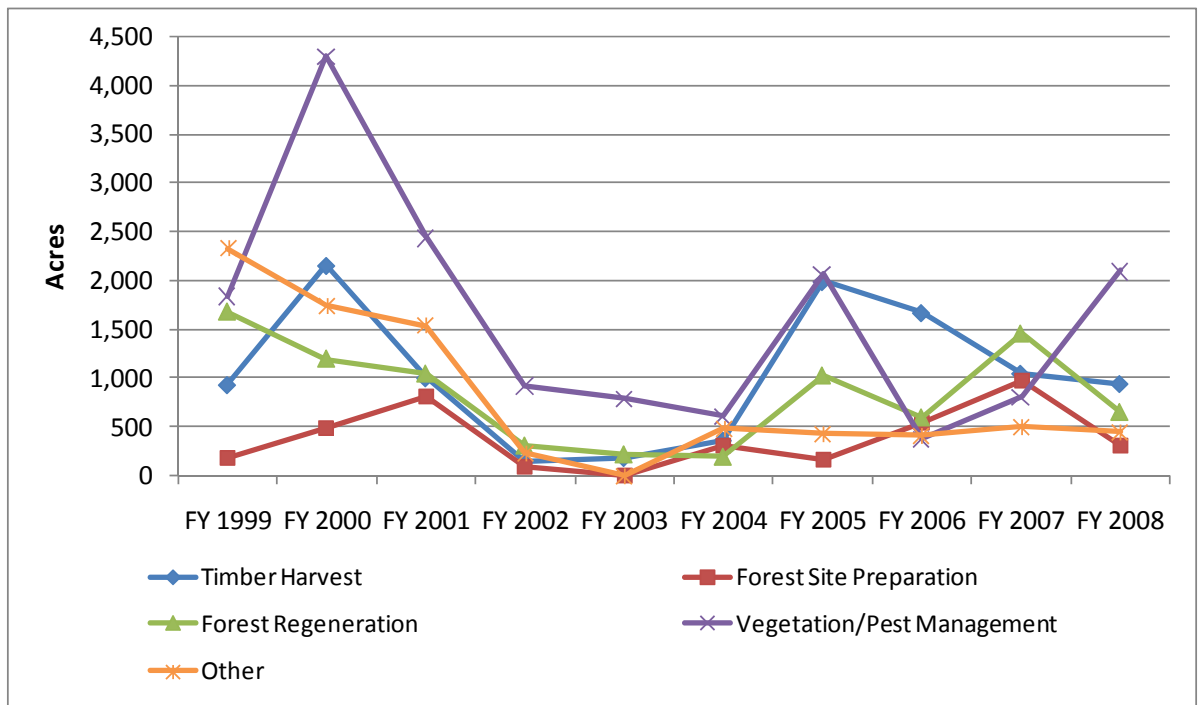


Figure 3.2. Acres of silvicultural activities completed in designated NRF management areas: fiscal years 1999 through 2008

Table 3.3. Silvicultural activities in designated dispersal/DFC management areas by planning unit

	Columbia	Klickitat	North Puget	South Puget	Yakima	FY 2008 Total	9 Year Mean ¹
Total designated dispersal/DFC acres	31,890	18,187	15,344	78,179	30,927	174,527	200,528
Percent of total designated dispersal/DFC acres	18.3%	10.4%	8.8%	44.8%	17.7%	100%	100%
Acres of Management Activity							
Timber Harvest Type							
Clearcut		110		144		254	537
Seed tree intermediate cut						0	17
Shelterwood intermediate cut						0	46
Temporary retention first cut						0	2
Salvage cut		462				462	152
Smallwood thinning						0	292
Late rotation thinning		774			124	898	252
Variable density thinning				555	317	872	312
Selective product logging				106	136	242	58
Shelterwood removal cut		73			187	260	61
Uneven-aged management						0	378
Timber Harvest Totals	0	1,419	0	805	764	2,988	2,108
Forest Site Preparation							
Aerial herbicide			78			78	130
Ground herbicide	32	144	54			230	171
Ground mechanical		110			168	278	210
Hand cutting (slashing)						0	27
Pile and burn					350	350	176
Forest Site Preparation Totals	32	254	132	0	518	936	715
Forest Regeneration							
Hand planting	32	1,090	126	370	173	1,791	1,087
Natural regeneration						0	55
Forest Regeneration Totals	32	1,090	126	370	173	1,791	1,142
Vegetation/Pest Management							
Aerial herbicide		141				141	200
Aerial pesticide						0	52
Ground herbicide		1,629	96	16		1,741	211
Hand cutting (slashing)		41	64	167		272	570
Vegetation/Pest Management Totals	0	1,811	160	183	0	2,154	1,033

	Columbia	Klickitat	North Puget	South Puget	Yakima	FY 2008 Total	9 Year Mean ¹
Acres of Management Activity							
Other							
Pre-commercial thinning	65	12				77	936
Forest fertilization						0	1
Other Totals	65	12	0	0	0	77	937
Grand Totals	129	4,586	418	1,358	1,455	7,946	5,645

¹These data are mean values for fiscal years 1999 through 2007.

Note: totals may not add due to rounding.

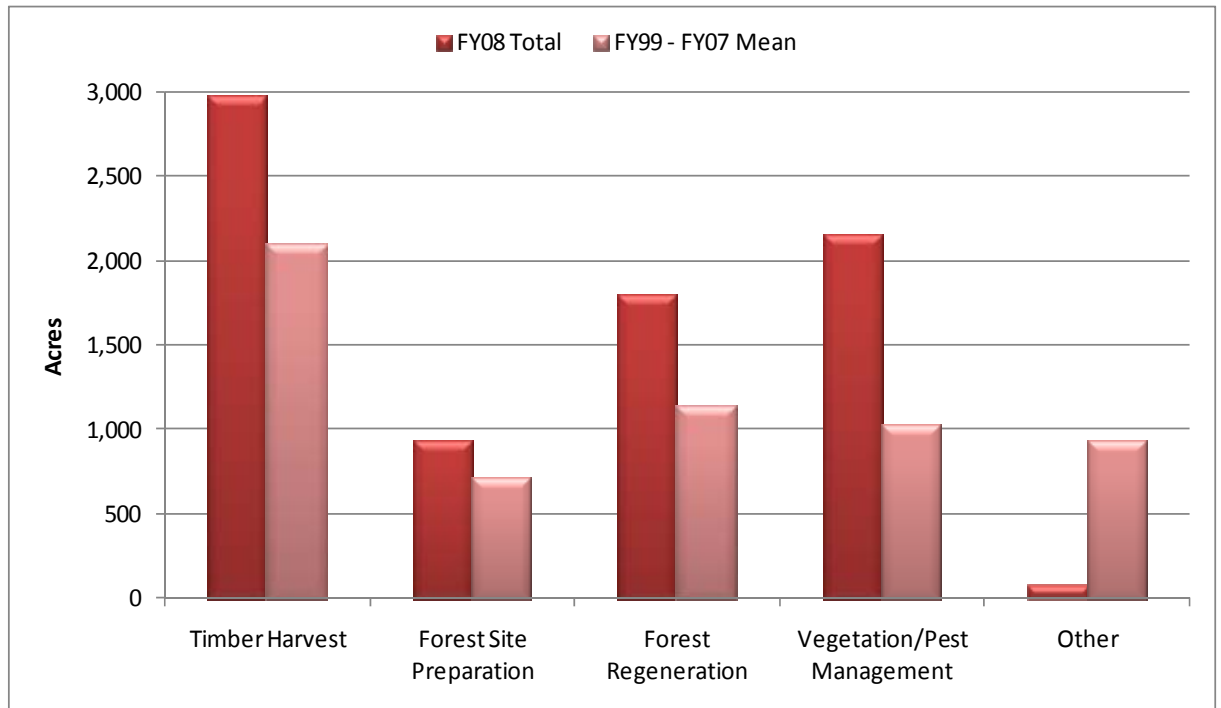


Figure 3.3. Acres of silvicultural activities completed in designated dispersal/DFC management areas: fiscal year 2008 totals vs. means for fiscal years 1999 through 2007

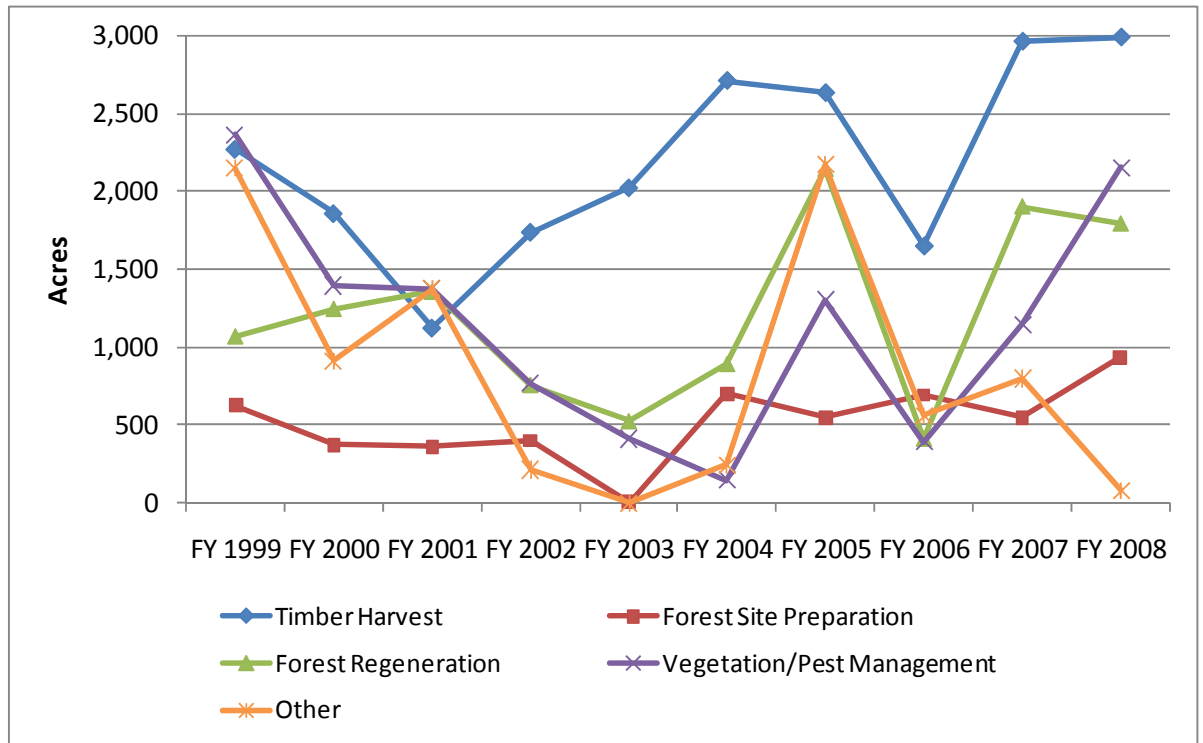


Figure 3.4. Acres of silvicultural activities completed in designated dispersal/DFC management areas: fiscal years 1999 through 2008



4. Non-Timber Management Activities

Numerous non-timber management activities take place on DNR-managed state trust lands. This section details the levels of the activities (numbers of sites/permits/leases and acres impacted) that DNR agreed to report on when the HCP was approved. It also discusses recreation and public use activities on our lands and the steps we take to minimize the impacts of these activities. The section concludes with information on our Natural Areas Program, which protects native ecosystems, habitat, and rare natural features.

Non-Timber Activities

The trust lands HCP describes levels or amounts of non-timber activities that existed on lands managed under the HCP during the 1996 base year. At these 1996 levels, no or *de minimis* (insignificant) take (impacts to threatened or endangered species) occurred. Any new or renewed contracts, permits, or leases for such activities cannot increase the level of take beyond this *de minimis* level. We must monitor the level of such activities and report them to the Federal Services annually. However, some of the baseline non-timber numbers cited in the HCP are incorrect, as they included activities on all state lands, rather than just areas covered by the HCP. To derive accurate 1996 baseline figures, the numbers reported in the HCP were revised to include only activities that occurred on HCP lands. This revision was made and the corrected numbers were reported in our first HCP Annual Report (DNR 1998).

We are continually working to improve our methods of tracking and reporting on non-timber activities. As DNR's systems improve, and we are able to collect more accurate data, there may be changes in reporting methods or corrections to our data. In 2006, the department implemented a new database system called NaturE to track contract and lease data. Most of the data for Table 4.1 (e.g. number of permits to gather Christmas greens; acres of oil leases) were determined by running reports in the NaturE system. Additional data (on, e.g., grazing permits and leases) were provided by region employees who manage non-timber leases, permits, and contracts.

The following are descriptions for the categories of non-timber activities covered in this report, with explanations for trends or noticeable differences in the numbers where possible. In some cases, such differences may be due to improvements in our methods for identifying and tracking the data.

Utility Rights-of-Way

Right-of-way easements are granted to private individuals or entities for roads, powerlines, and pipelines. These easements can be granted when they will enhance trust assets and any detrimental effects can be offset or minimized.

Unlike other categories of non-timber activities, utility rights-of-way are not reported on a cumulative basis. Only new easements for the fiscal year—not the total number active in that period—are reported. DNR has not had a system to tally total utility rights-of-way, primarily because many were granted in the early 1900s and hand-entered on records now in archives. The department is working on a new system that will incorporate all existing data and give an accurate total of active rights of way. Once the system is in place and fully functional, the numbers will be updated.



A lessee harvests salal (*Gaultheria shallon*)—a special forest product—from DNR-managed state trust lands.

Right-of-way easements are detailed in two tables. Table 4.1 reports on the total number of new easements that created a new “footprint,” indicating that timber was cut and/or a new right-of-way was created. Table 4.2 reports on the acreage and mileage of all new utility easements granted in the reporting period, whether they created a new footprint or not.

Special Forest Products

Special forest products are items such as Christmas greens, medicinal plants, and western greens (typically used by florists) that can be harvested from forested lands but do not fall in traditional timber or fiber categories. DNR policy is to promote the sale of special forest products where doing so will benefit the

trusts and not cause significant damage to the environment. Permits are selectively granted to prevent habitat degradation.

Valuable Materials Sales

Rock, sand and gravel (valuable materials) sales are handled under special sale contracts. Most active commercial pits are not in forested areas. Generally, the few commercial contracts on forested trust lands are small sales from pits that are primarily used by DNR for road management.

The number of non-commercial (silvicultural) pits and inactive commercial pits was not tracked until fiscal year 2003, when DNR initiated an inventory of all such pits. Since the initial inventory, changes—such as abandoning pits or creating new ones—have not been consistently tracked. We hope to find the resources to begin tracking and reporting such data more regularly and consistently.

Early in the implementation of the HCP, the department had a substantial number of rock, sand, and gravel sales, but currently there are few. This primarily is due to two factors: (1) the lengthy contract development process, including requirements for more valuable or longer-term contracts to be reviewed and approved by the Board of Natural Resources; and (2) periodic charges to keep contracts alive regardless of whether or not there are removals. Most rock, sand, and gravel sales are now going to private pits, which have fewer time and procedural constraints. This year, there were three rock, sand, and gravel sales, none of them direct sales. Direct sales are one-time agreements that remove only small amounts of a resource (a maximum of \$25,000 in value) and don’t require Board of Natural Resources approval. Other (non-direct) sales are active for longer periods of time and/or have larger maximum removal value limits.

Prospecting Leases and Mining Contracts

Like oil and gas leases, prospecting and mining leases are simply exploration agreements

that allow searching for mineral deposits. A lease must be converted to a contract if the lessee wants to commence active mining operations that could alter habitat, even if they do not result in extraction. Before any surface-disturbing work is conducted, the lessee must submit a plan of operations for review and approval. There were no ‘active’ mining operations (meaning activities that actually extract minerals) on HCP-managed lands in 1996 and there still were none in fiscal year 2008.

Oil and Gas Leases

Oil and gas exploration leases simply allow a leaseholder to reserve the right to explore for underground deposits. The lessee has the sole and exclusive right to explore for, drill, extract, or remove oil and gas. However, any proposed on-the-ground activities must undergo SEPA review and have a plan of operations approved by DNR. One of the early steps of this process is getting a drilling permit. If the lessee then wants to actively drill or thump (measuring seismological tremors caused by the dropping of large weights or detonation of explosives), he or she must obtain an ‘active’ lease. Regulations exist to protect water and air quality and any exploration holes must be plugged following use. During this reporting period, no new drilling permits were issued for oil and gas leases, but three previously-issued permits were extended. The permits were subject to SEPA review, and the permit holders have not done any active drilling. There has been only one active oil and gas lease involving drilling on HCP lands (in 1996), and the well has since been abandoned and plugged.

During the reporting period, DNR did not auction any new exploration leases. However, a number of exploration leases expired and were not renewed or picked up by a new lessee. This resulted in a net loss of exploration leases on lands managed under the Habitat Conservation Plan.

Grazing Permits/Leases

Most DNR-managed grazing takes place on non-forested state trust lands. However, grazing is selectively allowed in forests guided by the HCP. In western Washington, we lease 11 acres of forested land and no acres of non-forested lands.



Limited cattle grazing may take place on or near forested state trust lands, primarily in eastern Washington.

The vast majority of grazing on state trust lands is east of the Cascade Crest on both non-forested and forested lands. In eastern Washington, trust land is grazed under permits and leases. *Permits* cover large acreages and include Resource Management Plans with ecosystem standards that must be met, including specific direction for turnout and removal dates and the number of animals allowed on the range. *Leases* cover smaller areas, are guided by a Resource Management Plan and can allow grazing at any time during the year, as long as guidelines in the plan are followed. DNR is not currently able to distinguish forested from non-forested grazing on Eastside lands covered by the HCP. However, as the tracking system is refined, this will become possible.

Late in the reporting period, a large land transaction—the Central Cascades exchange—took place in eastern Washington (see Chapter 6). As of the reporting deadline, the details of the exchange, including which lands will be managed under the HCP and where grazing will be allowed, had not been finalized. We are waiting for the results of another proposed land exchange in south central Washington before we finalize these details. If

the number of grazing sites, leases, or acres is changed by these exchanges, the data will be provided in a future report.

Communication Site Leases

Communication site leases allow private and public entities to build new towers or attach communication equipment to existing towers (e.g. cell phone towers). These sites are typically on non-forested mountaintops or along second-growth highway corridors and less than an acre in size. They are accessed by the same road system as forest management activities and subject to the same management practices.



Communications sites such as this may be leased by private companies or public agencies.



These box steps were built as part of a trail restoration project and will help minimize erosion by providing a water-permeable hiking surface.

Recreation Sites

These sites allow public recreation on forested state trust lands as long as it is compatible with state laws and the objectives of the Forest Resource Plan and HCP. A variety of sanctioned recreational activity takes place on DNR-managed land—mostly disbursed across the landscape—including hiking, biking, horseback riding, off-road vehicle use, and camping. The number of sites and acreage reported are only for DNR-sanctioned trails, camping, and picnicking areas. These activities are detailed in Tables 4.3 and 4.4.

Special Use Leases

Special use leases are issued for a wide variety of commercial and other uses primarily on rural trust lands, although they can be on forested, agricultural, or urban lands. “Miscellaneous” is often the best descriptor of these leases. Some examples of uses include: golf courses, small commercial businesses/buildings, commercial recreation facilities, colleges, takeoff or landing sites for paragliding, governmental or public use facilities, and stockpile sites. Special use leases do not cover major urban commercial uses, aquatic land uses, or any of the other categories reported in the following tables and described above. Often, but not always, these leases are for “interim uses,” and, as such, contain language that allows for termination should the department wish to take advantage of a “higher and better use” for the land.

Table 4.1. Evaluation of potential non-timber impacts on forested state trust lands managed under the HCP compared to 1996 baseline levels

	1996 Base Year		FY 2008 Total		9 Year Mean ¹	
	Number of Leases/Permits/Sites	Acres	Number of Leases/Permits/Sites	Acres	Number of Leases/Permits/Sites	Acres
Utility Rights-of-Way ²	9	4 acres (3.3 miles)	9	15.48 acres (6.03 miles)	4.67	16.19 acres (9.21 miles)
Special Forest Products						
Western Greens	360	135,000	446	129,000	353	128,889
Christmas Greens	14	5,000	25	27,419	19	7,122
Christmas Trees	8	409	5	188	8	346
Misc. (Medicinal, cone, and transplant)	20		8		12	
Special Forest Products Totals	402	140,409	484	156,607	392	136,357
Valuable Materials						
<i>Non-Commercial Pits</i>						
Active Non-Commercial Pits	N/A	N/A	165	317	165 ³	317 ³
Inactive Non-Commercial Pits	N/A	N/A	230	216	230 ³	216 ³
Abandoned Non-Commercial Pits	N/A	N/A	55	56	55 ³	56 ³
Total Non-Commercial Rock, Sand, and Gravel Pits	332	487	450	589	450³	589³
<i>Commercial Pits</i>						
Active Commercial Pits	N/A	N/A	7	101	9	126
Inactive Commercial Pits	N/A	N/A	2	66	2 ³	66 ³
Total Commercial Rock, Sand and Gravel Pits	28	281	9	167	9³	167³
Rock, Sand and Gravel Pits Totals	360	768	459	756	459³	756³
Rock, Sand, and Gravel Sales	17	222	3	178	3	44
Rock, Sand, and Gravel Direct Sales	25	50	0		6	9
Valuable Materials (Rock, Sand, and Gravel) Sales Totals	42	272	3	178	9	52
Prospecting Leases/Mining Contracts						
Leases	4	360	23	5,085	4	626
Contracts	15	3,650	12	1,824	9	1,645
Prospecting Leases/Mining Contracts Total	19	4,010	35	6,906	13	2,271

	1996 Base Year		FY 2008 Total		9 Year Mean ¹	
	Number of Leases/Permits/Sites	Acres	Number of Leases/Permits/Sites	Acres	Number of Leases/Permits/Sites	Acres
Oil and Gas Leases						
Exploration Leases	43	13,196	155	63,978	137	65,054
Active Leases	1		0		0	
Oil and Gas Leases With Drilling Permits Totals	1		3		1	
Grazing Permits/Leases						
Eastside	25	105,980	108	131,983	43	111,758
Westside	15	1,074	2	11	10	538
Grazing Permits/Leases Totals	40	107,054	110	131,994	53	112,296
Communication Site Leases						
Number Sites	56		57		61	
Number Leases	288		271		311	
Recreation Site Totals	119	2,456	123	2,409	124	2,182
Special Use Leases Totals	90	5,792	86	5,699	93	6,199

¹These values are mean data from fiscal years 1999 through 2007 unless otherwise noted.

²Numbers for rights-of-way represent the number and acres of *new* rights-of-way issued during the reporting period. Numbers for all other categories represent the *total* numbers and acres (new and existing) of activity in place during the reporting period.

³These values are means from fiscal years 2003-2007; data are not available for prior fiscal years.

Note: totals may not add due to rounding.

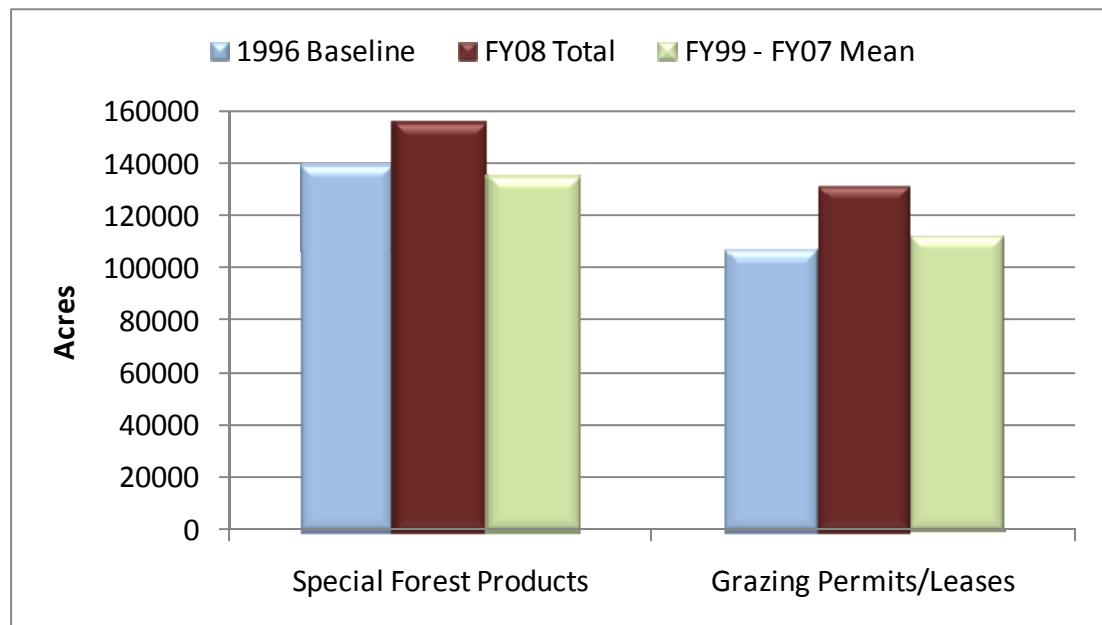


Figure 4.1. Acreage comparisons for special forest products and grazing permits/leases: 1996 baseline vs. fiscal year 2008 totals vs. means for fiscal years 1999 through 2007

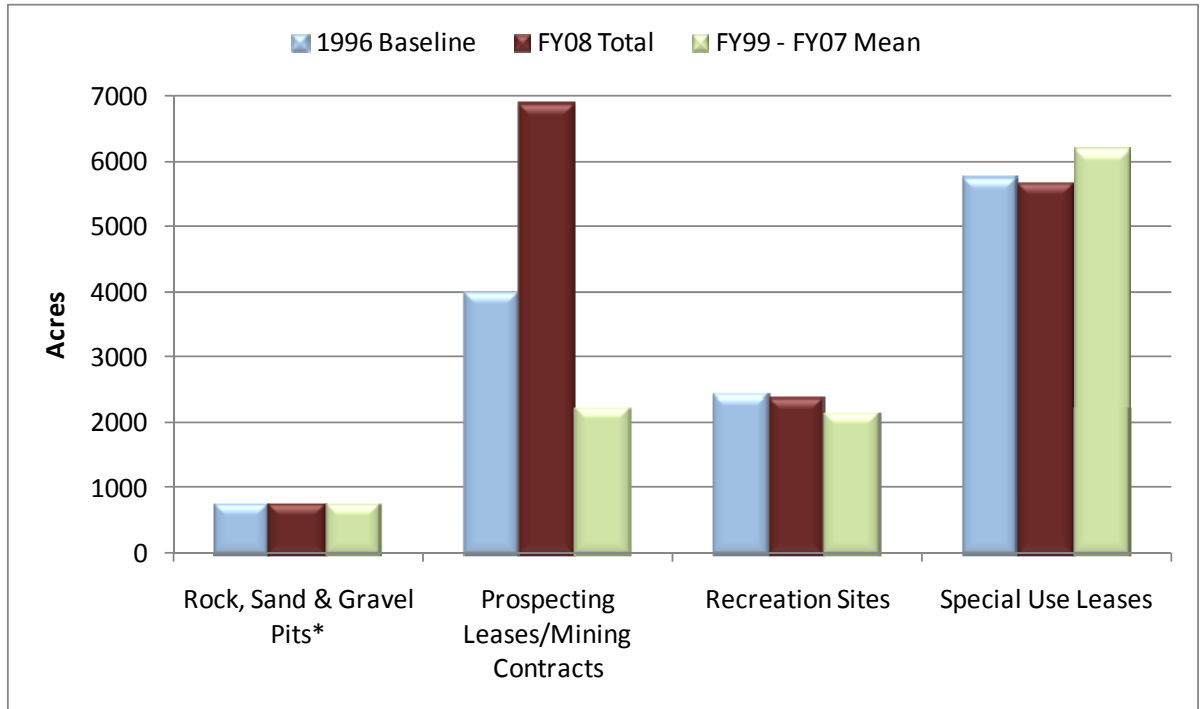


Figure 4.2. Acreage comparisons for rock, sand and gravel pits; prospecting leases/mining contracts; recreational sites; and special use leases: 1996 baseline vs. fiscal year 2008 totals vs. means for fiscal years 1999 through 2007

*Mean data are for fiscal years 2003-2007 only. Data are not available for prior years.

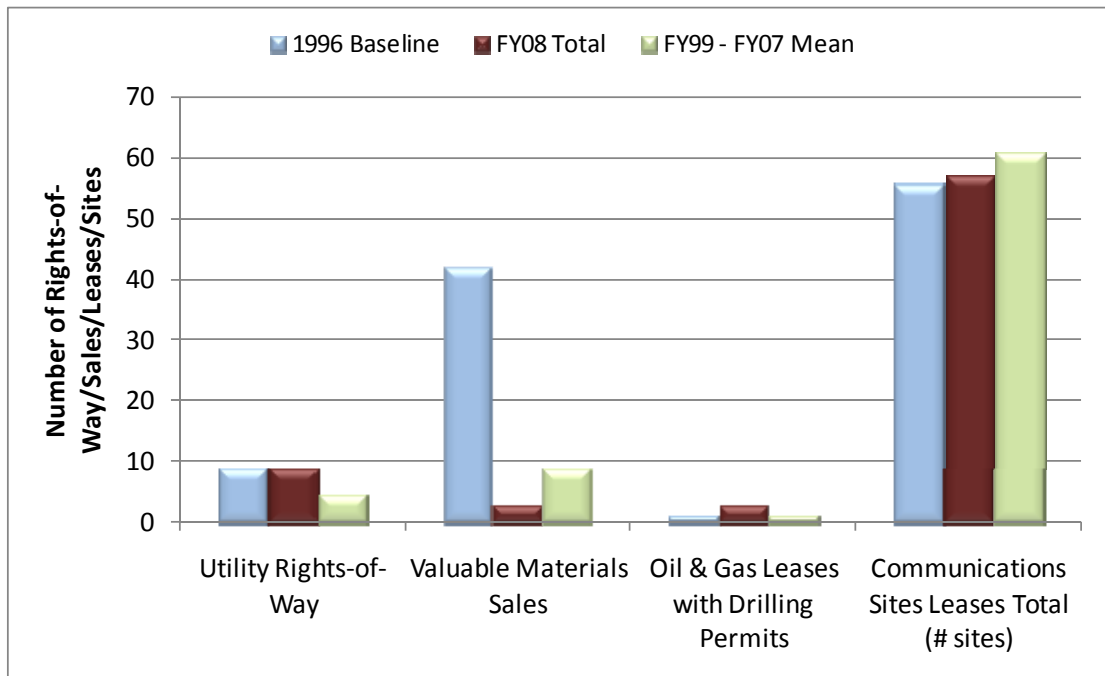


Figure 4.3. Comparisons of numbers of utility rights of way; valuable material sales; active oil and gas leases; and communication sites: 1996 baseline vs. fiscal year 2008 totals vs. means for fiscal years 1999 through 2007

Table 4.2. New utility right of way easements granted in fiscal year 2008

Planning Unit	Number of Easements	Length of Easement Area (Miles)	Area of Easement (Acres)
New Footprint Created			
Chelan	1	0.05	0.08
Columbia	1	0.01	0.01
North Puget	2	0.08	0.49
South Coast	3	4.31	8.40
South Puget	1	0.76	5.50
Straits	1	0.82	1.00
Total with New Footprints	9	6.03	15.48
Existing Footprint Used			
South Puget	1	2.06	5.00
Total in Existing Footprints	1	2.06	5.00
<i>Easement Totals</i>	<i>10</i>	<i>8.09</i>	<i>20.48</i>

Recreation/Public Use Activities

Each year, DNR-managed lands welcome hikers, hunters, trail riders, campers, and other users for an estimated total of more than 11 million recreational visitors annually. Our main recreation focus is to provide trails, trailhead facilities, campgrounds, and day use facilities. Our roads also provide considerable access for dispersed recreation activities, such as hunting and bird watching. Current recreational uses on DNR-managed lands



We build trails and campsites that comply with the Americans with Disabilities Act (ADA) to increase recreation opportunities and accessibility.

include, but are not limited to, hunting, fishing, camping, horseback riding, off-road vehicle use, mountain biking, scenic driving, cross country skiing, hiking, picnicking, berry picking, and hang- and paragliding. More recently emerging activities include paintball and geocaching.

As the number of recreation enthusiasts continues to grow, DNR is faced with determining how to best manage the varying types of recreational use and growing volume of users. Public safety is a key concern, as is protecting wildlife habitat and other vulnerable and valuable natural resources. To address these issues, we are working on several key projects.

Sustainable Recreation Work Group

In 2008, we created the Sustainable Recreation Work Group to make recommendations on improving recreation on forested state trust lands, aquatic lands, and other state-owned lands managed by the department. The work group is comprised of a balanced

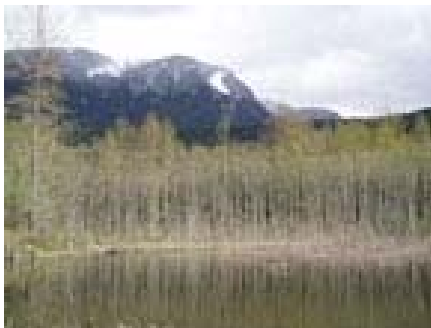
representation of individuals with recreational interests and knowledge regarding specific regions of the state.

The work group will gather public feedback, beginning with a series of workshops to understand what sorts of recreation currently take place and where. They will work to understand changes in recreational use of DNR-managed land and how those changes impact conservation and other goals. These findings will be incorporated into a report of recommendations that will be delivered to the Legislature by December 2009. Ultimately, the group will help us develop a long-term vision that ensures safe, sustainable, and enjoyable recreation on DNR-managed lands.

Recreation Rule Changes

To complement the Sustainable Recreation Work Group’s efforts and policy considerations, we are revising the rules—Chapter 332-52 of the Washington Administrative Code (WAC)—that guide public access and recreation on DNR-managed lands. These rules guide both the public and state agencies and were last updated in 1970. Much has changed since then, including how and where people recreate, how we manage our land, and large increases in the number of people seeking recreational opportunities.

Since DNR manages different lands for different purposes, and because many people



We are developing a recreation plan for the popular Reiter Foothills forest.

recreate on DNR-managed lands, the rules are important for protecting our natural resources and assets as well as the health and safety of the public. By updating the rules, we can provide a safer, more enjoyable experience for the public and others using these lands.

We have drafted new language that underwent review through the State Environmental Policy Act (SEPA). This language was developed in cooperation with agency staff, other natural resources agencies, an advisory committee, and public feedback. The rule updates address such topics as sanitation, traffic, firearms, and target shooting. New language covers roads, trails,

campground use, water recreation facilities, and boat anchorage. We have reviewed the applicability and scope of the rules to ensure that they are consistent and current and don’t contain gaps that lead to inconsistent management. To ensure public safety and protection of public resources, the proposed rules clearly define the role of enforcement and penalties. The focus of the revisions is to provide information in a clear, easily understandable way.

We began the process with a series of public workshops to find out what should be included and what was confusing in the existing rules. We performed extensive outreach and held many meetings with the general public and other stakeholders. The public was given a chance to review and comment on the proposed revisions, and the proposal underwent SEPA review. We are currently making final revisions to the rules and plan to take them to the Board of Natural Resources for adoption in the near future.

Recreation Plan Development

DNR has developed recreation plans for many landscapes we manage. These plans are developed with extensive involvement from the public and recreation groups. They include inventories that help us determine what types of recreation are occurring, both

sanctioned and unsanctioned. The goal of this planning is to develop broad recreation management objectives allowing for a variety of public uses while also protecting the environment. Key decisions include what type of recreation will occur in what places and what facilities are needed. The result will be a prioritized implementation strategy.

The 2008 Washington State Legislature funded recreation plans for two areas: the Reiter Foothills forest in the North Puget Planning Unit and the Ahtanum State Forest in the Yakima Planning Unit. We have completed the trail and facility inventory in both areas, but have not finished analyzing the data. The next steps will include discussing inventory results with biologists, geologists, and other experts to develop maps showing suitable locations for sustainable recreation. A user survey will determine what types of recreation are being carried out and when. A draft plan and management strategies will be developed and undergo public review and discussion before being finalized.

Region Public Use Inventory and Assessments

In 2004, DNR's public use section began developing Region Public Use Inventory and Assessments (RIAs), which are used to inventory developed and dispersed recreation and public use—both sanctioned and unsanctioned. The process also identifies planning and management priorities and options for those areas. The goal is to update these plans each biennium as priorities and budgets allow. Unlike most HCP Annual Report topics, these assessments are completed for DNR regions, rather than by HCP planning units. Data for any recreation areas outside of the HCP are not included in this report. Drafts of the initial inventories for Northwest, Olympic, Pacific Cascade, and South Puget Sound Regions were written in 2004; the Southeast Region draft was created in 2005. No draft exists for Northeast Region. Currently, inventories of both DNR and user-built trails are being carried out in several landscapes throughout the state.

The inventories provide baseline information and support for recreation program management strategies, planning decisions, and funding requests. They also will help us implement our public use policies and establish consistent planning for recreation on DNR-managed lands statewide. Each assessment provides an opportunity to discuss issues, concerns, and possible changes with a variety of interest groups, increasing public involvement in the process. Finally, they will provide information to assist in the design of management plans that advocate for natural environments and protect state trust lands and natural areas consistent with established mandates.

This report covers two aspects of public use reporting: trails (Table 4.3 and Figure 4.4) and picnic/camp sites (Table 4.4 and Figure 4.5). Sanctioned trails are reported on according to the type or types of authorized use. Sanctioned campsites are broken out by type (general use, host, or Americans with Disabilities Act (ADA) compliant). As the assessments get updated, this information will also be updated.

Table 4.3. Sanctioned recreation trails on forested state trust lands managed under the HCP in fiscal year 2008

Type of Use	Region Data (Miles)					Statewide Totals
	Northwest	Olympic	Pacific Cascade	South Puget	Southeast	
Non-motorized						
Horse/hike/bike	3	0	116.5	16.75	26	162.25
Horse/hike	0	0	1	66	0	67
Hike/bike	0	3	0	0	0	3
Hike	58.75	2	9.25	51	1	122
ADA compliant	0	0	0	4.2	0	4.2
Ski trails (on existing forest management roads)	0	0	0	100	0	100
Non-motorized Totals	61.75	5	126.75	237.95	27	458.45
Multi-use: motorized/non-motorized						
Multiple use (no 4x4)	0	26	63	164.75	23	276.75
4x4 and multiple use	36	0	18	34	0	88
Multi-use Totals	36	26	81	198.75	23	364.75
<i>Trail Totals</i>	<i>97.75</i>	<i>31</i>	<i>207.75</i>	<i>436.7</i>	<i>50</i>	<i>823.2</i>

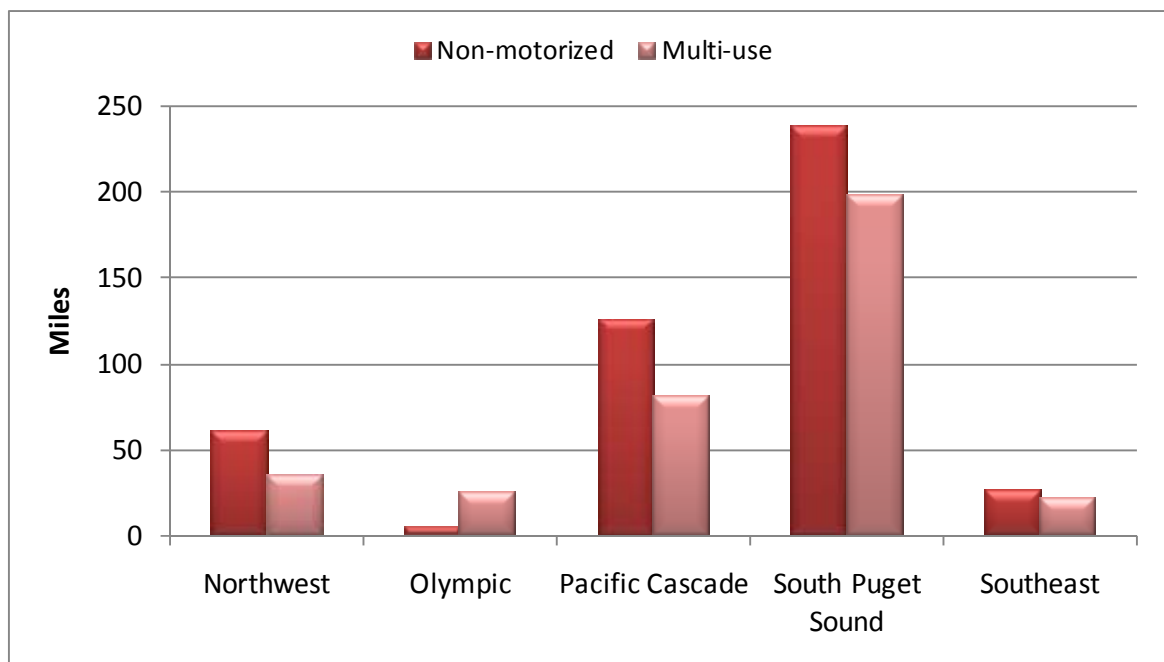


Figure 4.4. Total sanctioned non-motorized and multi-use trail miles by region

Table 4.4. Sanctioned camp and picnic sites on forested state trust lands managed under the HCP in fiscal year 2008

Type of Use	Region Data (Number of Sites)					
	Northwest	Olympic	Pacific Cascade	South Puget Sound	Southeast	Statewide Totals
Campsites	99	68	136	96	80	479
Host Campsites	0	1	6	0	1	8
ADA Campsites	3	4	26	1	1	35
<i>Campsite Totals</i>	<i>102</i>	<i>73</i>	<i>168</i>	<i>97</i>	<i>82</i>	<i>522</i>
Picnic Sites	26	1	54	59	5	145
<i>Camp and Picnic Site Totals</i>	<i>128</i>	<i>74</i>	<i>222</i>	<i>156</i>	<i>87</i>	<i>667</i>

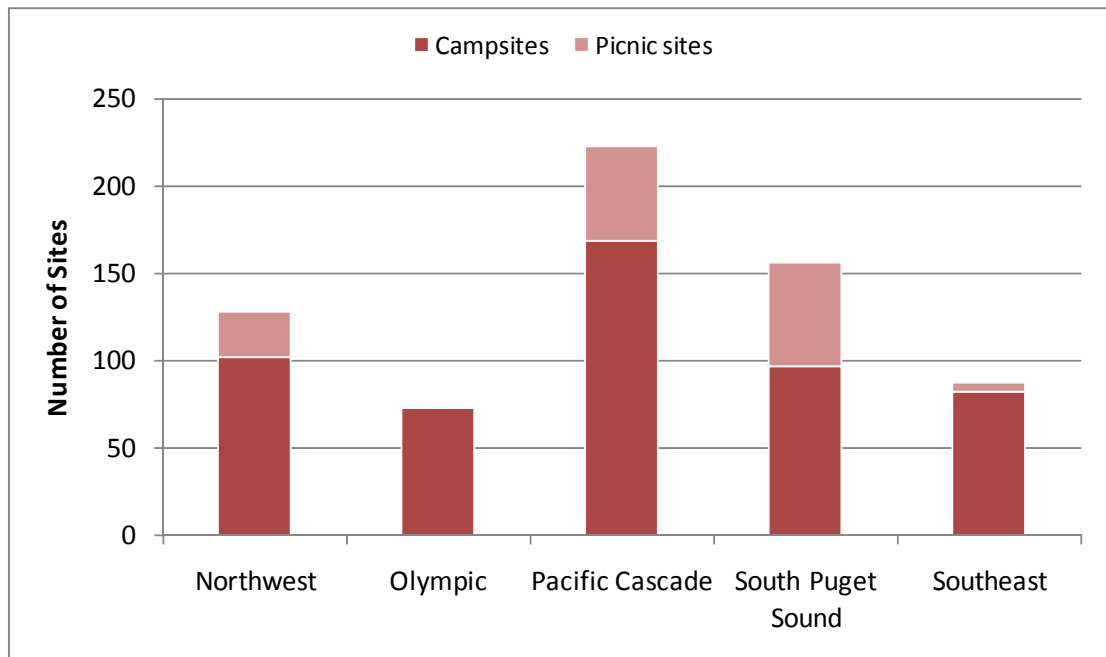


Figure 4.5. Total sanctioned camp and picnic sites by region

Natural Areas Program

Washington State's natural areas protect outstanding examples of the state's extraordinary diversity. These lands represent the finest natural, undisturbed ecosystems in state ownership, often protecting one-of-a-kind features unique to this region. The department's Natural Areas Program currently manages 126,100 acres statewide in 52 Natural Area Preserves (NAPs) and 29 Natural Resources Conservation Areas (NRCAs). More than 90,000 of those acres fall within the area managed under the HCP. This system of natural areas was established by the Washington Legislature in 1972 to protect native ecosystems, rare plant and animal species, and unique natural features. The lands

protected in the natural areas system include Puget prairies, estuaries, native forests, bogs, ponderosa pine forests, shrub steppe communities, and significant geological features. These lands provide opportunities for research, education and, where appropriate, low impact public use. In addition, these lands provide important contributions toward meeting statewide conservation priorities and to DNR's Habitat Conservation Plan obligations.



Volunteers such as these students pulling invasive Scotch broom (*Cytisus scoparius*) from Mima Mounds NAP are essential to the Natural Areas Program.

Since the HCP was signed in 1997, the Natural Areas Program has protected an additional 24,860 acres of land within the area managed under the HCP—395 acres in this reporting period—and more than 51,600 acres statewide. This year, we added more than 230 acres to the Stavis NRCA, helping to protect a landscape containing mature Douglas-fir forest communities, high-quality freshwater wetlands, and an estuarine wetland and lagoon system. We also added land to the Cypress Island and Woodard Bay NRCAs and Kennedy Creek, Niawiakum River, and Washougal Oaks NAPs.



Carlisle Bog NAP represents the most diverse and undisturbed example of a sphagnum bog ecosystem and connected lake on the Olympic Peninsula. The site supports a population of the Olympic mudminnow (*Novumbra hubbsi*) and one of only four known populations of the Makah copper butterfly.

Washington's natural areas contain habitat for 11 species listed as threatened or endangered under the Endangered Species Act. Nine of these species are known to occur on natural areas within the area covered by the HCP. Outside of the HCP, the Canada lynx (*Lynx canadensis*) is found in a NRCA in the Loomis area and several natural areas provide suitable habitat for grizzly bears (*Ursus arctos horribilis*). The federally listed species on natural areas include the largest and healthiest population of the golden paintbrush (*Castilleja levisecta*), the largest and most viable population of Wenatchee Mountain checkermallow (*Sidalcea oregana* var. *calva*), more than 15 established territories for the northern spotted owl (*Strix occidentalis caurina*), and waters that contain

listed runs of Chinook (*Oncorhynchus tshawytscha*), chum (*Oncorhynchus keta*), steelhead (*Oncorhynchus mykiss*) and bull trout (*Salvelinus confluentus*). Ten of our preserves contain occupied marbled murrelet (*Brachyramphus marmoratus*) sites. At South Nemah NRCA there have been more than 30 marbled murrelet occupancies recorded, including a confirmed murrelet nest site.

Natural areas provide habitat for three federal candidate species. Trout Lake NAP contains the second largest population and highest quality native habitat for the Oregon spotted frog (*Rana pretiosa*). Bald Hill NAP contains one of the largest and highest quality habitats for Taylor's checkerspot butterfly (*Euphydryas editha taylori*). Washougal Oaks NAP/NRCA protects spawning habitat for coho salmon (*Oncorhynchus kisutch*).

Natural areas also provide habitat for other sensitive species (federal species of concern, state-listed, state candidate, and others) identified in the HCP. This includes the bald eagle (*Haliaeetus leucocephalus*), which was de-listed from the Endangered Species Act in June 2007. Species whose habitat is protected include butterflies associated with prairie habitat like the Valley silverspot (*Speyeria zerene bremnerii*) and Puget blue (*Icaricia icarioides blackmorei*), amphibians that depend on forested talus slopes like the Larch Mountain salamander (*Plethodon larselli*), birds associated with mountain streams and rivers like the harlequin duck (*Histrionicus histrionicus*), bats that depend on maternal colonies like the colony found at Woodard Bay NRCA, and mammals that depend on high elevation rocky outcrops and alpine communities like the California bighorn sheep (*Ovis canadensis sierrae*).



Our natural areas provide habitat for Oregon spotted frogs (*Rana pretiosa*) and other amphibians. Photo courtesy of W.P. Leonard.

Late seral forests and trees with potential nesting platforms are important features to two of the primary species protected under the HCP, the northern spotted owl and the marbled murrelet. A number of our natural areas were established because of their high-quality



Erosion control fabric, woody debris, and transplanted native plants help reduce erosion and restore habitat along salmon-bearing streams at Elk River NRCA.

native forest ecosystems and, consequently, they are dominated by mature and/or late seral forests. The native forests on these preserves represent some of the highest quality examples of globally imperiled forest ecosystems.

In the Natural Areas Program, there are five high-quality estuaries including three on the coast and two in Puget Sound. These sites protect rare tidal wetland communities. Estuaries also provide important foraging and cover habitat for anadromous fish during the critical transition from a freshwater to a marine environment. In addition, estuaries help dissipate potentially damaging wave energy before it reaches the land, they provide a sink for sediments and wastes

derived from both land and sea, and they are some of the most biologically productive systems in the world.

Since our inventory of the state's biodiversity is incomplete, the protection of a broad representation of ecological communities also contributes to the conservation of many species. For example, Bald Hill NAP was established to protect rare and high-quality plant communities. We later learned that it also provides habitat for one of the last relatively healthy populations of Taylor's checkerspot butterflies. Similarly, North Bay and Carlisle Bog NAPs were established to protect high-quality wetlands. We later discovered that they contain two of only four known populations of the Makah copper butterfly (*Lycaena mariposa charlottensis*).

Our Natural Areas Program is actively working to restore and enhance habitat for special status species on a number of sites. At Bald Hill NAP, for example, we are enhancing habitat for the Taylor's checkerspot butterfly on nearly 20 acres of grassland balds. This involves removing encroaching trees and shrubs, controlling invasive species, and augmenting host and nectar plants. We are beginning a project to produce large-scale quantities of seed from local native prairie plants to use in habitat restoration at Mima Mounds, Rocky Prairie, and Bald Hill NAPs. In addition, we are abandoning roads, removing fill from salmon-bearing streams, and restoring hydrologic function at several sites. This includes the Elk River NRCA, where we abandoned one mile of road this reporting period, for a total of seven miles to date.



Bald Hill NAP contains high-quality grassland bald habitat that is home to a population of the Taylor's checkerspot butterfly. We are restoring this landscape by removing invasive species and adding host and nectar plants.

Nearly 260 research, inventory, and monitoring projects have been conducted in natural areas by agency biologists, professors, and students. These projects are helping us identify critical habitat features for species of concern. They are also helping us learn new techniques for protecting and restoring rare ecological communities. In the reporting period, there were 13 active research projects being carried out by external partners on our natural areas. This included nine new projects on topics ranging from lupine genetics to bat colony population dynamics to vegetation composition in old growth forests of the Willapa Hills.

Taken together, this demonstrates the important contribution of natural areas to the protection of biodiversity and to our HCP obligations.

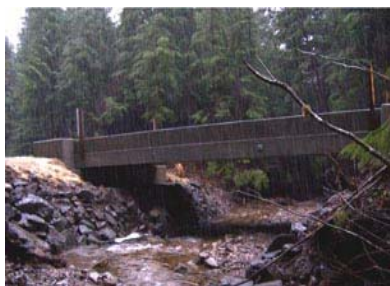
5. Road Management Activities

Roads that are improperly constructed or maintained can negatively impact habitat in a number of ways. Such roads can increase slope failure rates, contribute sediment to streams, and create fish blockages—potentially harming salmon and other aquatic and riparian obligate species. Current road-building and maintenance practices create better roads that minimize damage, while also allowing us to abandon or improve poorly built roads.

In 2001, state ‘Forest and Fish’ legislation (implemented through Washington State Forest Practices rules) required that by December 31, 2005 all forest landowners were to have Road



To remove a blocked fish passage, a bridge was built on this road. Before removal, a small culvert (behind the trees on the left in the photo above) inhibited stream flow and fish movement. Now the stream flows freely and allows fish passage (below).



1997, p. IV.62)

Maintenance and Abandonment Plans (RMAPs) for their land. These plans included all roads constructed or used for timber harvest and other forest practices since 1974. The legislation also stipulated that all forest roads must be improved and maintained to the standards established in WAC 222-24 by the year 2016. In 2005, DNR completed RMAP assessments for all state trust lands and intends to be fully compliant with RMAP standards by 2016.

Under the trust lands HCP, DNR committed to developing and instituting a process to achieve comprehensive landscape-based road network management. The major components include:

- “the minimization of active road density;
- a site-specific assessment of alternatives to new road construction (e.g., yarding systems) and the use of such alternatives where practicable and consistent with conservation objectives;
- a base-line inventory of all roads and stream crossings;
- prioritization of roads for decommissioning, upgrading, and maintenance; and
- identification of fish blockages caused by stream crossings and a prioritization of their retrofitting or removal.” (DNR

The department accomplishes these objectives through several overlapping planning processes. Forest Land Planning (currently underway in the South Puget, Columbia, and OESF HCP Planning Units) evaluates the overall active road density. Through implementation of forest land plans, individual project-level activities will address the site-specific alternatives to new road construction. Implementation of DNR’s RMAP requirements will address the last three components. The initial RMAP plans were completed on schedule in 2005, and annual reassessments evaluate the work completed during that year and prioritize the work to be completed during the upcoming year.

As part of the HCP Annual Report requirements, we track and report on the number of road miles constructed (newly built roads); reconstructed (existing roads brought back to drivable conditions); decommissioned (roads made impassible to vehicular traffic); or abandoned (roads stabilized and abandoned to Forest Practices standards); fish barriers removed; active forest practice road miles; and percent of road miles under RMAP (Table 5.1).



When we abandon outdated forest roads, we restore natural drainage in the former roadbed.

Unlike other activities, road management activities are reported on a calendar (rather than fiscal) year basis. This is a reporting requirement under Forest Practices rules for road management activities and maintenance schedules.

Table 5.1. Forest road management activities in calendar year 2007

Activity	Chelan	Columbia	Klickitat	North Puget	OESF	South Coast	South Puget	Straits	Yakima	CY 2007 Total	9-Year Mean ¹
Total Road Miles ²	91	1,368	586	1,527	1,723	1,411	877	626	810	9,036	8,878
Miles of Construction	0	18	7	48	6	22	4	12	12	129	133
Miles of Reconstruction	0	20	5	72	3	19	3	1	9	132	208
Miles of Active Forest Roads Abandoned	0	33	10	51	1	13	3	4	4	117	131 ³
Miles Decommissioned	0	3	2	0	5	1	1	4	16	32	80
Number of Fish Barriers Removed	0	24	2	7	21	23	5	2	4	88	62
Percent of RMAP Responsibility Assessed	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	83% ³

¹ Due to a change in reporting methods, 9 year mean data comes from fiscal years 1999 through 2001 and calendar years 2001 through 2006. Calendar year 2001 included data from the last 6 months of fiscal year 2001.

²For calendar year 2007, Total Road Miles means ordinary forest maintenance miles on HCP-managed lands and is determined from RMAP assessments. It only includes roads used for forest practice-related activities.

³These data are only for calendar years 2001 through 2006. Data are not available for prior years.

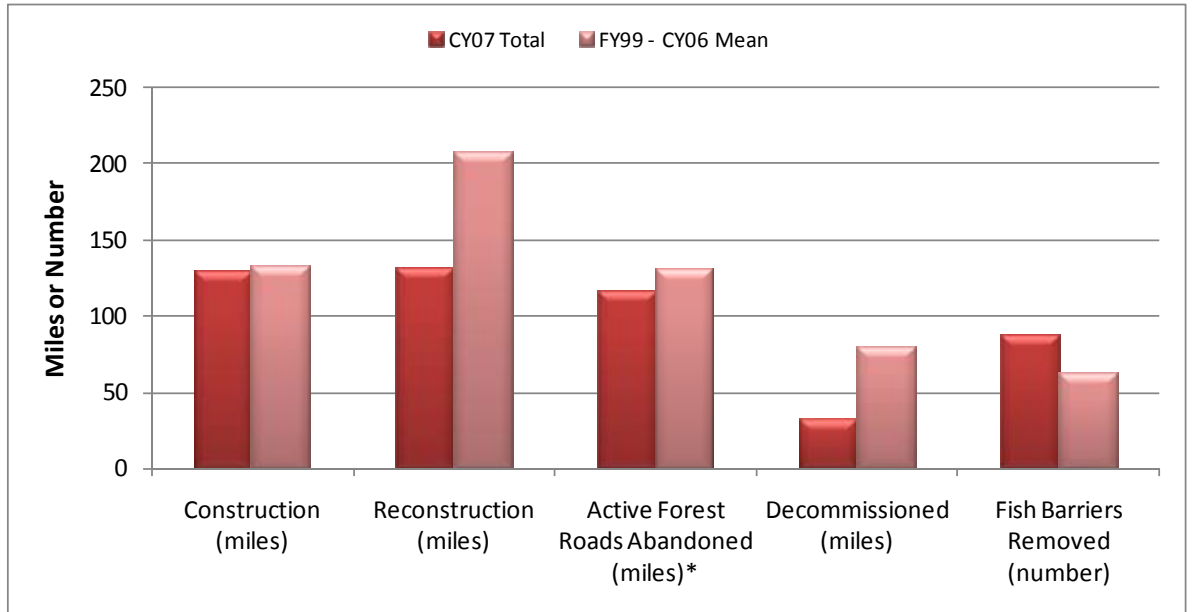


Figure 5.1. Road management activities: calendar year 2007 totals vs. means for fiscal year 1999 through calendar year 2006

*These data are for calendar years 2001 through 2006 only. Data are not available for prior years.

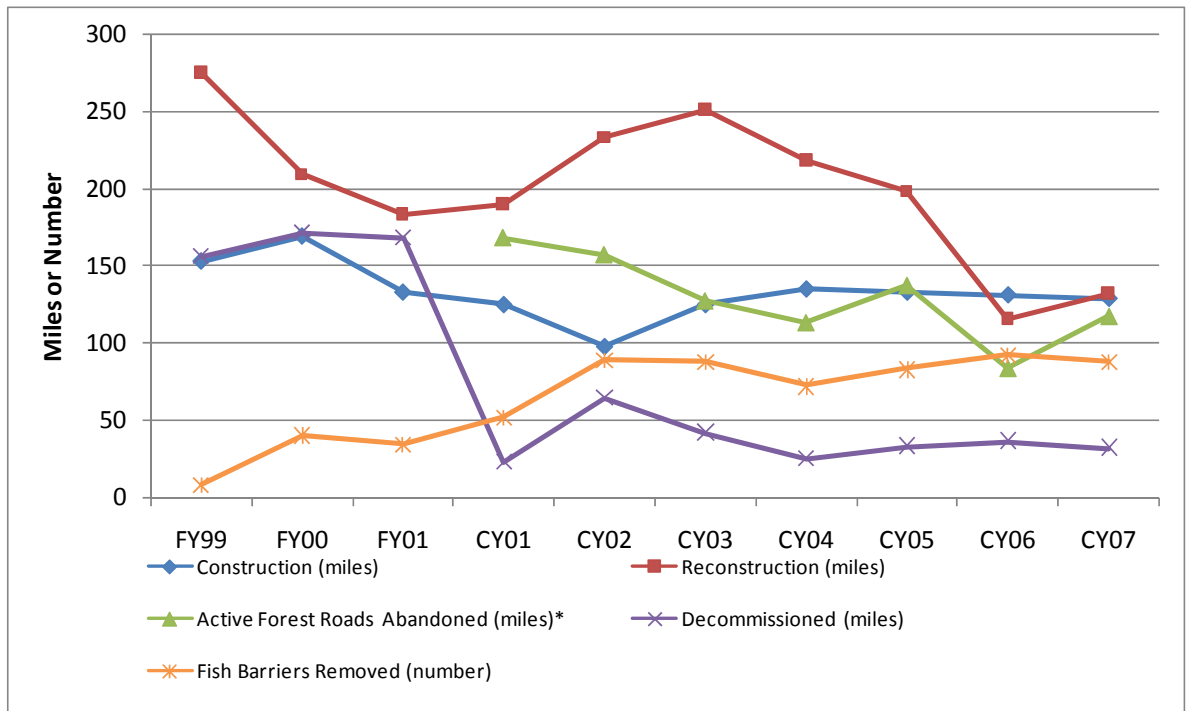


Figure 5.2. Road management activities: fiscal year 1999 through calendar year 2007

*These data are for calendar years 2001 through 2006 only. Data are not available for prior years.

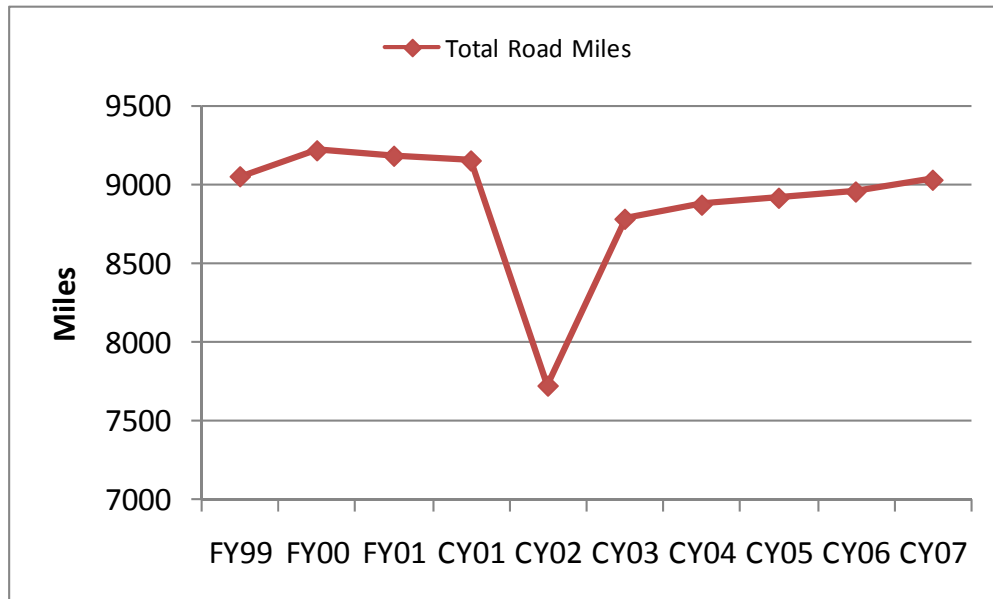


Figure 5.3. Total road miles in HCP planning units: fiscal year 1999 through calendar year 2007

To obtain the base numbers of road miles, we used photo interpretation augmented with global positioning system (GPS) data. This became the basis of the department’s mapped transportation GIS data layer. Since then, department employees have been verifying the presence or absence of these mapped road arcs as they complete RMAPs. As the percentage of roads covered by RMAP assessments increases, our assessment of the number of actual active forest road miles is becoming more accurate.

We are working on a system to better track and distinguish between forest roads and roads not used for forest practices purposes. ‘Non-forest practice roads’ refer to those that lead only to a recreation site and those that are contained entirely within a Natural Area Preserve (NAP) or a Natural Resource Conservation Area (NRCA). By making this distinction, the department will be able to increase the accuracy and detail of reporting for RMAPs, while still tracking and reporting on all road miles. The data for non-forest practice roads is currently being collected and reviewed and will be included in future reports when it becomes available.

Road Use Permits and Easements

Since 2005, road-related activities associated with easements and road use permits have been included in the HCP Annual Report. These “footprints”, detailed in Table 5.2, were granted by DNR to private landowners to allow them to access their lands through state trust property.

Table 5.2. Road use permits and easements granted in calendar year 2007

Planning Unit	Length of New Construction (Miles)	Area of New Construction (Acres)	Length of Reconstruction (Miles)	Area of Reconstruction (Acres)	Length of Abandonment (Miles)	Area of Abandonment (Acres)	Length of Fish Barrier Removal (Miles)	Area of Fish Barrier Removal (Acres)
Columbia	0.50	3.52	0	0	0	0	0	0
North Puget	0.21	0.98	0.21	1.52	0.48	1.37	0	0
OESF	0.24	0.84	0	0	0	0	0	0
South Coast	2.96	14.89	0	0	0	0	0	0
South Puget	0.76	5.50	0	0	0	0	0	0
Straits	13.60	16.74	0	0	0	0	0	0
Totals	18.27	42.47	0.21	1.52	0.48	1.37	0	0





6. Land Transactions

DNR has a transactions program designed to reposition trust lands for better long-term management and increased revenue for each of the state trusts. Repositioning simply means disposing of properties that don't fit the department's management strategies and acquiring more suitable properties. When parcels are sold at public auction or transferred (sold) to other public ownership, the proceeds are used to acquire replacement lands for the trusts.

Through the transaction program, we look for opportunities to dispose of trust lands not appropriate for revenue production. Such lands are often better suited to other public benefits, such as parks or habitat for rare native species. We also seek to consolidate our forest landscapes, which allows for more cost-effective management and offers opportunities to optimize trust revenue while maintaining habitat and allowing public recreation as appropriate.

Land transactions affect the amount of habitat or potential habitat on DNR-managed forested state lands. Transactions may be carried out to consolidate forested state ownership in certain areas, often by trading with owners of adjacent lands for scattered DNR-managed parcels elsewhere. State trust lands also may be transferred out of trust ownership into protected status as Natural Area Preserves (NAPs) or Natural Resource Conservation Areas (NRCAs)—both part of DNR's Natural Areas Program (see Chapter 4). Another option is for trust lands to be transferred to other government agencies to be used as parks or open space or for public facilities. When this happens, the trust is compensated at fair market value, and replacement properties are acquired to maintain trust assets over time. Acquired lands are assessed for inclusion as HCP permit lands (meaning they are managed subject to the commitments in the HCP); whether they should be designated as northern spotted owl nesting, roosting, foraging (NRF) or dispersal/desired future condition (DFC) management areas (see Chapter 3); and their potential role in other HCP conservation strategies.

Some lands have important social or ecological values and are best managed to protect these special values and uses, rather than for income production. When that is the case, the lands may be candidates for the Trust Land Transfer Program, which applies only to Common School Trust lands. Through this program, land is transferred to Washington Department of Fish and Wildlife; the State Parks and Recreation Commission; county government; city government; Natural Area Preserves; or Natural Resource Conservation Areas. The value of the timber (which is not cut) is given to the common school construction account, which helps fund K-12 schools statewide. The value of the land is used to purchase replacement property for the trust. The land may be transferred with special conditions stipulating that it must still be managed according to HCP rules and guidelines. In such cases, the land is still counted towards HCP-managed acreages and is not considered disposed.

During this reporting period, transactions affected seven of the nine HCP planning units. This included a public auction and several land transfers. However, the major factor in the acreage changes was the land exchanges that helped consolidate state trust lands, mostly in the south central foothills of the Cascade Mountains in eastern Washington.

A total of 1,398 acres were added to the HCP permit lands and 14,568 acres were disposed in fiscal year 2008. An additional 78,667 acres were acquired in the Yakima Planning Unit, but have not yet been assessed for their potential habitat value nor added to the HCP permit lands, and thus are not included in Tables 6.1 and 6.2. Table 6.1 details the fiscal year 2008 transactions, including their effects on various types of habitat, streams, and forests. Cumulative changes from 1997 through fiscal year 2008 are detailed in Table 6.2.

The Central Cascades exchange was completed during the reporting period. This was a major exchange with Western Pacific Timber in which we acquired 82,000 acres of land (3,333 of them east of the HCP boundaries) in exchange for 21,000 acres of state trust lands. The exchange, which includes rural, forested, and agricultural parcels, consolidated state trust lands into larger, more contiguous blocks that can be more effectively managed. The exchange will also allow us to enhance wildlife habitat, water quality protection, and access for recreational opportunities. We are still analyzing the acquired lands and their potential for growing timber, providing wildlife habitat, and contributing other benefits. Once that analysis is complete, we will report on how many acres are added to the HCP permit lands.

Briefly, the transactions for fiscal year 2008 can be described as follows.

Chelan Planning Unit

Acquired: None

Disposed: None

Trust Land Transfer: None

Columbia Planning Unit

Acquired: One 5 acre parcel was acquired in the Washougal Oaks Natural Area Preserve. The property is designated 'no role' for spotted owls, meaning it is not designated as either nesting, roosting, and foraging (NRF) or as dispersal/desired future condition (DFC).

Disposed: Through the Central Cascades land exchange, 631 acres of trust forest land in Lewis, Clark, and Cowlitz Counties were traded. One 35 acre parcel that is primarily in agricultural use was sold to a school district in Clark County. Both properties are designated as no role for spotted owls.

Trust Land Transfer: None

Klickitat Planning Unit

Acquired: None

Disposed: In the Central Cascades exchange, 7,692 acres of mostly scattered parcels in Klickitat County were traded to Western Pacific Timber. About 860 acres are

designated as DFC management area. The property acquired in return is located in the Yakima Planning Unit.

Trust Land Transfer: None

North Puget Planning Unit

Acquired: 995 acres of forest land designated as no role for spotted owls. The majority (985 acres) is in a trust block in Snohomish County. Two parcels totaling 10 acres were acquired in the Cypress Island NRCA.

Disposed: A total of 1,471 acres were disposed, all in areas designated as no role for spotted owls. About 170 acres were transferred (sold) to local governments, but no longer subject to the HCP. The remainder is property exchanged to Western Pacific Timber. Most of the exchanged property is forest land in Snohomish and Whatcom Counties, except one 330-acre parcel in Whatcom County that is in agriculture use in a developing residential area.

Trust Land Transfer: None

Olympic Experimental State Forest Planning Unit

Acquired: None

Disposed: None

Trust Land Transfer: None

South Coast Planning Unit

Acquired: None

Disposed: 869 acres in Lewis, Pacific, and Thurston Counties went to Western Pacific Timber in the Central Cascades exchange. About 47 acres in Pacific County are considered marbled murrelet habitat, and 40 acres is adjacent to a bald eagle nest site.

Trust Land Transfer: None

South Puget Planning Unit

Acquired: All of the 366 acres acquired went to natural areas: 237 were added to the Stavis NRCA in Kitsap County; one 90 acre parcel was added to Woodard Bay NRCA in Thurston County; and one 40 acre parcel was added to Kennedy Creek NAP in Mason County. All of these acres were designated as permit lands with no role for spotted owls.

Disposed: One urban, partially forested 38-acre parcel was disposed of in Thurston County. In Thurston and Pierce Counties, 780 acres of transition land with some timber were traded in the Central Cascades exchange. All were designated as no role for spotted owl management.

Trust Land Transfer: None

Straits Planning Unit

Acquired: Two small inholdings (private property entirely surrounded by state-owned land) were acquired in forested trust land blocks in Clallam County. They are both located in areas of marbled murrelet habitat and are designated as permit lands with no role for spotted owls.

Disposed: One 239-acre parcel in Mason County was traded in the Central Cascades exchange. Fifteen acres are designated murrelet habitat, but the property is also bisected by Highway 101. All 239 acres were designated as no role for spotted owl management.

Trust Land Transfer: None.

Yakima Planning Unit

Acquired: Through the Central Cascades exchange 78,667 acres were acquired. However, no acres have been designated as permit lands at this time. We anticipate that habitat will be reviewed across the unit in the future, and suitable designations will be made at that time.

Disposed: DNR traded 2,710 acres in Kittitas County to Western Pacific Timber. This included one 341-acre parcel of designated NRF management area (about 300 acres of which are older age class timber). We also traded one 121 acre parcel near I-90 to Easton Ridge Land Company. This parcel is designated as dispersal, and about 84 acres is older age class (more than 70 year old) timber.

Trust Land Transfer: None

Table 6.1. Effects of transactions on HCP permit lands: July 2007 through June 2008

Activity		Planning Unit									
		Chelan	Columbia	Klickitat	North Puget	OESF	South Coast	South Puget	Straits	Yakima	Totals
	Total Acres Acquired	-	4.60	-	995.31	-	-	365.84	32.44	-	1,398.19
	Total Acres Disposed	-	(665.75)	7,691.59	(1471.35)	-	(869.44)	(818.12)	(239.33)	(2,830.24)	(14,585.82)
	Net Change - Acres	-	(661.15)	(7,691.59)	(476.04)	-	(869.44)	(452.28)	(206.89)	(2,830.24)	(13,187.63)
Owl Habitat Acquired	Designated Dispersal	-	-	-	-	-	-	-	-	-	-
	Existing Dispersal (41+)	-	-	-	-	-	-	-	-	-	-
	Designated DFC	-	-	-	-	-	-	-	-	-	-
	Existing DFC	-	-	-	-	-	-	-	-	-	-
	Designated NRF	-	-	-	-	-	-	-	-	-	-
	Existing NRF (71+)	-	-	-	-	-	-	-	-	-	-
	OESF	-	-	-	-	-	-	-	-	-	-
	No Role	-	4.60	-	995.31	-	-	365.84	32.44	-	1,398.19
										1,398.19	
Owl Habitat Disposed	Designated Dispersal	-	-	-	-	-	-	-	-	(120.51)	(120.51)
	Existing Dispersal (41+)	-	-	-	-	-	-	-	-	(83.50)	(83.50)
	Designated DFC	-	-	(859.28)	-	-	-	-	-	-	(859.28)
	Existing DFC	-	-	(717.34)	-	-	-	-	-	-	(717.34)
	Designated NRF	-	-	-	-	-	-	-	-	(341.10)	(341.10)
	Existing NRF (71+)	-	-	-	-	-	-	-	-	(298.24)	(298.24)
	OESF	-	-	-	-	-	-	-	-	-	-
	No Role	-	(665.75)	(6,832.31)	(1,471.35)	-	(869.44)	(818.12)	(239.33)	(2,368.63)	(13,264.93)
										(14,585.82)	
Other Habitats Acquired	Murrelet	-	-	-	-	-	-	-	32.44	-	32.44
	Oregon Silverspot Butterfly	-	-	-	-	-	-	-	-	-	-
	Aleutian Canada Goose	-	-	-	-	-	-	40.00	-	-	40.00
	Bald Eagle	-	-	-	-	-	-	-	-	-	-
	Peregrine Falcon	-	-	-	-	-	-	-	-	-	-
	Gray Wolf	-	-	-	-	-	-	-	-	-	-
	Grizzly Bear	-	-	-	-	-	-	-	-	-	-
	Columbian White-tailed Deer	-	-	-	-	-	-	-	-	-	-
	Talus and Cliffs	-	-	-	-	-	-	-	-	-	-
Meadows	-	-	-	-	-	-	-	-	-	-	
Other Habitats Disposed	Murrelet	-	-	-	-	-	(46.98)	-	(15.27)	-	(62.25)
	Oregon Silverspot Butterfly	-	-	-	-	-	-	-	-	-	-
	Aleutian Canada Goose	-	-	-	-	-	-	-	-	-	-
	Bald Eagle	-	-	-	-	-	(40.00)	-	-	-	(40.00)
	Peregrine Falcon	-	-	-	-	-	-	-	-	-	-
	Gray Wolf	-	-	-	-	-	-	-	-	-	-
	Grizzly Bear	-	-	-	-	-	-	-	-	-	-
	Columbian White-tailed Deer	-	-	-	-	-	-	-	-	-	-
Other Hab.	Talus and Cliffs	-	-	-	-	-	-	-	-	-	-

Activity		Planning Unit									
		Chelan	Columbia	Klickitat	North Puget	OESF	South Coast	South Puget	Straits	Yakima	Totals
<i>Disp. (cont.)</i>	<i>Meadows</i>	-	-	-	-	-	-	-	-	-	-
Riparian:	Stream Type 1	-	-	-	-	-	-	0.03	-	-	0.03
Stream Miles	Stream Type 2	-	-	-	-	-	-	0.18	-	-	0.18
Acquired	Stream Type 3	-	-	-	2.71	-	-	1.06	-	-	3.77
	Stream Type 4	-	-	-	0.46	-	-	0.03	-	-	0.49
	Stream Type 5	-	-	-	0.61	-	-	0.87	-	-	1.48
	Stream Type 9	-	-	-	0.20	-	-	0.25	0.59	-	1.04
	Total Miles	-	-	-	3.98	-	-	2.42	0.59	-	6.99
Rain on Snow/Slopes	Rain on Snow	-	-	-	1.63	-	-	-	-	-	1.63
Acquired	Unstable Slopes	-	-	-	430.65	-	-	25.63	13.50	-	469.78
<i>Riparian:</i>	<i>Stream Type 1</i>	-	-	(0.57)	-	-	(0.29)	-	-	-	(0.86)
<i>Stream Miles</i>	<i>Stream Type 2</i>	-	-	-	(0.31)	-	-	-	(0.34)	-	(0.65)
<i>Disposed</i>	<i>Stream Type 3</i>	-	(0.40)	(3.02)	(1.83)	-	(0.17)	-	-	(2.17)	(7.59)
	<i>Stream Type 4</i>	-	(1.00)	(8.22)	(1.02)	-	(2.57)	-	-	(2.98)	(15.79)
	<i>Stream Type 5</i>	-	(1.70)	(21.59)	(1.99)	-	(1.89)	-	-	(8.92)	(36.09)
	<i>Stream Type 9</i>	-	(0.33)	(13.68)	(0.32)	-	(3.23)	(1.19)	(0.12)	(6.69)	(25.56)
	Total Miles	-	(3.43)	(47.08)	(5.47)	-	(8.15)	(1.19)	(0.46)	(20.76)	(86.54)
<i>Rain on Snow/Slopes</i>	<i>Rain on Snow</i>	-	-	(3,660.20)	-	-	-	-	-	(857.50)	(4,517.70)
<i>Disposed</i>	<i>Unstable Slopes</i>	-	(63.71)	(120.56)	(40.35)	-	(7.07)	-	(7.80)	(187.87)	(427.36)
Zones	Puget Sound Doug-fir	-	-	-	975.31	-	-	365.84	4.44	-	1,345.59
Acquired	Silver Fir	-	-	-	-	-	-	-	-	-	-
	Sitka Spruce	-	-	-	-	-	-	-	-	-	-
	Western Hemlock	-	4.60	-	20.00	-	-	-	28.00	-	52.60
	Woodland/Prairie Mosaic	-	-	-	-	-	-	-	-	-	-
	Total Acres	-	4.60	-	995.31	-	-	365.84	32.44	-	1389.19
<i>Zones</i>	<i>Central Arid Steppe</i>	-	-	-	-	-	-	-	-	(2,205.73)	(2,205.73)
<i>Disposed</i>	<i>Cowlitz River</i>	-	(355.79)	-	-	-	(197.83)	-	-	-	(553.62)
	<i>Grand Fir</i>	-	-	(72.85)	-	-	-	-	-	(120.51)	(193.36)
	<i>Interior Doug-fir</i>	-	-	(558.56)	-	-	-	-	-	-	(558.56)
	<i>Oak</i>	-	-	(2,727.74)	-	-	-	-	-	-	(2,727.74)
	<i>Ponderosa Pine</i>	-	-	(3,654.09)	-	-	-	-	-	(504.00)	(4,158.09)
	<i>Puget Sound Doug-fir</i>	-	-	-	(1,301.85)	-	(74.90)	(739.53)	(239.33)	-	(2,355.61)
	<i>Sitka Spruce</i>	-	-	-	-	-	(552.69)	-	-	-	(552.69)
	<i>Subalpine Fir</i>	-	-	(678.35)	-	-	-	-	-	-	(678.35)
	<i>Western Hemlock</i>	-	(309.96)	-	(169.50)	-	(39.62)	(40.43)	-	-	(559.51)
	<i>Woodland/Prairie Mosaic</i>	-	-	-	-	-	(4.40)	(38.16)	-	-	(42.56)
	Total Acres	-	(665.75)	(7,691.59)	(1,471.35)	-	(869.44)	(818.12)	(239.33)	(2,830.24)	(14,585.82)
Age Class	Open 0-10	-	-	-	217.10	-	-	30.67	-	-	247.77
Acquired	Regeneration 11-20	-	-	-	204.10	-	-	45.90	-	-	250.00
	Pole 21-40	-	-	-	318.60	-	-	75.18	29.54	-	423.32
	Closed 41-70	-	1.33	-	120.40	-	-	71.43	2.90	-	196.06

Activity		Planning Unit									
		Chelan	Columbia	Klickitat	North Puget	OESF	South Coast	South Puget	Straits	Yakima	Totals
Age Class Acquired (continued)	Complex 71-100	-	2.50	-	-	-	-	81.08	-	-	83.58
	Complex 101-150	-	-	-	10.15	-	-	-	-	-	10.15
	Functional 150+	-	0.60	-	-	-	-	-	-	-	0.60
	Non-Forest Land	-	0.17	-	124.96	-	-	61.58	-	-	186.71
	Total Acres	-	4.60	-	995.31	-	-	365.84	32.44	-	1,398.19
Age Class Disposed	Open 0-10	-	(309.82)	(637.68)	(13.55)	-	(77.70)	(394.43)	(106.23)	-	(1,539.41)
	Regeneration 11-20	-	(39.88)	(12.40)	(416.42)	-	(135.76)	(144.91)	-	(20.80)	(770.17)
	Pole 21-40	-	(25.64)	(104.35)	(283.49)	-	(161.72)	(13.68)	-	(42.36)	(631.24)
	Closed 41-70	-	(158.06)	(1,123.00)	(329.61)	-	(392.93)	(157.61)	(94.78)	(72.24)	(2,328.23)
	Complex 71-100	-	(84.44)	(4,062.29)	(141.46)	-	(18.46)	(16.86)	(25.02)	(474.82)	(4,823.35)
	Complex 101-150	-	-	(1,118.94)	-	-	(5.43)	-	-	(13.14)	(1,137.51)
	Functional 150+	-	-	-	-	-	-	-	-	-	-
	Non-Forest Land	-	(47.91)	(632.93)	(286.82)	-	(77.44)	(90.63)	(13.30)	(2,206.88)	(3,355.91)
	Total Acres	-	(665.75)	(7,691.59)	(1,471.35)	-	(869.44)	(818.12)	(239.33)	(2,830.24)	(14,585.82)
Age Class by Zone: Acquired	Open 0-10										
	Puget Sound Doug-fir	-	-	-	197.10	-	-	30.67	-	-	227.77
	Silver Fir	-	-	-	-	-	-	-	-	-	-
	Sitka Spruce	-	-	-	-	-	-	-	-	-	-
	Western Hemlock	-	-	-	20.00	-	-	-	-	-	20.00
	Regeneration 11-20										
	Puget Sound Doug-fir	-	-	-	204.10	-	-	45.90	-	-	250.00
	Silver Fir	-	-	-	-	-	-	-	-	-	-
	Sitka Spruce	-	-	-	-	-	-	-	-	-	-
	Western Hemlock	-	-	-	-	-	-	-	-	-	-
	Pole 21-40										
	Puget Sound Doug-fir	-	-	-	318.60	-	-	75.18	-	-	393.78
	Sitka Spruce	-	-	-	-	-	-	-	-	-	-
	Western Hemlock	-	-	-	-	-	-	-	28.00	-	28.00
	Closed 41-70										
	Puget Sound Doug-fir	-	-	-	120.40	-	-	71.43	2.90	-	194.73
	Sitka Spruce	-	-	-	-	-	-	-	-	-	-
	Western Hemlock	-	1.33	-	-	-	-	-	-	-	1.33
	Woodland/Prairie Mosaic	-	-	-	-	-	-	-	-	-	-
	Complex 71-100										
	Puget Sound Doug-fir	-	-	-	-	-	-	81.08	-	-	81.08
	Sitka Spruce	-	-	-	-	-	-	-	-	-	-
	Western Hemlock	-	2.50	-	-	-	-	-	-	-	2.50
Willamette Valley	-	-	-	-	-	-	-	-	-	-	
Complex 101-150											
Puget Sound Doug-fir	-	-	-	10.15	-	-	-	-	-	-	
Sitka Spruce	-	-	-	-	-	-	-	-	-	-	
Western Hemlock	-	-	-	-	-	-	-	-	-	-	
Functional 150											
Western Hemlock	-	0.60	-	-	-	-	-	-	-	0.60	
Non-Forest Land											
Puget Sound Doug-fir	-	-	-	124.96	-	-	61.58	1.54	-	188.08	
Silver Fir	-	-	-	-	-	-	-	-	-	-	

Activity		Planning Unit									
		Chelan	Columbia	Klickitat	North Puget	OESF	South Coast	South Puget	Straits	Yakima	Totals
Age Class by Zone: Acquired (continued)	Sitka Spruce	-	-	-	-	-	-	-	-	-	-
	Western Hemlock	-	0.17	-	-	-	-	-	-	-	0.17
	Willamette Valley	-	-	-	-	-	-	-	-	-	-
	Woodland/Prairie Mosaic	-	-	-	-	-	-	-	-	-	-
	Total Acres	-	4.60	-	995.31	-	-	365.84	32.44	-	1,398.19
Age Class by Zone: Disposed	Open 0-10										
	Cowlitz River	-	(99.15)	-	-	-	(21.70)	-	-	-	(120.85)
	Interior Doug-fir	-	-	(85.38)	-	-	-	-	-	-	(85.38)
	Oak	-	-	(362.85)	-	-	-	-	-	-	(362.85)
	Ponderosa Pine	-	-	(178.05)	-	-	-	-	-	-	(178.05)
	Puget Sound Doug-fir	-	-	-	-	-	(51.60)	(387.35)	(106.23)	-	(545.18)
	Subalpine Fir	-	-	(12.80)	-	-	-	-	-	-	(12.80)
	Western Hemlock	-	(210.67)	-	(13.55)	-	-	-	-	-	(224.22)
	Woodland Prairie Mosaic	-	-	-	-	-	(4.40)	(7.08)	-	-	(11.48)
	Regeneration 11-20										
Cowlitz River	-	(39.88)	-	-	-	(98.99)	-	-	-	(137.87)	
Grand Fir	-	-	-	-	-	-	-	-	(20.80)	(20.80)	
Oak	-	-	(12.40)	-	-	-	-	-	-	(12.40)	
Puget Sound Doug-fir	-	-	-	(416.42)	-	-	(104.48)	-	-	(520.90)	
Sitka Spruce	-	-	-	-	-	(2.03)	-	-	-	(2.03)	
Western Hemlock	-	-	-	-	-	(34.74)	(40.43)	-	-	(75.17)	
Pole 21-40											
Oak	-	-	(104.35)	-	-	-	-	-	-	(104.35)	
Ponderosa Pine	-	-	-	-	-	-	-	-	(42.36)	(42.36)	
Puget Sound Doug-fir	-	-	-	(187.59)	-	-	(13.68)	-	-	(201.27)	
Sitka Spruce	-	-	-	-	-	(161.72)	-	-	-	(161.72)	
Western Hemlock	-	(25.64)	-	(95.90)	-	-	-	-	-	(121.54)	
Closed 41-70											
Central Arid Steppe	-	-	-	-	-	-	-	-	(28.44)	(28.44)	
Cowlitz River	-	(139.32)	-	-	-	-	-	-	-	(139.32)	
Grand Fir	-	-	-	-	-	-	-	-	(43.80)	(43.80)	
Interior Doug-fir	-	-	(38.22)	-	-	-	-	-	-	(38.22)	
Oak	-	-	(841.76)	-	-	-	-	-	-	(841.76)	
Ponderosa Pine	-	-	(243.02)	-	-	-	-	-	-	(243.02)	
Puget Sound Doug-fir	-	-	-	(280.56)	-	-	(157.61)	(94.78)	-	(532.95)	
Sitka Spruce	-	-	-	-	-	(369.93)	-	-	-	(369.93)	
Western Hemlock	-	(18.74)	-	(49.05)	-	-	-	-	-	(67.79)	
Complex 71-100											
Central Arid Steppe	-	-	-	-	-	-	-	-	(28.30)	(28.30)	
Cowlitz River	-	(65.03)	-	-	-	-	-	-	-	(65.03)	
Grand Fir	-	-	(72.85)	-	-	-	-	-	(39.70)	(112.55)	
Interior Doug-fir	-	-	(340.16)	-	-	-	-	-	-	(340.16)	
Oak	-	-	(725.47)	-	-	-	-	-	-	(725.47)	
Ponderosa Pine	-	-	(2,309.66)	-	-	-	-	-	(406.82)	(2,716.48)	
Puget Sound Doug-fir	-	-	-	(141.46)	-	-	(8.94)	(25.02)	-	(175.42)	
Sitka Spruce	-	-	-	-	-	(13.58)	-	-	-	(13.58)	

Activity		Planning Unit									
		Chelan	Columbia	Klickitat	North Puget	OESF	South Coast	South Puget	Straits	Yakima	Totals
Age Class by Zone: Disposed (continued)	Subalpine Fir	-	-	(612.75)	-	-	-	-	-	-	(612.75)
	Western Hemlock	-	(19.41)	-	-	-	(4.88)	-	-	-	(24.29)
	Woodland/Prairie Mosaic	-	-	-	-	-	-	(7.92)	-	-	(7.92)
	Complex 101-150										
	Central Arid Steppe	-	-	-	-	-	-	-	-	(13.14)	(13.14)
	Interior Doug-fir	-	-	(16.04)	-	-	-	-	-	-	(16.04)
	Oak	-	-	(339.51)	-	-	-	-	-	-	(339.51)
	Ponderosa Pine	-	-	(743.39)	-	-	-	-	-	-	(743.39)
	Sitka Spruce	-	-	-	-	-	(5.43)	-	-	-	(5.43)
	Subalpine Fir	-	-	(20.00)	-	-	-	-	-	-	(20.00)
Functional 150											
Oak	-	-	-	-	-	-	-	-	-	-	
Woodland/Prairie Mosaic	-	-	-	-	-	-	-	-	-	-	
Non-Forest Land											
Central Arid Steppe	-	-	-	-	-	-	-	-	(2,095.85)	(2,095.85)	
Cowlitz River	-	(12.41)	-	-	-	(77.14)	-	-	-	(89.55)	
Grand Fir	-	-	-	-	-	-	-	-	(16.21)	(16.21)	
Interior Doug-fir	-	-	(44.30)	-	-	-	-	-	-	(44.30)	
Oak	-	-	(375.86)	-	-	-	-	-	-	(375.86)	
Ponderosa Pine	-	-	(179.97)	-	-	-	-	-	(94.82)	(274.79)	
Puget Sound Doug-fir	-	-	-	(275.77)	-	(23.30)	(67.47)	(13.30)	-	(379.84)	
Subalpine Fir	-	-	(32.80)	-	-	-	-	-	-	(32.80)	
Western Hemlock	-	(35.50)	-	(11.05)	-	-	-	-	-	(46.55)	
Woodland/Prairie Mosaic	-	-	-	-	-	-	(23.16)	-	-	(23.16)	
Total Acres	-	(665.75)	(7,691.59)	(1,471.35)	-	(869.44)	(818.12)	(239.33)	(2,830.24)	(14,585.82)	

Note: totals may not add due to rounding.

Table 6.2. Effects of transactions on HCP permit lands: January 1997 through June 2008

Activity		Planning Unit									
		Chelan	Columbia	Klickitat	North Puget	OESF	South Coast	South Puget	Straits	Yakima	Totals
	Total Acres Acquired	403.57	6,616.08	1,234.65	21,660.59	3,191.89	4,748.50	11,492.07	1,255.16	39.15	50,641.66
	Total Acres Disposed	(640.00)	(11,180.59)	(9,087.79)	(7,831.08)	(838.24)	(3,475.35)	(7,323.45)	(1,485.78)	(4,199.65)	(46,061.93)
	Net Change - Acres	(236.43)	(4,564.51)	(7,853.14)	13,829.51	2,353.65	1,273.15	4,168.62	(230.62)	(4,160.50)	4,579.73
Owl Habitat Acquired	Designated Dispersal	-	-	232.20	10.00	-	-	7,346.73	-	-	7,588.93
	Existing Dispersal (41+)	-	-	230.00	10.00	-	-	3,279.46	-	-	3,519.46
	Designated NRF	203.57	380.00	1,002.45	2,076.24	-	-	-	-	-	3,662.26
	Existing NRF (71+)	-	17.39	146.00	-	-	-	-	-	-	163.39
	OESF	-	-	-	-	3,191.89	-	-	-	-	3,191.89
	No Role	200.00	6,236.08	-	19,574.35	-	4,748.50	4,145.34	1,255.16	39.15	36,198.58
											50,641.66
Owl Habitat Disposed	Designated Dispersal	-	(6,754.57)	-	(734.36)	-	-	(660.00)	-	(1,204.86)	(9,353.79)
	Existing Dispersal (41+)	-	(2,325.82)	-	(109.00)	-	-	(131.90)	-	(927.57)	(3,494.29)

Activity		Planning Unit									
		Chelan	Columbia	Klickitat	North Puget	OESF	South Coast	South Puget	Straits	Yakima	Totals
<i>Owl Habitat Disposed (continued)</i>	<i>Designated DFC</i>	-	-	(879.25)	-	-	-	-	-	-	(879.25)
	<i>Existing DFC</i>	-	-	(737.31)	-	-	-	-	-	-	(737.31)
	<i>Designated NRF</i>	-	(1,284.53)	-	(126.55)	-	-	-	-	(341.10)	(1,752.18)
	<i>Existing NRF (71+)</i>	-	(389.49)	-	-	-	-	-	-	(298.24)	(687.73)
	<i>OESF</i>	-	-	-	-	(838.24)	-	-	-	-	(838.24)
	<i>No Role</i>	(640.00)	(3,141.49)	(8,208.54)	(6,970.17)	-	(3,475.35)	(6,663.45)	(1,485.78)	(2,653.69)	(33,238.47)
											(46,061.93)
Other Habitats Acquired	Murrelet	-	-	-	-	-	-	-	32.44	-	32.44
	Oregon Silverspot Butterfly	-	-	-	-	-	-	-	-	-	-
	Aleutian Canada Goose	-	-	-	-	-	-	-	-	-	-
	Bald Eagle	-	-	-	20.00	-	-	40.00	-	-	60.00
	Peregrine Falcon	-	-	-	-	-	-	-	-	-	-
	Gray Wolf	-	-	-	-	-	-	-	-	-	-
	Grizzly Bear	-	-	-	-	-	-	-	-	-	-
	Columbian White-tailed Deer	-	-	-	-	-	-	-	-	-	-
	Talus and Cliffs	-	-	-	325.00	-	-	-	-	-	325.00
	Meadows	102.50	-	70.45	-	-	-	-	-	-	172.95
<i>Other Habitats Disposed</i>	<i>Murrelet</i>	-	(567.61)	-	-	-	-	(326.89)	(15.27)	-	(909.77)
	<i>Oregon Silverspot Butterfly</i>	-	-	-	-	-	-	-	-	-	-
	<i>Aleutian Canada Goose</i>	-	-	-	-	-	-	-	-	-	-
	<i>Bald Eagle</i>	-	(40.00)	-	(64.00)	(49.42)	-	(40.00)	-	-	(193.42)
	<i>Peregrine Falcon</i>	-	-	-	-	-	-	-	-	-	-
	<i>Gray Wolf</i>	-	-	-	-	-	-	-	-	-	-
	<i>Grizzly Bear</i>	-	-	-	-	-	-	-	-	-	-
	<i>Columbian White-tailed Deer</i>	-	-	-	-	-	-	-	-	-	-
	<i>Talus and Cliffs</i>	-	(87.00)	-	(20.00)	-	-	-	-	-	(107.00)
	<i>Meadows</i>	-	(82.00)	-	-	-	-	-	-	-	(82.00)
Riparian: Stream Miles Acquired	Stream Type 1	-	2.70	3.70	23.04	0.32	9.23	3.08	-	-	42.07
	Stream Type 2	-	-	1.12	2.08	1.02	0.91	0.99	-	-	6.12
	Stream Type 3	-	9.23	1.01	24.37	7.27	7.89	12.70	-	-	62.47
	Stream Type 4	0.96	10.40	-	29.78	2.25	6.72	11.51	0.31	-	61.93
	Stream Type 5	2.47	41.39	0.82	42.25	8.99	13.76	37.11	5.00	-	151.79
	Stream Type 9	4.47	45.60	3.42	42.24	4.85	25.16	13.18	2.83	0.25	142.00
	Total Miles	7.90	109.32	10.07	163.76	24.70	63.67	78.57	8.14	0.25	466.38
Rain on Snow/Slopes Acquired	Rain on Snow	-	1,070.74	999.04	3,383.79	4.47	-	3,165.84	925.75	3.43	9,553.06
	Unstable Slopes	23.10	875.46	-	2,045.35	1,137.10	288.67	245.52	937.27	-	5,552.47
<i>Riparian: Stream Miles Disposed</i>	<i>Stream Type 1¹</i>	-	(1.40)	(0.57)	(3.38)	(0.30)	(0.43)	(0.69)	-	(0.58)	(7.35)
	<i>Stream Type 2</i>	-	-	-	(1.06)	-	(1.97)	(0.32)	(0.34)	-	(3.69)
	<i>Stream Type 3</i>	-	(16.18)	(3.02)	(15.01)	(2.18)	(2.81)	(5.68)	(0.92)	(2.59)	(48.39)

		Planning Unit									
		Chelan	Columbia	Klickitat	North Puget	OESF	South Coast	South Puget	Straits	Yakima	Totals
Activity											
Riparian: Stream Miles Disposed (continued)	Stream Type 4	(0.08)	(11.01)	(8.58)	(3.54)	(1.71)	(4.22)	(6.06)	(1.69)	(3.34)	(40.23)
	Stream Type 5	(5.44)	(51.51)	(23.90)	(7.15)	(5.15)	(11.32)	(7.03)	(2.21)	(11.35)	(125.06)
	Stream Type 9	(7.60)	(31.51)	(17.87)	(2.31)	-	(14.41)	(12.36)	(3.33)	(11.98)	(101.37)
	Total Miles	(13.12)	(111.61)	(53.94)	(32.45)	(9.34)	(35.16)	(32.14)	(8.49)	(29.84)	(326.09)
Rain on Snow/Slopes Disposed	Rain on Snow	(497.03)	(3,611.18)	(4,456.26)	(536.98)	(78.46)	-	(182.12)	(786.00)	(1,810.89)	(11,958.92)
	Unstable Slopes	-	(1,199.50)	(120.56)	(438.06)	(14.09)	(8.72)	(133.59)	(14.50)	(233.64)	(2,162.66)
Zones: Acquired	Central Arid Steppe	120.00	-	-	-	-	-	-	-	-	120.00
	Interior Doug-fir	203.57	-	360.70	-	-	-	-	-	-	564.27
	Mountain Hemlock	-	-	-	2,597.04	-	-	-	-	-	2,597.04
	Oak	-	-	873.95	-	-	-	-	-	-	873.95
	Olympic Doug-fir	-	-	-	-	-	-	-	161.45	-	161.45
	Ponderosa Pine	40.00	-	-	-	-	-	-	-	26.15	66.15
	Puget Sound Doug-fir	-	-	-	1,177.48	-	-	2,804.28	5.19	-	3,986.95
	Silver Fir	-	-	-	1,799.67	-	-	39.32	-	-	1,838.99
	Sitka Spruce	-	-	-	-	400.38	1,988.16	-	-	-	2,388.54
	Three-tip Sage	40.00	-	-	-	-	-	-	-	-	40.00
	Western Hemlock	-	6,614.08	-	15,873.48	2,791.51	2,535.82	8,648.47	1,088.52	-	37,551.88
	Willamette Valley	-	2.00	-	-	-	-	-	-	-	2.00
	Woodland/Prairie Mosaic	-	-	-	212.92	-	224.52	-	-	13.00	450.44
	Total Acres	403.57	6,616.08	1,234.65	21,660.59	3,191.89	4,748.50	11,492.07	1,255.16	39.15	50,641.66
Zones: Disposed	Central Arid Steppe	(615.00)	-	-	-	-	-	-	-	(2,205.73)	(2,820.73)
	Cowlitz River	-	(395.79)	-	-	-	(608.26)	-	-	-	(1,004.05)
	Grand Fir	-	-	(72.85)	-	-	-	-	-	(1,009.92)	(1,082.77)
	Interior Doug-fir	-	-	(891.06)	-	-	-	-	-	-	(891.06)
	Interior W. Hemlock	-	-	-	-	-	-	-	-	(480.00)	(480.00)
	Mountain Hemlock	-	-	-	(402.00)	-	-	-	-	-	(402.00)
	Oak	-	-	(3,791.44)	-	-	-	-	-	-	(3,791.44)
	Olympic Doug-fir	-	-	-	-	-	-	-	(0.22)	-	(0.22)
	Ponderosa Pine	(25.00)	-	(3,654.09)	-	-	-	-	-	(504.00)	(4,183.09)
	Puget Sound Doug-fir	-	-	-	(3,249.80)	-	(223.61)	(4,345.11)	(319.33)	-	(8,137.85)
	Silver Fir	-	(1,250.23)	-	(550.00)	-	-	(488.00)	-	-	(2,288.23)
	Sitka Spruce	-	-	(678.35)	-	(54.21)	(1,672.69)	-	-	-	(2,405.25)
	Subalpine Fir	-	-	-	-	-	-	-	-	-	-
	Western Hemlock	-	(9,292.57)	-	(3,516.43)	(784.03)	(966.39)	(1,891.18)	(1,125.61)	-	(17,576.21)
	Willamette Valley	-	(242.00)	-	-	-	-	-	-	-	(242.00)
	Woodland/Prairie Mosaic	-	-	-	(112.85)	-	(4.40)	(599.16)	(40.62)	-	(757.03)
	Total Acres	(640.00)	(11,180.59)	(9,087.79)	(7,831.08)	(838.24)	(3,475.35)	(7,323.45)	(1,485.78)	(4,199.65)	(46,061.93)
Age Class Acquired	Open 0-10	97.50	3,950.00	184.65	5,930.54	227.58	1,762.10	2,755.67	273.45	-	15,181.49
	Regeneration 11-20	-	320.00	14.90	5,456.84	509.64	568.61	1,317.31	-	-	8,187.30
	Pole 21-40	0.50	751.00	-	2,229.10	1,541.00	245.30	2,065.30	29.54	-	6,861.74
	Closed 41-70	2.57	1,395.11	89.10	4,901.46	633.50	1,072.37	3,647.96	906.62	-	12,648.69
	Complex 71-100	-	86.09	324.00	1,121.60	113.30	265.60	851.22	-	-	2,761.81
	Complex 101-150	-	-	10.00	60.45	-	91.00	107.50	-	12.15	281.10
	Functional 150+	-	0.60	42.00	7.00	-	2.00	-	-	-	51.60

Activity		Planning Unit									
		Chelan	Columbia	Klickitat	North Puget	OESF	South Coast	South Puget	Straits	Yakima	Totals
Age Class	Non-Forest Land	303.00	113.24	570.00	1,953.66	166.80	741.47	747.30	45.55	27.00	4,668.02
Acq'd (cont)	Total Acres	403.57	6,616.04	1,234.65	21,660.65	3,191.82	4,748.45	11,492.26	1,255.16	39.15	50,641.75
<i>Age Class</i>	<i>Open 0-10</i>	-	(2,358.72)	(862.68)	(753.56)	(42.21)	(732.95)	(1,006.81)	(108.23)	-	(5,865.16)
<i>Disposed</i>	<i>Regeneration 11-20</i>	-	(1,347.10)	(12.40)	(1,153.00)	-	(815.43)	(475.52)	(36.00)	(288.18)	(4,127.63)
	<i>Pole 21-40</i>	-	(2,053.33)	(248.20)	(1,049.03)	(207.35)	(466.32)	(371.18)	(374.00)	(105.85)	(4,875.26)
	<i>Closed 41-70</i>	-	(2,968.68)	(1,602.31)	(2,701.51)	(414.03)	(1,206.56)	(2,353.23)	(680.20)	(558.85)	(12,485.37)
	<i>Complex 71-100</i>	-	(649.79)	(4,529.91)	(1,205.43)	(140.95)	(52.03)	(1,553.92)	(61.42)	(712.47)	(8,905.92)
	<i>Complex 101-150</i>	-	(748.71)	(1,161.99)	(71.42)	-	(5.43)	(375.12)	(16.30)	(205.95)	(2,584.92)
	<i>Functional 150+</i>	-	(168.99)	(3.95)	(89.62)	-	-	(588.00)	(102.00)	-	(952.56)
	<i>Non-Forest Land</i>	(640.00)	(885.25)	(666.35)	(807.55)	(33.70)	(196.63)	(599.64)	(107.63)	(2,328.35)	(6,265.10)
	Total Acres	(640.00)	(11,180.57)	(9,087.79)	(7,831.12)	(838.24)	(3,475.35)	(7,323.42)	(1,485.78)	(4,199.65)	(46,061.92)
Age Class	Open 0-10										
by Zone:	Interior Doug-fir	97.50	-	3.90	-	-	-	-	-	-	101.40
Acquired	Mountain Hemlock	-	-	-	450.70	-	-	-	-	-	450.70
	Oak	-	-	180.75	-	-	-	-	-	-	180.75
	Olympic Doug-fir	-	-	-	-	-	-	-	161.45	-	161.45
	Puget Sound Doug-fir	-	-	-	197.10	-	-	301.97	-	-	499.07
	Silver Fir	-	-	-	1,068.40	-	-	-	-	-	1,068.40
	Sitka Spruce	-	-	-	-	88.99	290.20	-	-	-	379.19
	Western Hemlock	-	3,950.00	-	4,290.25	138.92	1,423.46	2,453.77	128.00	-	12,384.40
	Woodland/Prairie Mosaic	-	-	-	-	-	48.52	-	-	-	48.52
	Regeneration 11-20										
	Interior Doug-fir	-	-	3.40	-	-	-	-	-	-	3.40
	Mountain Hemlock	-	-	-	320.50	-	-	-	-	-	320.50
	Oak	-	-	11.50	-	-	-	-	-	-	11.50
	Puget Sound Doug-fir	-	-	-	204.10	-	-	389.39	-	-	593.49
	Silver Fir	-	-	-	21.50	-	-	39.32	-	-	60.82
	Sitka Spruce	-	-	-	-	60.96	279.31	-	-	-	340.27
	Western Hemlock	-	320.00	-	4,970.63	448.71	182.30	888.60	-	-	6,810.24
	Woodland/Prairie Mosaic	-	-	-	-	-	107.00	-	-	-	107.00
	Pole 21-40										
	Interior Doug-fir	0.50	-	-	-	-	-	-	-	-	0.50
	Mountain Hemlock	-	-	-	138.00	-	-	-	-	-	138.00
	Puget Sound Doug-fir	-	-	-	318.60	-	-	681.25	-	-	999.85
	Silver Fir	-	-	-	103.71	-	-	-	-	-	103.71
	Sitka Spruce	-	-	-	-	142.66	161.32	9.00	-	-	312.98
	Western Hemlock	-	751.00	-	1,668.75	1,251.39	20.00	1,375.00	28.00	-	5,094.14
	Woodland/Prairie Mosaic	-	-	-	-	-	64.00	-	-	-	64.00
	Closed 41-70										
	Interior Doug-fir	2.57	-	4.00	-	-	-	-	-	-	6.57
	Mountain Hemlock	-	15.48	-	1,074.00	-	-	-	-	-	1,089.48
	Oak	-	-	85.10	-	-	-	-	-	-	85.10
	Puget Sound Doug-fir	-	-	-	238.37	-	-	578.98	2.90	-	820.25
	Silver Fir	-	-	-	428.16	-	-	-	-	-	428.16
	Sitka Spruce	-	-	-	-	52.54	729.37	-	-	-	781.91


Activity		Planning Unit									
		Chelan	Columbia	Klickitat	North Puget	OESF	South Coast	South Puget	Straits	Yakima	Totals
Age Class by Zone: Acquired (continued)	Western Hemlock	-	1,379.67	-	2,893.23	729.40	338.00	3,068.99	907.72	-	9,317.01
	Woodland/Prairie Mosaic	-	-	-	159.77	-	5.00	-	-	-	164.77
	Complex 71-100										
	Interior Doug-fir	-	-	212.20	-	-	-	-	-	-	212.20
	Mountain Hemlock	-	-	-	130.00	-	-	-	-	-	130.00
	Oak	-	-	111.80	-	-	-	-	-	-	111.80
	Puget Sound Doug-fir	-	-	-	58.00	-	-	302.31	-	-	360.31
	Silver Fir	-	-	-	47.97	-	-	-	-	-	47.97
	Sitka Spruce	-	-	-	-	49.97	265.60	-	-	-	315.57
	Western Hemlock	-	44.39	-	857.63	61.47	-	548.69	-	-	1,512.18
Willamette Valley	-	41.80	-	-	-	-	-	-	-	41.80	
Complex 101-150											
Central Arid Steppe	-	-	-	-	-	-	-	-	8.15	8.15	
Oak	-	-	10.00	-	-	-	-	-	-	10.00	
Ponderosa Pine	-	-	-	-	-	-	-	-	4.00	4.00	
Puget Sound Doug-fir	-	-	-	10.15	-	-	10.00	-	-	20.15	
Sitka Spruce	-	-	-	-	-	91.00	-	-	-	91.00	
Western Hemlock	-	-	-	50.30	-	-	97.50	-	-	147.80	
Functional 150+											
Interior Doug-fir	-	-	42.00	-	-	-	-	-	-	42.00	
Sitka Spruce	-	-	-	-	-	2.00	-	-	-	2.00	
Western Hemlock	-	0.60	-	7.00	-	-	-	-	-	7.60	
Non-Forest Land											
Central Arid Steppe	120.00	-	-	-	-	-	-	-	18.00	138.00	
Interior Doug-fir	103.00	-	95.20	-	-	-	-	-	-	198.20	
Mountain Hemlock	-	-	-	505.44	-	-	-	-	-	505.44	
Oak	-	-	474.80	-	-	-	-	-	-	474.80	
Ponderosa Pine	40.00	-	-	-	-	-	-	-	9.00	49.00	
Puget Sound Doug-fir	-	-	-	151.16	-	-	531.60	2.29	-	685.05	
Silver Fir	-	-	-	148.68	-	-	-	-	-	148.68	
Sitka Spruce	-	-	-	-	5.26	169.41	-	-	-	174.67	
Three-tip Sage	40.00	-	-	-	-	-	-	-	-	40.00	
Western Hemlock	-	112.94	-	1,095.34	161.62	572.06	215.70	24.80	-	2,182.46	
Willamette Valley	-	0.20	-	-	-	-	-	-	-	0.20	
Woodland/Prairie Mosaic	-	-	-	53.15	-	-	-	-	-	53.15	
Total Acres	403.57	6,616.08	1,234.65	21,660.59	3,191.89	4,748.55	11,492.07	1,255.16	39.15	50,641.71	
Age Class by Zone: Disposed	Open 0-10										
	Cowlitz River	-	(99.15)	-	-	-	(199.70)	-	-	-	(298.85)
	Interior Doug-fir	-	-	(85.38)	-	-	-	-	-	-	(85.38)
	Mountain Hemlock	-	-	-	(56.00)	-	-	-	-	-	(56.00)
	Oak	-	-	(587.85)	-	-	-	-	-	-	(587.85)
	Ponderosa Pine	-	-	(178.05)	-	-	-	-	-	-	(178.05)
	Puget Sound Doug-fir	-	-	-	(106.84)	-	(90.75)	(613.78)	(108.93)	-	(920.30)
	Silver Fir	-	(169.90)	-	-	(42.21)	-	(191.70)	-	-	(403.81)
	Subalpine Fir	-	-	(12.80)	-	-	-	-	-	-	(12.80)
	Western Hemlock	-	(2,089.62)	-	(711.62)	-	(438.10)	(33.55)	(38.00)	-	(3,310.89)

Activity		Planning Unit									
		Chelan	Columbia	Klickitat	North Puget	OESF	South Coast	South Puget	Straits	Yakima	Totals
Age Class by Zone Disposed (continued)	Woodland/Prairie Mosaic	-	-	-	-	-	(4.40)	(167.78)	-	-	(172.18)
	Regeneration 11-20										
	Cowlitz River	-	(39.88)	-	-	-	(98.99)	-	-	-	(138.87)
	Grand Fir	-	-	-	-	-	-	-	-	(288.18)	(288.18)
	Mountain Hemlock	-	-	-	(56.00)	-	-	-	-	-	(56.00)
	Oak	-	-	(12.40)	-	-	-	-	-	-	(12.40)
	Puget Sound Doug-fir	-	-	-	(672.98)	-	-	(293.88)	(2.70)	-	(969.56)
	Silver Fir	-	(239.50)	-	(11.88)	-	-	(115.70)	-	-	(367.08)
	Sitka Spruce	-	-	-	-	-	(341.03)	-	-	-	(341.03)
	Western Hemlock	-	(1,067.72)	-	(159.14)	-	(375.41)	(65.94)	-	-	(1,668.21)
Pole 21-40											
Cowlitz River	-	(8.00)	-	-	-	(70.00)	-	-	-	(78.00)	
Interior W. Hemlock	-	-	-	-	-	-	-	-	(63.49)	(63.49)	
Interior Doug-fir	-	-	(37.69)	-	-	-	-	-	-	(37.69)	
Mountain Hemlock	-	-	-	(57.00)	-	-	-	-	-	(57.00)	
Oak	-	-	(210.50)	-	-	-	-	-	-	(210.50)	
Ponderosa Pine	-	-	-	-	-	-	-	-	(42.36)	(42.36)	
Puget Sound Doug-fir	-	-	-	(535.49)	-	-	(316.88)	(2.60)	-	(854.97)	
Silver Fir	-	(277.62)	-	(59.11)	-	-	(12.10)	-	-	(348.83)	
Sitka Spruce	-	-	-	-	-	(330.92)	-	-	-	(330.92)	
Western Hemlock	-	(1,767.76)	-	(519.50)	(207.35)	(65.41)	(33.20)	(374.00)	-	(2,967.22)	
Woodland/Prairie Mosaic	-	-	-	-	-	-	(9.00)	-	-	(9.00)	
Closed 41-70											
Central Arid Steppe	-	-	-	-	-	-	-	-	(28.44)	(28.44)	
Cowlitz River	-	(139.32)	-	-	-	(114.33)	-	-	-	(253.65)	
Grand Fir	-	-	-	-	-	-	-	-	(348.35)	(348.35)	
Interior W. Hemlock	-	-	-	-	-	-	-	-	(182.06)	(182.06)	
Interior Doug-fir	-	-	(186.79)	-	-	-	-	-	-	(186.79)	
Mountain Hemlock	-	-	-	(230.00)	-	-	-	-	-	(230.00)	
Oak	-	-	(1,172.50)	-	-	-	-	-	-	(1,172.50)	
Ponderosa Pine	-	-	(243.02)	-	-	-	-	-	-	(243.02)	
Puget Sound Doug-fir	-	-	-	(563.99)	-	(83.00)	(1,345.72)	(166.78)	-	(2,159.49)	
Silver Fir	-	(47.82)	-	(450.00)	-	-	(33.70)	-	-	(531.52)	
Sitka Spruce	-	-	-	-	-	(966.23)	-	-	-	(966.23)	
Western Hemlock	-	(2,781.56)	-	(1,469.51)	(414.03)	(20.00)	(621.30)	(464.80)	-	(5,771.20)	
Woodland/Prairie Mosaic	-	-	-	-	-	-	(352.80)	(40.62)	-	(393.42)	
Complex 71-100											
Central Arid Steppe	-	-	-	-	-	-	-	-	(28.30)	(28.30)	
Cowlitz River	-	(90.53)	-	-	-	-	-	-	-	(90.53)	
Grand Fir	-	-	(72.85)	-	-	-	-	-	(49.10)	(121.95)	
Interior W. Hemlock	-	-	-	-	-	-	-	-	(228.25)	(228.25)	
Interior Doug-fir	-	-	(486.40)	-	-	-	-	-	-	(486.40)	
Oak	-	-	(1,046.85)	-	-	-	-	-	-	(1,046.85)	
Ponderosa Pine	-	-	(2,309.66)	-	-	-	-	-	(406.82)	(2,716.48)	
Puget Sound Doug-fir	-	-	-	(678.62)	-	-	(718.22)	(25.02)	-	(1,421.86)	
Silver Fir	-	-	-	(1.70)	-	-	-	-	-	(1.70)	

Activity		Planning Unit										
		Chelan	Columbia	Klickitat	North Puget	OESF	South Coast	South Puget	Straits	Yakima	Totals	
Age Class by Zone Disposed (continued)	Sitka Spruce	-	-	-	-	-	(13.58)	-	-	-	(13.58)	
	Subalpine Fir	-	-	(612.75)	-	-	-	-	-	-	(612.75)	
	Western Hemlock	-	(559.26)	-	(287.30)	(140.95)	(37.88)	(826.92)	(36.40)	-	(1,888.71)	
	Woodland/Prairie Mosaic	-	-	-	(51.31)	-	-	(7.92)	-	-	(59.23)	
	Complex 101-150											
	Central Arid Steppe	-	-	-	-	-	-	-	-	(13.14)	(13.14)	
	Grand Fir	-	-	-	-	-	-	-	-	(192.81)	(192.81)	
	Interior Doug-fir	-	-	(16.04)	-	-	-	-	-	-	(16.04)	
	Oak	-	-	(382.57)	-	-	-	-	-	-	(382.57)	
	Ponderosa Pine	-	-	(743.39)	-	-	-	-	-	-	(743.39)	
	Puget Sound Doug-fir	-	-	-	(255.00)	-	-	(64.10)	-	-	(319.10)	
	Silver Fir	-	(345.50)	-	(1.70)	-	-	(123.70)	-	-	(470.90)	
	Sitka Spruce	-	-	-	-	-	(5.43)	-	-	-	(5.43)	
	Subalpine Fir	-	-	(20.00)	-	-	-	-	-	-	(20.00)	
	Western Hemlock	-	(403.21)	-	(3.30)	-	-	(187.15)	(16.30)	-	(609.96)	
	Woodland/Prairie Mosaic	-	-	-	(11.92)	-	-	-	-	-	(11.92)	
	Functional 150+											
	Oak	-	-	(3.95)	-	-	-	-	-	-	(3.95)	
	Puget Sound Doug-fir	-	-	-	-	-	-	(588.00)	-	-	(588.00)	
	Silver Fir	-	(131.49)	-	(1.00)	-	-	-	-	-	(132.49)	
Western Hemlock	-	(37.50)	-	(58.00)	-	-	-	(102.00)	-	(197.50)		
Woodland/Prairie Mosaic	-	-	-	(30.62)	-	-	-	-	-	(30.62)		
Non-Forest Land												
Central Arid Steppe	(615.00)	-	-	-	-	-	-	-	(2,095.85)	(2,710.85)		
Cowlitz River	-	(18.91)	-	-	-	(125.24)	-	-	-	(144.15)		
Grand Fir	-	-	-	-	-	-	-	-	(131.48)	(131.48)		
Interior Doug-fir	-	-	(44.30)	-	-	-	-	-	-	(44.30)		
Interior W. Hemlock	-	-	-	-	-	-	-	-	(6.20)	(6.20)		
Mountain Hemlock	-	-	-	(3.00)	-	-	-	-	-	(3.00)		
Oak	-	-	(409.28)	-	-	-	-	-	-	(409.28)		
Olympic Doug-fir	-	-	-	-	-	-	-	(0.22)	-	(0.22)		
Ponderosa Pine	(25.00)	-	(179.97)	-	-	-	-	-	(94.82)	(299.79)		
Puget Sound Doug-fir	-	-	-	(436.83)	-	(49.30)	(464.53)	(13.30)	-	(963.96)		
Silver Fir	-	(38.40)	-	(19.52)	-	-	(11.10)	-	-	(69.02)		
Sitka Spruce	-	-	-	-	(12.00)	(15.50)	-	-	-	(27.50)		
Subalpine Fir	-	-	(32.80)	-	-	-	-	-	-	(32.80)		
Western Hemlock	-	(585.94)	-	(313.20)	(21.70)	(30.15)	(63.12)	(94.11)	-	(1,108.22)		
Willamette Valley	-	(242.00)	-	-	-	-	-	-	-	(242.00)		
Woodland/Prairie Mosaic	-	-	-	(19.00)	-	-	(61.66)	-	-	(80.66)		
Total Acres		(640.00)	(11,180.59)	(9,087.79)	(7,831.08)	(838.24)	(3,475.35)	(7,323.45)	(1,485.78)	(4,199.65)	(46,061.93)	

Note: totals may not add due to rounding.

¹ In the Yakima Planning Unit, 0.35 miles of stream were moved from Type 2 to Type 1 to correct a reporting error made in the 2005 annual report.



7. Monitoring and Research

We focus on research and monitoring to provide information necessary to improve the implementation and effectiveness of our trust lands HCP conservation strategies. Monitoring and research document how well actions or plans are helping us reach our desired outcomes. The information gained can then be used to adjust or adapt our management practices as needed.

DNR's Ecosystem Services Section provides both a centralized approach to research and monitoring and a systematic, consistent process for reporting research and monitoring results. Sound application of silvicultural and ecological knowledge, creative ideas, and reliable data are needed to develop innovative forest management practices capable of achieving the financial and ecological objectives of the HCP.

Since the HCP was adopted in 1997, there have been advances in terms of understanding the biology of northern spotted owls, marbled murrelets, and other species addressed by the HCP. However, much remains to be learned, and new systems and techniques continue to be developed and tested. Balancing the need to conduct rigorous studies with the need to gather and assess information on 1.8 million acres of HCP landscapes is an enormous challenge.

A system consisting of three types of monitoring—implementation, effectiveness, and validation—has become a common organizational framework for monitoring programs in forest management.

- **Implementation monitoring** determines whether or not a management plan (e.g., an HCP) is properly implemented on the ground.
- **Effectiveness monitoring** determines whether or not a management plan is producing the desired habitat conditions.
- **Validation monitoring** determines whether or not certain species respond to the desired habitat conditions as anticipated.

Research supports the completion of conservation strategies, tests promising alternatives to current methods, and contributes to the ecological foundation of our management.

Implementation Monitoring

Conservation strategies are selected for implementation monitoring based on two criteria. First, we choose a strategy that has either not been monitored yet or was not monitored in the past several years. Second, we select strategies based on input from the Federal Services and DNR managers.

Large, Structurally Unique Trees and Snags Conservation

This year implementation monitoring was conducted across all Westside HCP planning units for the leave tree strategy (referred to as ‘large, structurally unique trees’ and snags in the HCP), a component of the uncommon habitats strategy. We counted leave trees on a total of 25 timber sales. Our work involved recording a tally of all leave trees, their dbh (diameter at breast height), and species (this was done on live standing trees, snags, and blown down trees). Locations of individual trees as well as leave tree clumps also were recorded spatially using GPS (global positioning system) devices and will be analyzed to determine how the leave trees were distributed in the forest management units. In addition to collecting leave tree data, we looked for any unprotected wetland areas. We wanted to check timber sale designs and subsequent harvest results to assess whether or not wetlands were correctly identified and that the required protection measures were implemented according to our Habitat Conservation Plan. This monitoring is ongoing, and results will be presented in a separate report.

Marbled Murrelet Conservation Strategy

This year, we began a comprehensive review of the interim marbled murrelet strategy in the South Coast Planning Unit. All timber sales from January 1, 1999 through May 2008 were monitored for compliance. Since the interim strategy is a multi-step process, strategies for determining compliance differ, depending on what stage of the strategy was in place when a timber sale was sold. Monitoring this strategy involves checking the timber sale jacket and related files for documentation showing either: (1) that the activity took place outside of murrelet habitat, or (2) that the activity had a variance or permission to take place in habitat. Monitoring is ongoing, and should be completed during the next reporting period.

Effectiveness Monitoring, Validation Monitoring, and Research

The following section briefly summarizes our current efforts in effectiveness monitoring, validation monitoring, and research. Only those projects that had significant developments in the reporting period are discussed.

Riparian Conservation Strategy

The objectives of riparian monitoring and research fall under four main categories:

- **Riparian forest management:** Provide information on proper management to achieve older stand conditions in riparian areas by testing existing and promising alternative approaches to integrating biodiversity-type thinning into our management of riparian and wetland areas.
- **Headwaters conservation:** Support the implementation and future development of the headwaters conservation strategy, including assessing the strategy’s effectiveness.
- **Riparian forest integrity:** Support our understanding of the loss of riparian area integrity due to blown down trees with long-term measurements of wind throw.

- **Instream conditions:** Provide linkage between riparian management zone management techniques and instream habitat conditions, habitat trends, and water quality.

Information from this monitoring will increase our ability to understand the influence of land management on aquatic habitat conditions and effectively implement the conservation strategies to reach the goals of the HCP.

1. Riparian Forest Management – Effectiveness Monitoring

In cooperation with DNR region staff, we continued to install plots to monitor silvicultural treatment alternatives for riparian areas. Using a tightly controlled experimental design, silvicultural treatments were applied on the Pink Flamingo and North Mountain Thin timber sales. The North Mountain Thin timber sale supplements monitoring opportunities on routine riparian restoration treatments. The Pink Flamingo timber sale, along with the Big Beaver timber sale, will be used to evaluate riparian restoration in older structurally simple forests. Table 7.1 and Figure 7.1 identify the locations of ongoing Riparian Forest Restoration Strategy effectiveness monitoring efforts.

Table 7.1. Current riparian forest restoration effectiveness monitoring locations on forested state trust lands

HCP Planning Unit	Site	Harvest Year	Adaptive Management Type	Treatments ¹
North Puget	North Mountain Thin	Ongoing	Active	Control, RD40, RD50
North Puget	Pink Flamingo	Ongoing	Active	Control, RD40, RD50
North Puget	Sumas Pass	2006	Active	Control, RD40, RD50
OESF	H-1100	2003	Demonstration	Control, RD40, RD50
OESF	H-1320	2004	Active	Control, RD40, RD50
OESF	Salmon PC	2004	Active	Control, RD40, RD50
South Puget	Big Beaver	2008	Active	Control, RD40, RD50, RD50 Gap
South Puget	Cougarilla	2006	Active	Control, RD40, RD50, RD50 Gap
South Puget	Hurd Road Pole	2006	Passive	Snag Creation
South Puget	Whiskers	Ongoing	Passive	Snag Creation

¹RD means relative density

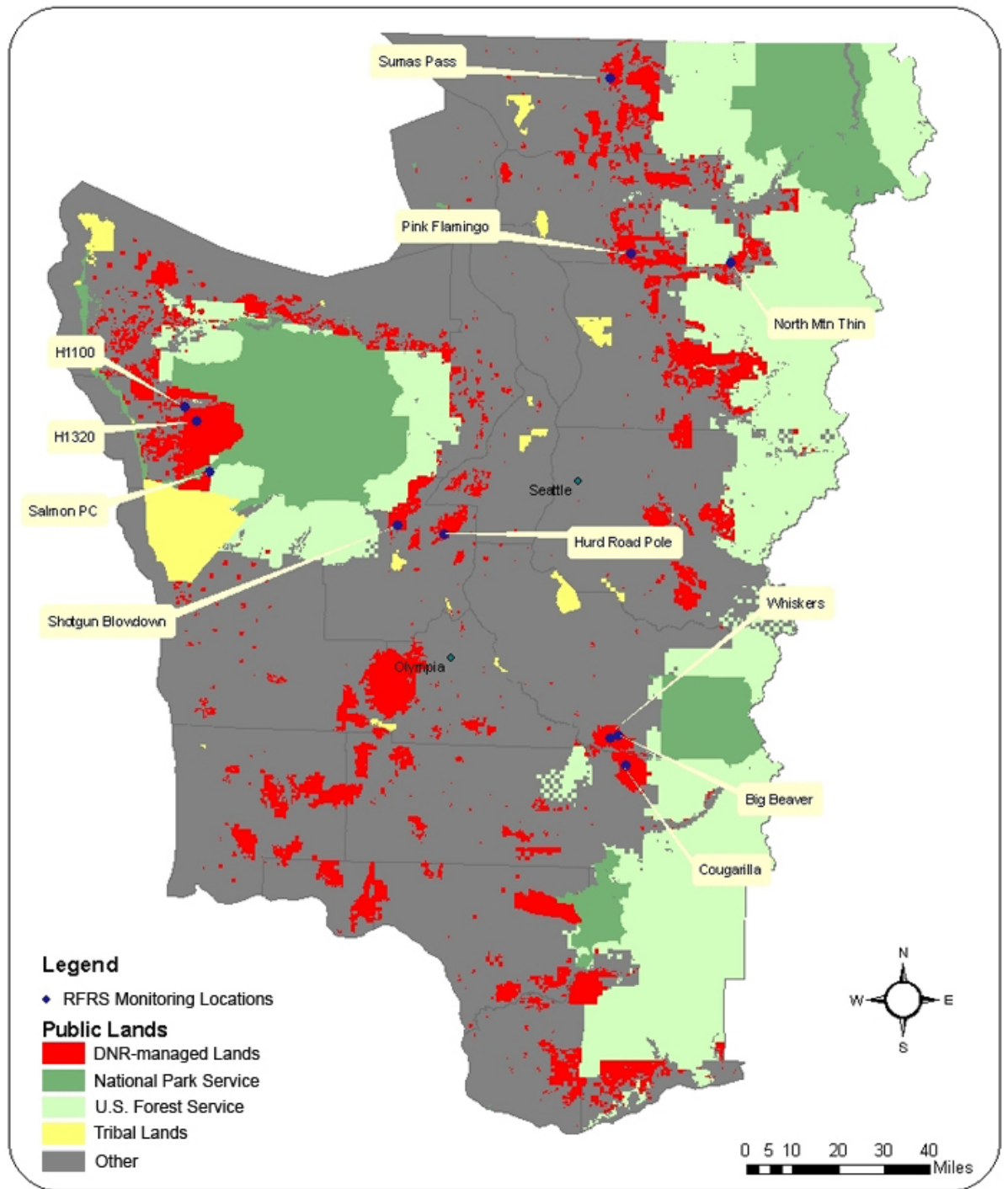


Figure 7.1. Riparian Forest Restoration Strategy monitoring sites

To expand the scope by which riparian restoration is implemented and evaluated, a modest effort began at the end of this reporting period to evaluate reference conditions. Our reference conditions include old growth sites and sites that meet the riparian desired future condition (RDFC). Reference conditions give insight into differences between the current landscape, RDFC, and old growth, and into what may result from our forest development trajectories.

Additionally, cataloging began of DNR's earliest riparian thinning sites in the OESF to facilitate retrospective analyses of riparian thinning. These sites, thinned as early as the mid-1990s, can help us to understand the current and likely future developmental trajectories resulting from current thinning practices.

Providing information and outreach

A website continues to serve DNR foresters and the public by providing information about riparian restoration guidelines and effectiveness monitoring objectives on state lands. We are currently developing an intra-agency SharePoint site that will expand on the information from the website, linking to initial results and case studies.

Training activities conducted by the region riparian designees at the sub-region level became routine in most Westside planning units this year. With dozens of designees trained over the last two years, there exists in the regions a wealth of knowledge and growing experience in riparian forest management.

The future of riparian silviculture effectiveness monitoring

Upcoming objectives for monitoring this strategy focus on expanding the information exchange. Initial short-term responses of riparian forests to restoration thinning will be shared through the upcoming SharePoint site, regional training sessions, and a winter 2008/2009 riparian information exchange that will be hosted by the Land Management Division. We also will assess compliance and effectiveness monitoring results together to ensure that experimental treatments applied under the effectiveness monitoring program encompass current riparian prescriptions.

2. Headwaters Stream Research – Riparian Ecosystem Management Study

Since 1999, DNR, in cooperation with the U.S. Forest Service Pacific Northwest Research Station; Washington State Department of Ecology; the University of Washington; the Evergreen State College; and the University of California at Davis, has conducted research to determine the possible influence of different buffer configurations on first order streams in western Washington. This research is yielding results about the heterogeneity of stream conditions, trophic connections with downstream systems and landscape influences.

The study design imposes a range of buffer configurations around headwater streams. The results are intended to provide a better understanding of which stream function(s) should be protected and the buffer configurations that are necessary to protect those functions. Analysis and interpretation of these results will help support the development of a long-term conservation strategy for Type 5 streams on forested state trust lands in western Washington.

Thirty-four streams at nine sites are being monitored on state trust lands in Capitol Forest and Pacific County (Figure 7.2). Pre-treatment sampling was conducted for one to two years. Post-treatment sampling began in 2004.

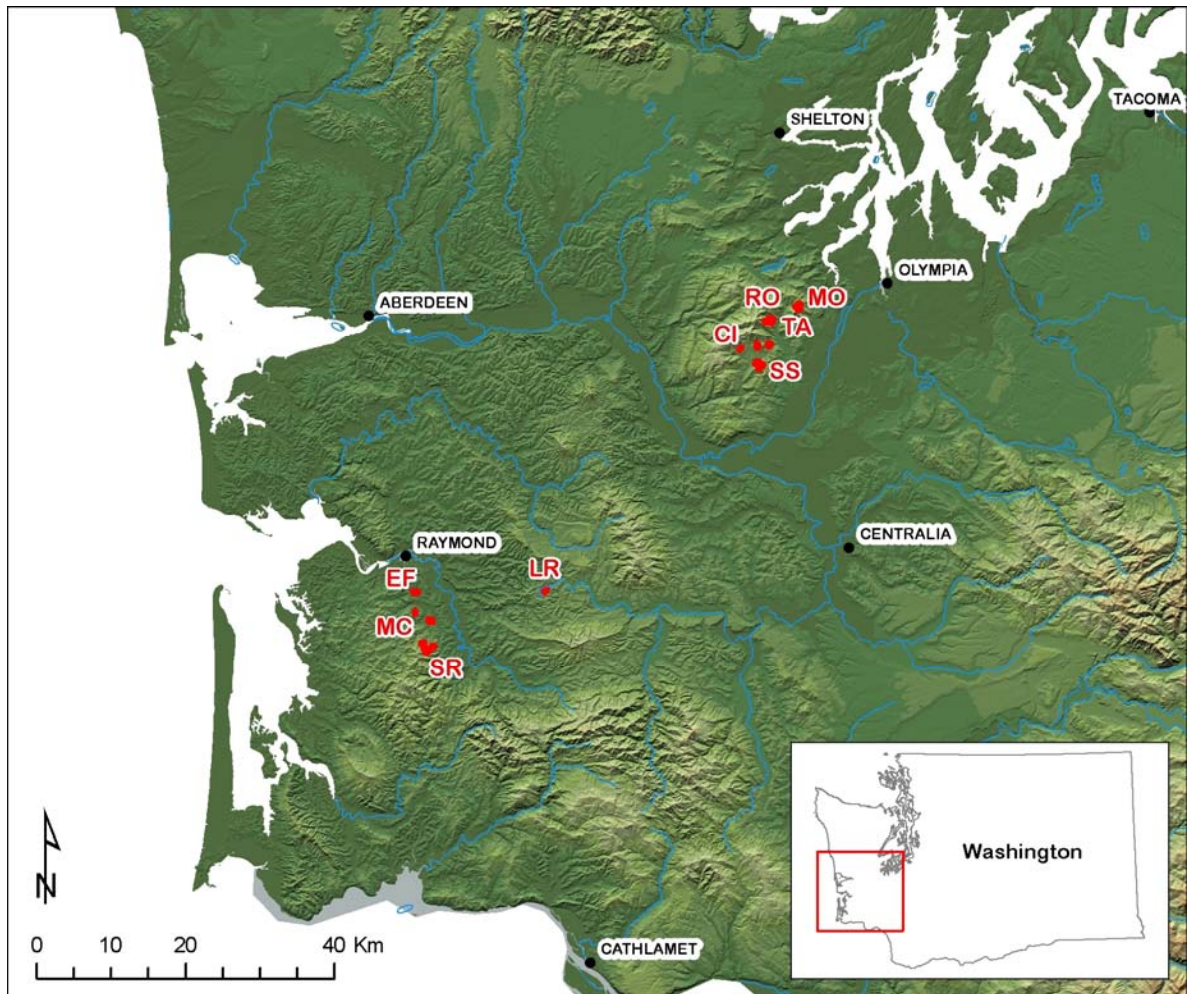


Figure 7.2. Riparian Ecosystem Management Study (REMS) sites. CI = CID, EF = Ellsworth Flats, LR = Lonely Ridge, MC = McCorkle, MO = Moonshine, RO = Rot, SS = See Saw, SR = Split Rue, TA = Tags.

Project Activities

- A second round of post-treatment sampling—approximately 3 years post harvest—was conducted at 31 sample streams in 2007-2008. Response variables monitored by DNR include off-channel large woody debris, understory vegetation, overstory integrity/canopy closure, and stand metrics.
- Progress on this project was presented at the North Pacific International Chapter Annual Meeting of the American Fisheries Society in Bellingham.
- Data collection continued on a concurrent study conducted by University of Washington graduate students. Fourteen v-notch weirs were installed on a series of headwater streams in Capitol Forest in the summer of 2004. These weirs record water temperature and level readings at 20 minute intervals.

3. Headwaters Conservation – Retrospective Analysis of Interim Protection

As part of the adaptive management process, we have researched headwater ecology and management impacts. This work was used to evaluate the interim Type 5 conservation

strategy and determine what improvements, if any, were needed to meet the intended conservation goals.

In 2004, DNR initiated a retrospective study to quantify how the interim Type 5 stream protection measures have been implemented in the field. Using geographic information system (GIS) analysis linked with existing department databases, we determined the population of forest stands that were clearcut harvested under HCP guidelines. That population was stratified by EPA ecoregions (areas with similar ecosystems and environmental resources) and sites were selected with both LiDAR coverage and post-harvest aerial photography. The location of headwater streams was modeled from the LiDAR data. Field crews verified the location of the modeled streams and mapped various hydrologically significant points using a precision GPS unit operating ArcPad, a mobile GIS platform.

Field data were then used to determine the extent of the headwater system and to quantify the extent of any riparian buffering. The precise configuration of the riparian buffers and harvest boundaries was mapped using BAE Systems Socet Set photogrammetric analysis software. Field data collection was completed in 2006.

In late 2007, we completed a subsequent analysis to quantify and qualify the extent of protection afforded to headwater systems under the interim conservation. The analysis provided valuable insight into the true extent of the headwater system.

Analysis of the data revealed that 56 percent of the Type 5 stream network was buffered with a forest canopy (Figure 7.3). Buffering occurred for a variety of reasons. Of the buffered Type 5 stream segments, 46 percent were located within higher order stream riparian management zones, 4 percent were located in areas with definite slope stability concerns, and 14 percent were located in areas with probable slope stability concerns. The remaining 36 percent were left for indeterminate reasons, which may include operational constraints, leave tree requirements, or a judgment call by the forester who designed the sale.

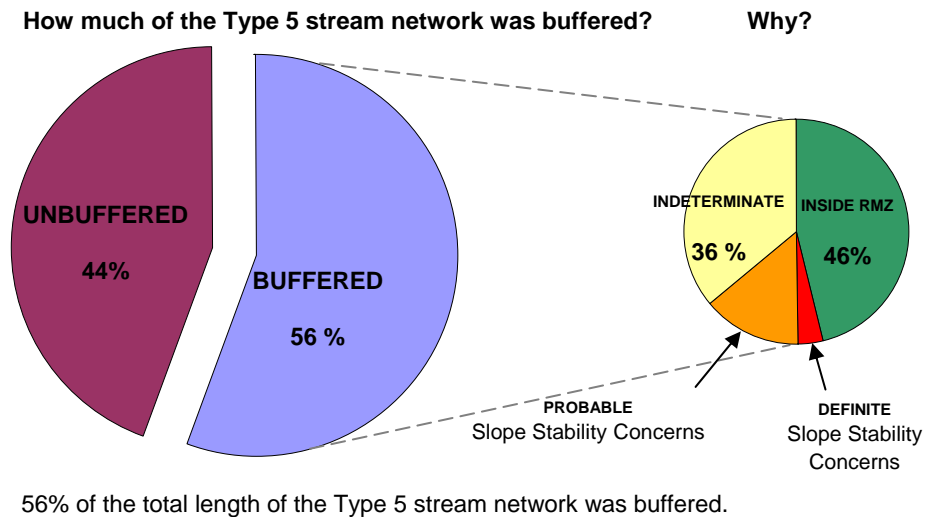


Figure 7.3. Quantifying and qualifying stream buffers under the trust lands HCP interim Type 5 stream conservation strategy. Percentages shown are based on horizontal measures of stream segments and associated buffers.

An examination of headwater stream buffers by slope class shed light on whether buffers were left for slope stability and/or operational reasons, and was useful in determining how well the habitat requirements were addressed for headwater-associated species preferential to high gradient stream segments (Figure 7.4).

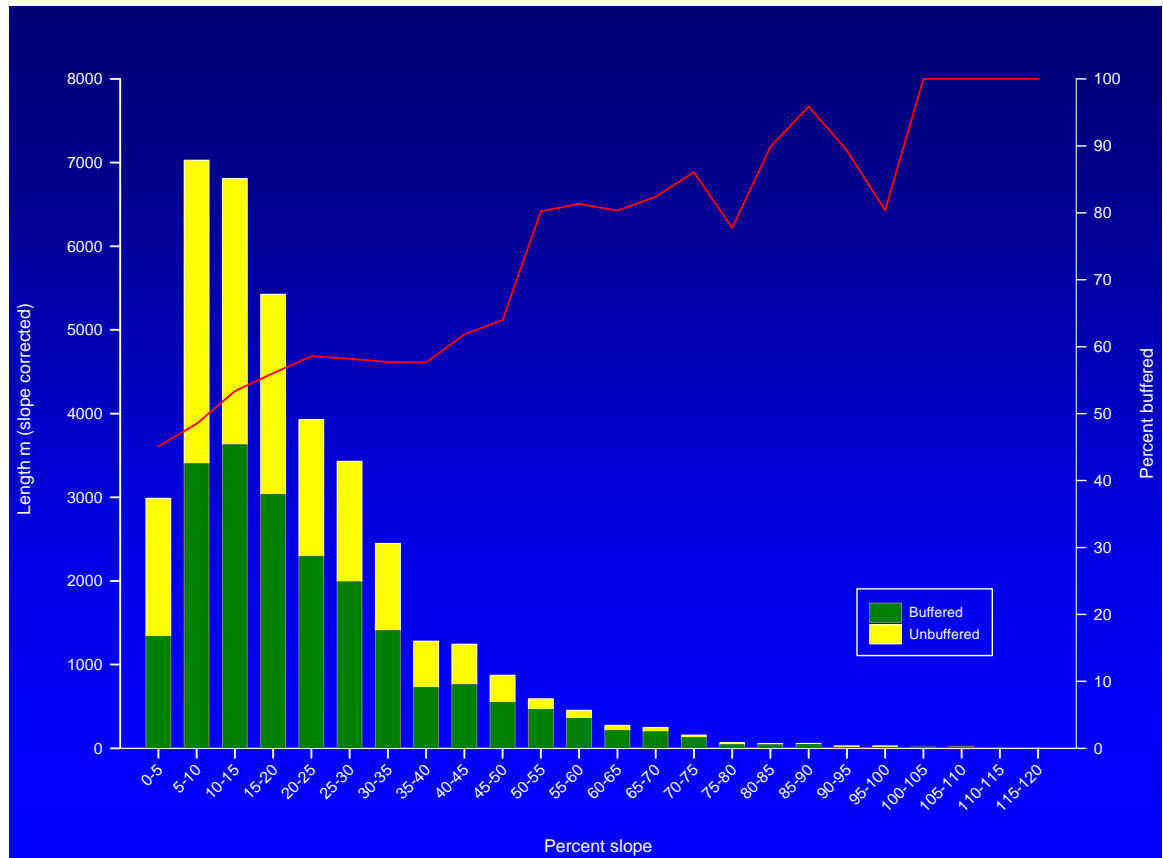


Figure 7.4. Type 5 stream buffers by percent slope class. Streams were surveyed as part of a retrospective analysis of the implementation of the interim Type 5 stream conservation strategy. Buffered streams are shown in green, unbuffered streams are shown in yellow. Data are presented in 5% slope classes on the x-axis. The left y-axis shows the total slope-corrected length of Type 5 streams surveyed. The right y-axis shows the percent of stream length buffered within each slope class.

These results illustrate several important points. First, a significant proportion of the Type 5 stream network received protection under existing procedures. Second, slope stability concerns accounted for less of the buffering than had been expected. Initial estimates during the development of the trust lands HCP anticipated that a substantial proportion of the Type 5 stream buffering would be associated with potentially unstable slope protection. Third, opportunities exist for improving timber sale documentation. Often the rationale behind the placement of leave trees and riparian buffers in a given timber sale was undocumented.

4. Headwaters Stream Research – The Development of a Model to Predict the Location and Extent of the Headwater Stream Network for Western Washington

In support of implementation efforts for the pending state trust lands headwaters conservation strategy, work is underway to develop tools to accurately predict and map the location and extent of headwater stream networks in western Washington. A binary logistic regression equation is being developed to estimate the probability of the presence of a headwater stream channel at any given location within western Washington. The equation will relate field-verified headwater stream termini to selected channel, landscape, or basin characteristics derived from LiDAR (Light Detection and Ranging) elevation models.

LiDAR is a remote-sensing technique that uses an aircraft-mounted scanning laser to precisely map ground features. High-resolution topographic data can be produced with a vertical accuracy of 15 to 100 centimeters. A number of products can be created from such a high-resolution data set. For this project, a model of the stream network was created using algorithms to predict both the direction and accumulation of water as it flows across the landscape. The extent and configuration of the modeled stream network was edited to match ground surveys of channel and stream termini locations, conducted during a related study completed in 2006 (Figure 7.5). Approximately 3,000 acres of terrain were surveyed, including more than 300 headwater stream channels and termini. This ground-verified stream network will serve as the basis for a logistic regression analysis to construct a model of the headwater stream network for the remainder of state lands with LiDAR coverage.

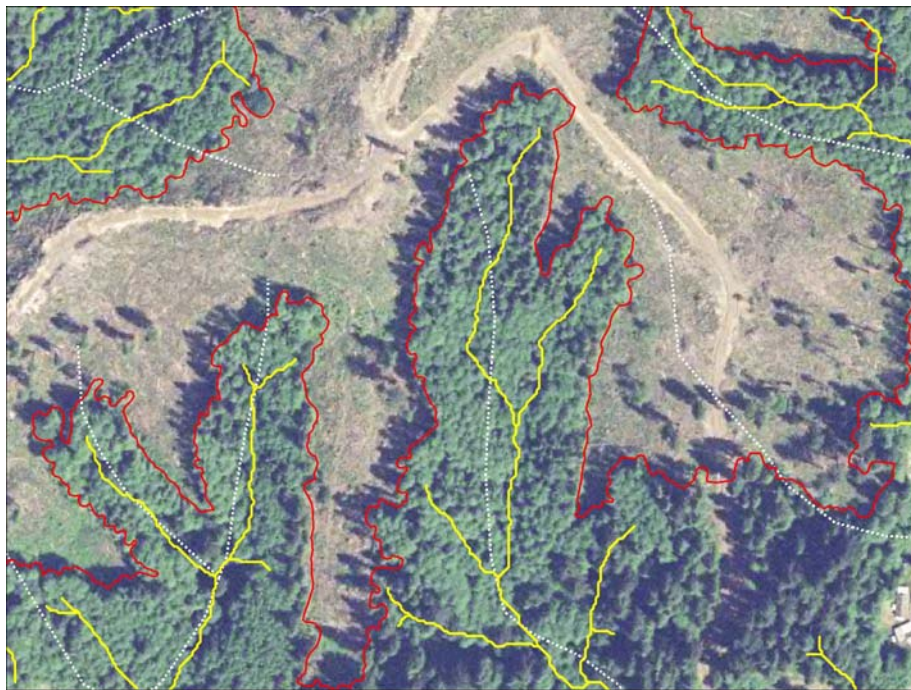


Figure 7.5. Modeling efforts offer an increase in our understanding of the extent and location of stream networks. The above graphic compares currently mapped headwater streams (dashed white lines) to a ground-verified LiDAR-derived model (solid yellow lines). Headwater streams are often under-represented or incorrectly located on existing maps.

A logistic regression models the probability of a given response (dependent variable) based on a series of explanatory (independent) variables. This project will model the probability of the presence of a headwater channel at a given point on the landscape.

The model is constructed from a calibration data set, based on ground-surveyed headwater termini and channel locations. Calibration points are either true (headwater channel is present) or false (headwater channel is absent) (Figure 7.6). Several approaches to selecting the calibration data set are being considered, based on a literature review. A pool of approximately 35 topographic, climatic, hydrologic, and basin variables are being examined for significance. A univariate analysis will be used to eliminate non-significant variables. Multivariate models will be constructed from the remaining variables through a combination of methods: full models, forward selection, backward selection, stepwise selection, and best subsets.

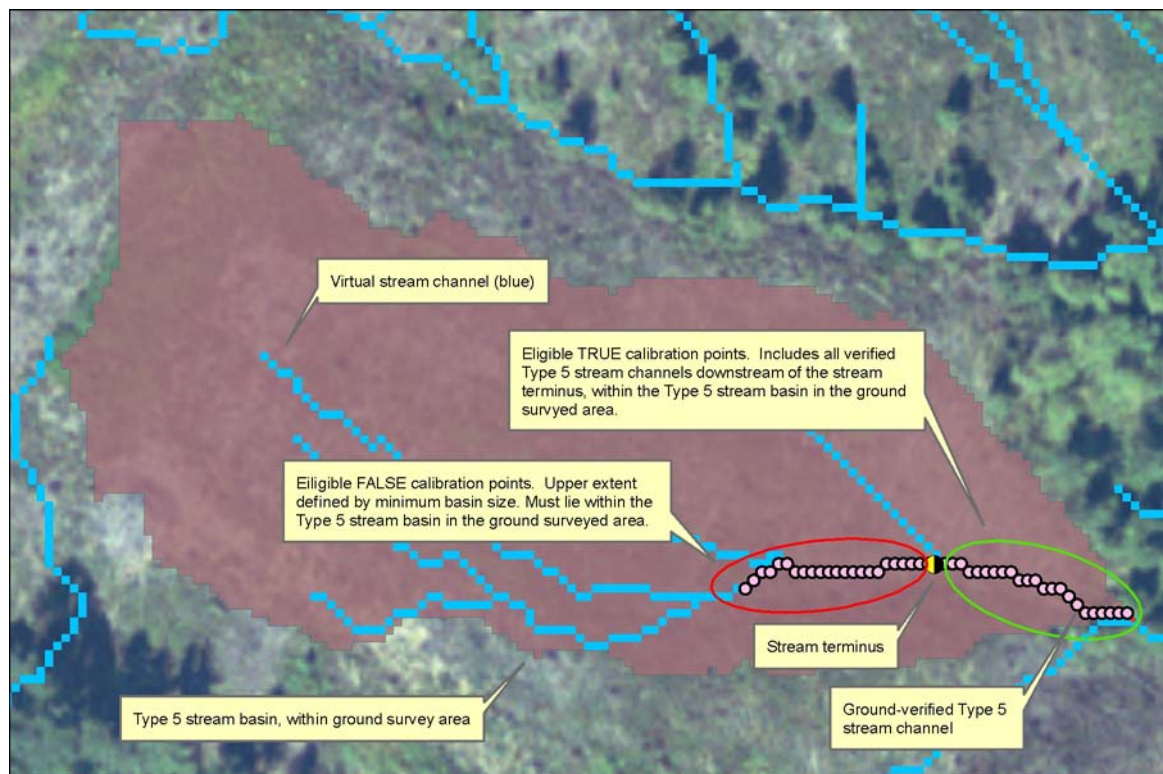


Figure 7.6. One of several methods used to select calibration points for developing a binary logistic regression to predict the presence of headwater channels. A pool of eligible calibration points is constructed from verified and virtual stream channels downstream and upstream of the stream terminus within Type 5 stream basins in the ground surveyed area. Calibration points are stratified by EPA Level IV Ecoregions—a classification that, at a landscape level, groups areas by similarity of a variety of ecological, climatic, and topographic features. All eligible calibration points within a given ecoregion are pooled, and an equal number of true and false points are randomly selected, in proportion to the area representation of the ecoregion on the landscape. The eligible true and false points within a single basin are shown.

Three factors will be used as objective measures of how well the logistic regression model fits the data: the Hosmer and Lemeshow goodness-of-fit test, the generalized

coefficient of determination (R-square), and an adjusted generalized coefficient of determination (R-square). Predictive accuracy will be assessed through a receiver operating characteristic (ROC) curve, which is a graph of sensitivity (accuracy of predicting events) vs. specificity (accuracy of predicting non-events). A classification table will be produced to assess predictive accuracy when varying the probability threshold from 0 to 1.

The final regression equation will be applied to the entire LiDAR data set to produce a map of headwater stream locations. Areas with a calculated probability of headwater stream presence above the optimal threshold will be mapped as streams.

5. Riparian Forest Integrity – Effectiveness Monitoring

Future re-measurement of long-term riparian integrity plots is dependent on funding. However, a recently completed wind throw modeling project shows promise for interpreting observations about wind throw and the sites where it occurred—such as topography, percent canopy loss, and orientation and location of down trees—and in designing future monitoring. Dr. Steve Mitchell of the University of British Columbia, in cooperation with DNR staff, created models tailored for use on DNR-managed trust lands. An extension of earlier efforts developed in British Columbia, these models examine both landscape and stand conditions to predict the probability of edge-related wind throw from expected annual storm events.

An outcome of the modeling effort was our initiation of the wind throw hazard mapping project. Objectives were two-fold: (1) to test the portability (to DNR-managed lands) of models fit in earlier studies in British Columbia; and (2) to produce first generation wind throw probability maps of state lands. Project deliverables include estimated probabilities of area damage and percent canopy loss from wind throw at 25 meter resolution. As part of the model calibration, the occurrence of wind throw was documented using 18-inch pixel digital orthophotos viewed at 1:10,000 as well as other data where available. The study area covered the OESF and South Coast Planning Units and Wahkiakum County.

6. Instream Conditions and Trends – Effectiveness Monitoring

Our initial effort at linking watershed condition and instream habitat restoration is in press and expected to be published soon. This study tests the theory that instream habitat will improve as riparian forests grow older. In areas with riparian restoration projects, we study how stream temperatures change as the forests grow and recover. Temperatures at streams adjacent to restored riparian buffers are compared to those next to unharvested buffers. The project is also looking at large woody debris and how instream woody debris influences stream temperatures and habitat. The goal is to better understand how HCP implementation affects the recovery of fish habitat and watersheds.

When published, *Stream Temperature Relationships to Forest Harvest in the Olympic Peninsula, Washington* (Pollock et al.) will be posted on our website. Pending funding, future work will test hypotheses contained in this publication and re-measure previously tested stream reaches in the Olympic Experimental State Forest (OESF).



By gathering data on stand characteristics before and after a variable density thinning, we can determine if the harvest created habitat as expected.

Northern Spotted Owl Conservation Strategy

The objective of these projects is to help us better understand northern spotted owl habitat needs and how to effectively manage stands and landscapes to create and sustain suitable habitat. In addition, this work supports the adaptive management goals of the spotted owl conservation strategy, such as developing better stand- and landscape-level habitat definitions.

1. Effectiveness Monitoring of Spotted Owl Habitat

The objective of spotted owl effectiveness monitoring, as defined in the Habitat Conservation Plan (DNR 1997, p.V.2), is to determine whether the applied management

activities result in anticipated habitat conditions.

We are currently assessing the effectiveness of variable density thinning for creating, sustaining and enhancing northern spotted owl habitat. Variable density thinning is a silvicultural technique based on biodiversity pathway principles (Carey and Curtis 1996). The treatments are designed to accelerate the development of structurally complex stands through thinning to different tree densities, retaining large tree legacies, and, in some cases, adding down woody debris and snags. This approach was selected in the preferred alternative in the final EIS for the sustainable harvest calculation (DNR 2004) and DNR intends to apply it extensively in spotted owl management areas during the next decade.

Currently, this monitoring is conducted using an observational (passive) approach—the timber sale prescription is designed by DNR foresters and implemented according to agency procedures. The effect of the treatment is assessed through comparing the pre- and post-harvest stand characteristics with an unmanaged control over a period of 10 years. Selected timber sales are sampled pre-harvest, immediately post-harvest, and in the 5th and 10th years post-harvest to evaluate habitat development. Each monitored timber sale is comprised of three treatment replicas and one unmanaged control with eleven stand characteristics sampled in 0.1-acre permanent plots. The fieldwork was initiated in 2004 with a pilot project in a nesting, roosting and foraging (NRF) management area in the Siouxon. One additional timber sale was added in 2005, two in 2006, and two in 2007. A total of five timber sales are currently being monitored as part of the northern spotted owl effectiveness monitoring program (Figure 7.7). The monitoring objective is to assess the role of variable density thinning for maintenance and enhancement of spotted owl habitat.

Project Activities

One timber sale was sampled during the 2008 field season. Another (Big Beaver) had pre-harvest measurements collected in 2007, but the stand was not harvested in time to collect post-harvest data this year.

- **Whitehorse Flats timber sale**—late rotation thinning in NRF Management Area in the North Puget Planning Unit (Northwest Region)

- The project started in 2007; all pre-harvest measurements were collected.
- First year post-harvest data were collected in 2008.
- Data are being formatted for future analyses.

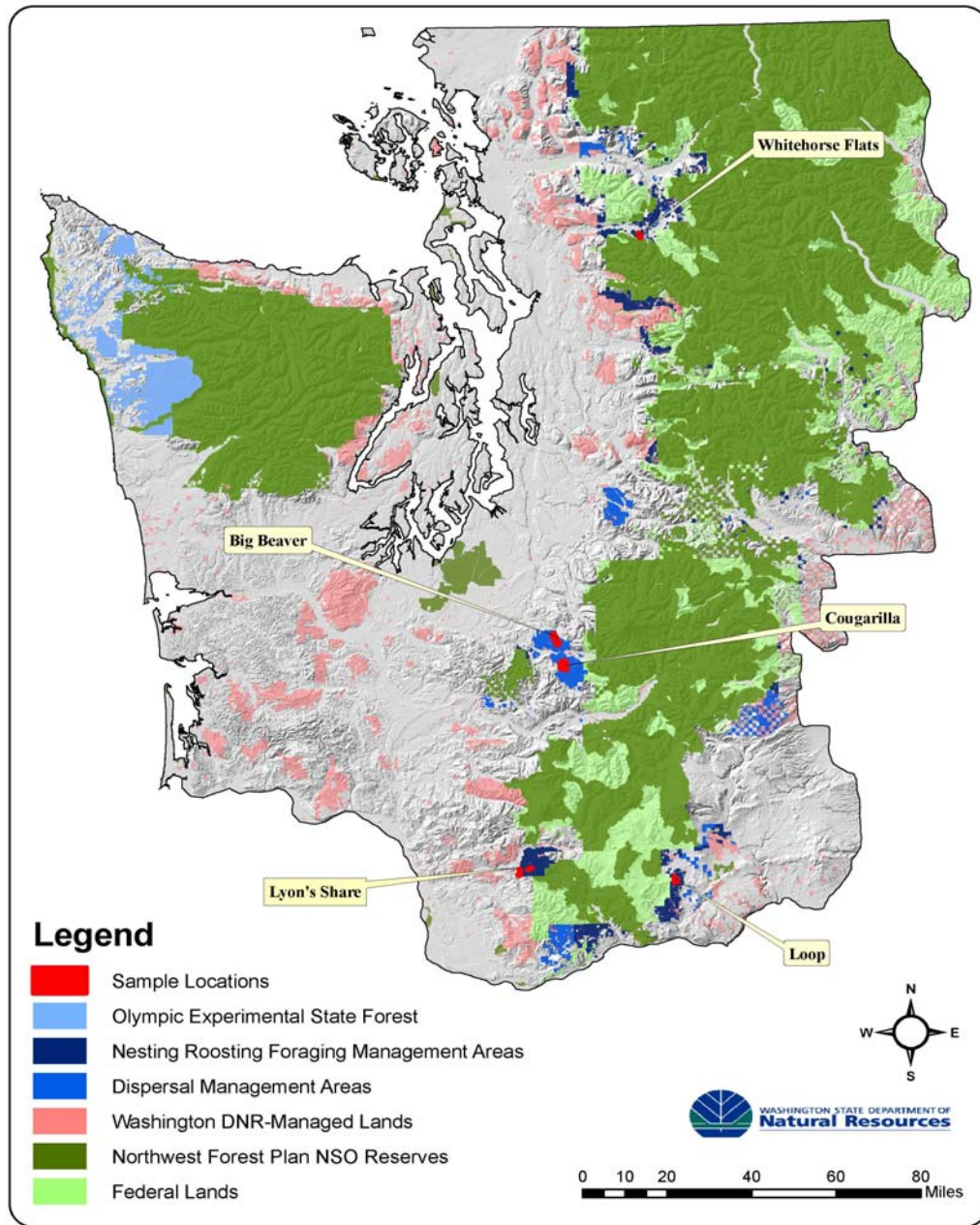


Figure 7.7. Timber sales where we are monitoring the effectiveness of variable density thinning to enhance northern spotted owl habitat

2. Northern Spotted Owl and Barred Owl Resource Selection in Southwest Washington

This study addresses several of the research priorities for the northern spotted owl conservation strategy described in the Habitat Conservation Plan (DNR 1997, p.V.7). Specifically, it will quantify a number of habitat attributes necessary for nesting, roosting,



We are radio-tracking northern spotted owls and barred owls to determine which habitat features are most important to each species.

and foraging. It will also determine the amount and distribution of habitat needed to support spotted owls in managed forest landscapes. The results will be used in planning future forest practices for maintaining and/or enhancing spotted owl habitat. In addition, the study will provide information on presumed competitive interactions between spotted owls and barred owls and the potential of forest management to influence these interactions. The study is intended to evaluate how each species responds to variations in existing habitat and environmental conditions in the same area. Such an evaluation would result in a resource selection function (a statistical model showing how likely a species is to use a particular resource unit with certain habitat features) using data from detailed forest inventories and from nocturnal locations of radio-tagged birds.

DNR and Weyerhaeuser have gathered recent information on spotted owl occupancy in several adjacent sites in southwest Washington. This presented both organizations an opportunity to collaborate in this radio telemetry study. Both parties developed separate agreements using the same contractor (National Council for Air and Stream Improvement) and field protocol. Combining the resulting data from both ownerships and analyzing them as one sample will produce more reliable results.

The study area lies in southwest Washington, west of I-5 and south of Highway 12 on DNR-managed lands and on timberlands owned by Weyerhaeuser. The lands are comprised predominantly of young plantations and recent regeneration harvests, with a scattering of slightly older stands. There are at least four locations with spotted owl occupancy in the study area. Two of those are on DNR-managed land—Blue Mountain and Seven Creek-Elk Creek—and two on Weyerhaeuser land—Elk Creek and Pioneer Creek (Figure 7.8).

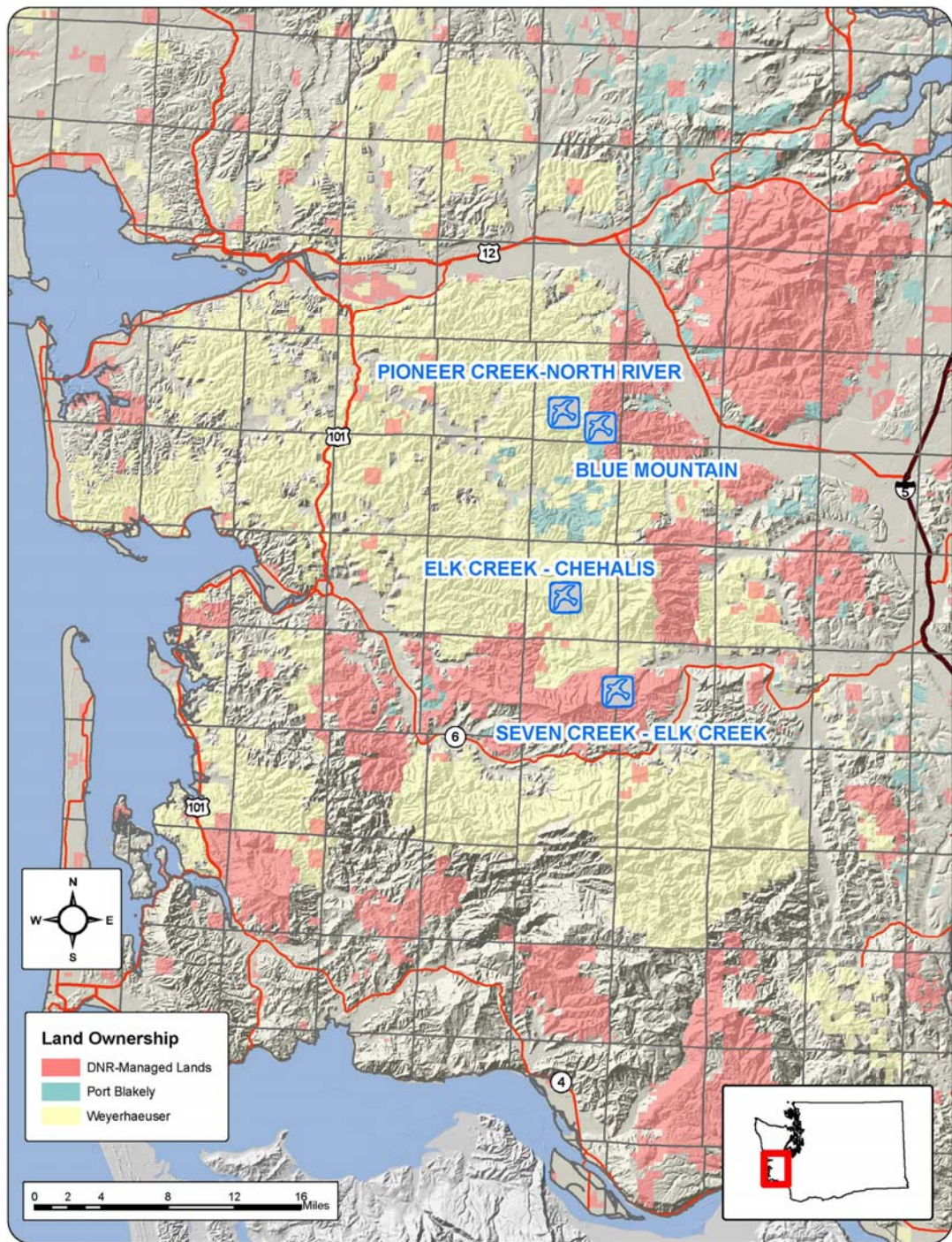


Figure 7.8. Northern spotted owl sites used to conduct a radio telemetry study in southwest Washington

Over a two-year period, all spotted owls captured at the four sites will be radio-tagged. Eight to ten pairs of barred owls associated with these sites also will be equipped with radio transmitters. Detailed habitat conditions in the home ranges of each species will be measured and a resource selection function for each species will be developed. This is a statistical model defined to be proportional to the probability of owl use of a resource

unit. For this project, it means that we conclude what resources each species uses based on how many times the species is detected in stands with certain characteristics.

Project Activities

- The contract was signed in April 2007 and the fieldwork started later that month.
- Eleven barred owls and three spotted owls had been radio-tagged by the end of August 2008. Of the eleven barred owls, ten were male and one was female. The spotted owls were one single male and two single females.
- All points from which owls were detected were recorded with a GPS. Using data from multiple points for each owl detection, polygons of the owls' locations are being mapped.
- By the end of August 2008, 1,975 telemetry points were recorded for the 14 owls.

3. Northern Spotted Owl Demography Monitoring in Southeast Washington

This project is intended to provide information on spotted owl occupancy, fecundity and survival rates in actively managed forests on DNR-managed state trust lands. The results



will be used (1) to determine the amount and distribution of habitat needed to support spotted owls in managed landscapes; (2) to help us plan forest practices for maintaining and/or enhancing spotted owl habitat in eastside HCP planning units; and (3) for future adaptive management and validation monitoring projects.

Twenty spotted owl sites are monitored under an agreement with the National Council for Air and Stream Improvement (NCASI). They are part of the 38 owl sites that constitute the Wenatchee study area—one of the 14 demographic study areas throughout the spotted owl's geographic

Our demography monitoring in southeast Washington has located adult and juvenile northern spotted owls.

range. These study areas provide information on species survival and fecundity rates used to estimate the annual rate of population change (Anthony et al. 2006). The owl monitoring in this area started in 1990 and has been conducted by NCASI ever since. The other

landowners in the study area are the U.S. Forest Service, SDS Lumber Company, and Hancock Timber Resource Group. Contributions by the landowners for conducting the fieldwork have varied over the years. DNR began providing funding in 2001.

The study area is located in the Klickitat Planning Unit (Figure 7.9). The field surveys, owl captures, and banding are conducted using the federal protocol (Forsman 1983). Each owl site is visited six times during the field season. Incidental to the required spotted owl monitoring, NCASI records all sightings and responses of barred owls, other owl species, and northern goshawks.

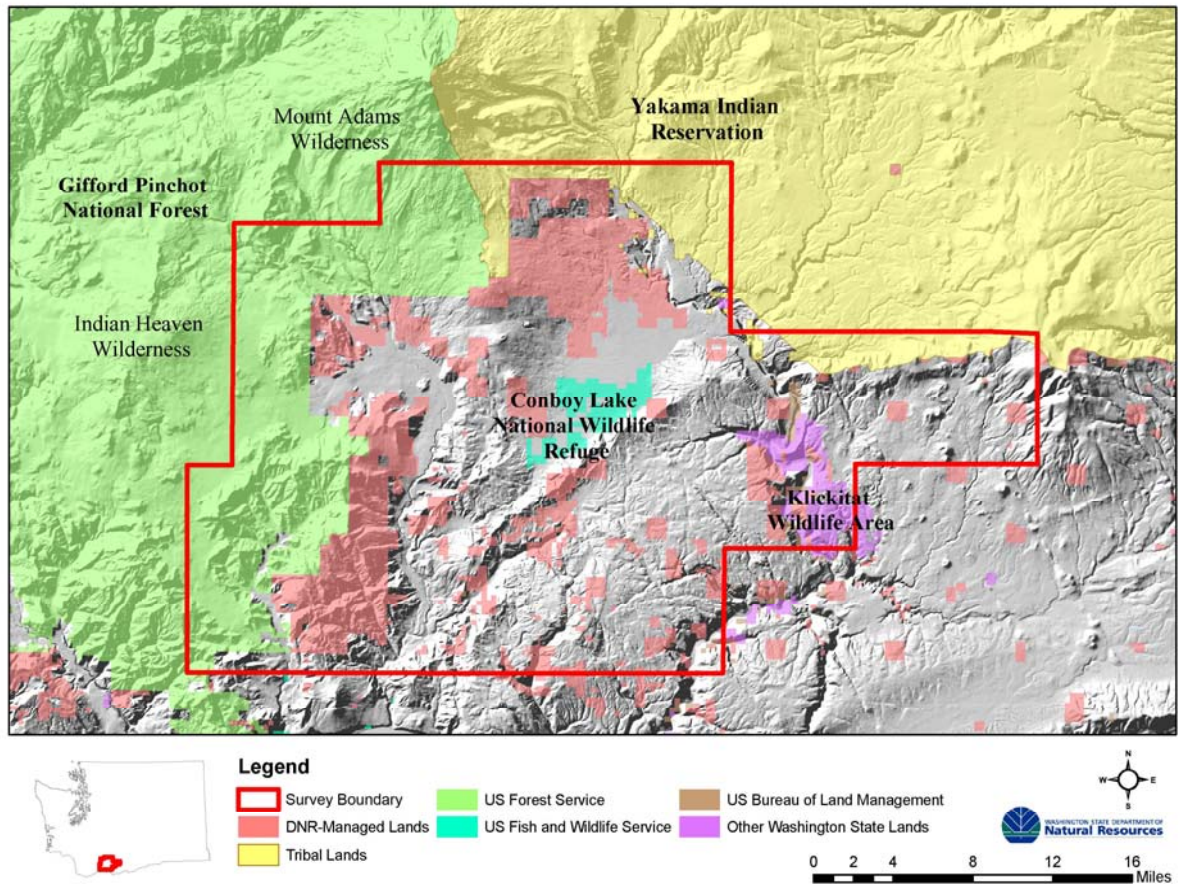


Figure 7.9. Study area for the northern spotted owl demography monitoring project in southeast Washington

Project Activities

- A new three-year contract was signed in April 2007.
- Fieldwork (six visits per site) continued in 2008 and the data are being transcribed.
- 2008 results showed:
 - Spotted owl detections: two reproductive pairs, each with one fledgling; one single, sub-adult male.
 - Barred owl detections: five pairs; eight single males.
 - Western screech owl detections: one pair; one single of unknown sex.
 - Great horned owl detections: one pair.
 - Pileated woodpecker detections: one single of unknown sex.

4. Comparison of Different Methods for Estimating Canopy Closure

Forest canopy closure is an important component of wildlife habitat, and one that needs to be quantified for management and monitoring purposes. The HCP definitions of northern spotted owl habitat require a minimum canopy closure of 70 percent without specifying how to measure canopy closure. There are a number of ground-based methods and modeling techniques for its estimation, with results varying considerably depending

on the instrument used and/or analysis applied.

We initiated a study in 2006 to compare canopy closure estimates obtained through various methods currently used in the department—spherical densiometry, hemispherical photography, Forest Vegetation Simulator (a U.S. Forest Service modeling system), and Curtis' relative density. The results will allow accurate conversion among the estimates, which will contribute substantially to our ability to meet the minimum canopy closure criteria for suitable northern spotted owl habitat described in the HCP. It will give DNR staff freedom and confidence to translate between estimates obtained with their preferred method and those obtained with other methods.



Hemispherical photography is one of the methods of estimating canopy closure we are comparing.

Project Activities

- The research needs have been identified, a literature search has been conducted, and several software packages for photo analyses have been tested and compared.
- Initial data collection and analyses have been conducted in two stands to compare hemispherical photography with spherical densiometry.
 - Densimeter estimates were consistently and significantly higher than estimates from photo images with matching angles of view (mean paired difference = 19.3%, $t = 60.9$, $df = 38$, $p < 0.001$).
- The project was expanded to include LiDAR estimations of canopy cover.
- Field work has been completed and data analysis is ongoing.

HCP Data Management

Accurate, clear and dependable data management is vital for implementing and monitoring our Habitat Conservation Plan. From the onset of our HCP we've expanded our use and knowledge of the capabilities of GIS and electronic data management. As GIS capabilities have expanded, we've relied more on those systems for habitat typing and tracking as well as modeling. This data is used in planning and conducting management activities on DNR-managed lands, in developing and implementing research and monitoring projects, and in responding to information requests from the public and other government agencies.

Three analysts/data stewards currently support the Ecosystem Services scientists and managers and the implementation of the HCP statewide. They are responsible for development of new and maintenance or stewardship of existing spatial data coverages, GIS analyses, database management and cartographic support.

Project Activities

- Through a data sharing agreement with the Department of Archaeology and Historic Preservation, we expanded the ability of DNR's cultural resource

technicians and archaeologists to screen for and research recorded historic and archaeological sites. This data has been used to update our Planning and Tracking Special Concerns Report, create a GIS project for accessing detailed information, and create a spatial screening tool in the State Uplands Viewing Tool.

- A spatial coverage of northern spotted owl nest sites was created to allow for screening activities. This screening is used to determine if timing restrictions should be applied to activities within 0.7 miles of nests sites in NRF/Dispersal management areas or the best 70 acre core of nests outside NRF/Dispersal areas. The layer is automatically updated as nest site locations are recorded or adjusted.
- Marbled murrelet data relevant to current policies for implementing the marbled murrelet interim conservation strategy were combined into a single feature class named MM_POLICY. For the OESF, Straits, South Coast, and Columbia Planning Units, the GIS layer includes occupied sites, buffers around occupied sites, HCP reclassified habitat, HCP marginal habitat, areas of extra deferral, and released reclassified habitat. For the North Puget and South Puget Planning Units, the layer includes occupied sites and habitat status. The layer was added to the Quick Data Loader as well as the State Uplands Viewing Tool (both are GIS tools available to DNR staff). Work is underway to improve the structure of the data in the North Puget and South Puget Planning Units to better match the current policy in those units.
- Marbled murrelet data relevant to the Science Team recommendations for a marbled murrelet long-term conservation strategy for the OESF, Straits, South Coast, and Columbia Planning Units were combined into a single feature class named MM_PLANNING. This GIS layer includes occupied sites, marbled murrelet management areas, adjusted high-quality habitat in the OESF, old forest in the OESF, and buffers in the OESF and Straits.
- We undertook an extensive GIS project to re-create the original HCP-managed lands coverage using current corporate data sets and updated land transaction data. The results show that the trust lands HCP currently covers 1.8 million acres in contrast to the 1.6 million acres covered when the HCP was signed. These differences can be attributed to three main factors:
 - Current and historic GIS data contains gaps in information. Review of these “no information” polygons showed that the vast majority of them were indeed forested trust lands and should be covered under the HCP.
 - Previous acreage estimates included only lands where the land cover code was designated as “forested.” Due to the scope of the HCP and the protections it provides for various species it was decided that lands that are found in and around forested lands and that could provide habitat (e.g. rivers, lakes, grasslands) should also be treated as HCP-managed lands.
 - Many parcels that have been disposed of by DNR contained a clause in the deed requiring them to be managed subject to the commitments in the HCP and therefore should be counted as lands covered by the HCP.

Earth Sciences Program

This program was established to provide centralized technical and scientific support for state trust land management activities in the fields of geology, geomorphology, and hydrology. Program staff work with foresters and engineers to assess the potential effects of management activities on soil erosion and hydrology and to develop measures to mitigate adverse impacts. Their work includes conducting landslide risk assessments for individual timber sales, developing landscape-scale landslide hazard zonation maps, locating suitable rock sources for constructing and maintaining forest roads, and carrying out earth sciences-related research and monitoring. Currently, the Earth Sciences Program has four Licensed Engineering Geologists on staff, one Licensed Geologist, and two additional geologists working towards licensure.

1. Landslide Risk Assessments for Timber Sales

Earth Sciences Program staff provide technical and scientific support for the timber sales program by conducting landslide risk assessments for individual timber sales. While most assessments are performed remotely using aerial photographs, geologic maps, and Digital Elevation Model- or LiDAR-derived topographic information, many are field-based evaluations where geologists and hydrologists work directly with foresters and engineers to assess landslide potential and design mitigation measures to reduce risk. Where timber harvesting or road construction is proposed on slopes or landforms considered “potentially unstable” under the state’s Forest Practices rules, a Licensed Engineering Geologist must conduct a more detailed landslide risk assessment. The Engineering Geologist must prepare a written report that describes the potential for the proposed activities to trigger landslides and the likelihood that water quality and aquatic habitat will be adversely affected.

Project Activities

- Staff conducted landslide risk assessments for 119 timber sales. These included:
 - 101 remote assessments;
 - 86 field-based assessments; and
 - 10 detailed assessments involving written reports.

2. Landslide Hazard Zonation

Earth Sciences Program staff continue to develop landscape-scale slope stability screening maps that foresters, engineers, and other natural resource professionals can use to plan and implement forestry activities on lands managed under the HCP. The work is being conducted in accordance with the Landslide Hazard Zonation (LHZ) Project Protocol, an approach developed cooperatively between the department and the Cooperative Monitoring, Evaluation, and Research (CMER) Committee. The maps and accompanying reports illustrate and describe landslide potential across the landscape and the sensitivity of different areas to forest practices.

Project Activities

- Staff completed two Landslide Hazard Zonation projects, both located within the OESF Planning Unit:
 - Shale/Deception/Prairie Creek in the Lower Clearwater Watershed Administrative Unit (WAU); and
 - Snahapish in the Upper Clearwater WAU.
- Work is continuing on four other Landslide Hazard Zonation projects:
 - Rock Creek (Columbia Planning Unit);
 - Deming (North Puget Planning Unit);
 - Toandos Peninsula (Straits Planning Unit); and
 - Reese Creek (South Puget Planning Unit).

Olympic Experimental State Forest (OESF) Research and Monitoring Program

In 2007, we instituted a Research and Monitoring Program providing a framework for HCP-related information-gathering activities on the Olympic Experimental State Forest (OESF). The OESF is “unique among planning units...because of its experimental nature, integrated approach to management, and planning history. The long-term vision for the Experimental Forest is of a commercial forest in which ecological health is maintained through innovative integration of forest production activities and conservation” (DNR 1997, p.I.14). The Research and Monitoring Program reflects HCP priorities for the OESF, stakeholder interests expressed through consultation, and the scientific findings to date on the western Olympic Peninsula. An overview of program areas was created (http://www.dnr.wa.gov/Publications/lm_oesf_program_overview.pdf), providing a foundation for development of research and monitoring projects near-term, through the OESF Forest Land Plan, and beyond. Key accomplishments in 2008 related to this program include:

- Coordination with the OESF Forest Land Planning effort, incorporating and analyzing information-gathering activities via the plan, as needed;
- Publishing the OESF Catalog of Research and Monitoring (available at: http://www.dnr.wa.gov/ResearchScience/Topics/ForestResearch/Pages/lm_oesf_research.aspx) that lists nearly 1,000 citations of information-gathering activities on the west side of the Olympic Peninsula of value to our conservation efforts;
- Planning and sponsoring a Riparian Adaptive Management Symposium that seeks to present a thorough review of critical assumptions underlying the OESF riparian conservation strategies;
- Initiating scoping of landscape monitoring on the OESF, intended to address effectiveness and validation monitoring objectives in the OESF;
- Scoping and development of riparian assessment procedures to provide a basis for scheduling of activities in the Forest Land Plan and to provide guidance for key questions to be addressed in research and monitoring;

-
- Scoping and development, in conjunction with the plan, of DNR-led research trials addressing innovative approaches to stand-level management to achieve older forest values (demonstration projects); and,
 - Scoping and development, in conjunction with the Forest Land Plan, of DNR-led research trials addressing management techniques in riparian forests (the experimental approach to exterior buffer management).

In 2009, we anticipate making progress in all program areas. Key emphasis will be on continued updating of the OESF Research and Monitoring Catalog, continued coordination of information-gathering activities via the OESF Forest Land Planning effort and development of detailed study plans for landscape monitoring, demonstration projects, and the experimental approach. In doing so, DNR will also continue pursuing collaborative partnerships with stakeholders and research partners in the design, development, and implementation of these efforts. Progress will be communicated via OESF focus group meetings and through the OESF research and monitoring website: http://www.dnr.wa.gov/ResearchScience/Topics/ForestResearch/Pages/lm_oesf_main.aspx

Old Growth Identification and Management

1. Westside Forests

DNR's commitment to identify and protect old growth stands and individual old trees continued with a training session in June 2008 on recognizing old growth forests. This training, conducted for the third consecutive year, was offered to Westside region wildlife biologists and foresters, and included one classroom day and two days in the field. Old growth designees from each Westside district were taught how to recognize and protect old forests and trees and implement our old growth, older forest and structurally unique tree policies. Information gathered by trainees allows the department to track activities around old growth stands and refine our inventory of old growth areas. The core of this training, as in past years, was instruction from Dr. Robert Van Pelt of the University of Washington. Dr. Van Pelt was one of the three independent panelists on the Old Growth Definition Committee, which developed the department's old growth screening tool, the Weighted Old Growth Habitat Index, in 2005.

The training was supported in part by the field guide *Identifying Mature and Old Forests in Western Washington* by Robert Van Pelt. The book provides guidance on old growth and older tree identification, and information on Westside old growth forest ecology.

2. Eastside Forests

The Old Growth Definition Committee continued its work to identify and map old growth forests east of the Cascade crest, as requested by the Washington State Legislature in 2005. Old forests on the Eastside are far more complex than those on the Westside, due to more diverse environmental conditions and complex and varied disturbance and management histories. The inventory focused on dry forest types of eastern Washington, as directed by the legislature.

Two other publications arose from the Eastside Old Growth Definition Project, and were published in October 2008. The first, *Identifying Old Trees and Forests in Eastern Washington* by Robert Van Pelt, is a companion guide to *Identifying Mature and Old*

Forests in Western Washington. The second is *The Case for Active Management of Dry Forest Types in Eastern Washington: Perpetuating and Creating Old Forest Structures and Functions* by Jerry Franklin, Miles Hemstrom, Robert Van Pelt and Joseph Buchanan, commissioned by DNR. It details the scientific evidence to support an active approach to sustaining old forest structures and functions on the Eastside and provides management guidelines for the restoration and maintenance of old forest conditions.

All these old growth-related publications—for both eastern and western Washington—can be downloaded from:

http://www.dnr.wa.gov/ResearchScience/Topics/ForestResearch/Pages/Im_oldgrowth_guides.aspx.

Marbled Murrelet Conservation Strategy



Marbled murrelets nest on large limbs covered with moss or other substances that create a large, relatively flat platform. Their nests are usually in mature or old conifer forests. Photo courtesy of Tom Bloxton.

The objective of this research is to support the development of the marbled murrelet (*Brachyramphus marmoratus*) long-term conservation strategy and related monitoring. The primary focus of funding in fiscal year 2008 was to document murrelet flight activity over inland forests (stand surveys). We also continued with the development of a long-term conservation strategy for four of our HCP planning units, producing a report with recommended conservation measures.

1. Breeding Ecology of Marbled Murrelets

To support current and future conservation strategy development and monitoring, DNR and the U.S. Forest Service have conducted a cooperative research study since 1994. This study

gathers information on marbled murrelet movement patterns (both at sea and inland), demography, and habitat use. Information of this type is limited, especially in Washington State. Information on specific nest sites and the way murrelets utilize the forested landscape will be invaluable in implementing and monitoring the department's long-term murrelet conservation strategy. This project also will reduce the reliance on demographic data from the central British Columbia coast, where habitats are considerably different.

Project Activities

- In 2008, 18 adult marbled murrelets were captured and had radio transmitters secured to their backs.
- Two nest sites were confirmed during the reporting period.
- Regular radio tracking flights were used to locate the murrelets. These flights took place over Washington marine waters and southern Vancouver Island.
- A combination of aerial and ground telemetry were used to identify nest trees for further monitoring.



Glossary

Abandoned road: a road that is stabilized and abandoned to state forest practices standards, including removing water crossings, providing erosion control, and making the road impassible to vehicles.

Activity objective: a measurable and possibly transient condition sought at the conclusion of an activity, such as a certain number of trees left following a timber harvest to serve as habitat and a seed source.

Adaptive management: a process of periodically reviewing and adjusting management practices based on feedback from research, monitoring and information gathering.

Aerial herbicide: application of herbicides from a helicopter to achieve site preparation or vegetation management objectives.

Aerial pesticide: application of an insecticide, herbicide or other pesticide from a helicopter or airplane.

Animal repellent: chemicals or other products applied to discourage animals from damaging seedlings.

Animal trapping: a system of catching animal pests and removing them from an area where they are causing damage.

Blowdown: a tree that has been knocked over or had its top blown out by wind.

Broadcast burn: allowing prescribed fire to burn over a designated area to achieve site preparation or vegetation management objectives.

Certification: see forest certification.

Clearcut (variable retention harvest): a timber harvest that removes a stand of trees while retaining or reserving live trees, snags, and down wood for habitat and other values. According to HCP commitments, a minimum of 5 live trees and 3 snags (or snag recruits) per acre are kept following harvest. These reserve trees may be in small clumps or dispersed individually throughout portions of or the entire stand.

Cohort: a component of a forest stand that is statistically unique and managed separately from other cohorts, often for a specific purpose (e.g. leave trees with a similar origin year; snags; live trees remaining after a fire).

dbh: diameter at breast height, which is the diameter of a tree measured 4.5 feet above the ground on the uphill side of the tree.

De minimis: a legal term for a level of activity that is too small or insignificant to be concerned about.

Decommissioned road: a road made impassible to vehicles.

Demography: the study of populations or communities, including births, deaths, movement, and distribution.

Desired future condition (DFC) habitat: DNR’s term for areas in the Klickitat Planning Unit that are managed for northern spotted owl dispersal. A desired future condition is a set of parameters that can be compared to current conditions, showing any management changes needed to achieve specific goals. In the Klickitat HCP Amendment, DFC habitat represents a sustainable set of stand characteristics (canopy closure level, maximum tree height, etc.) that could realistically be achieved in a 60-year old stand that has been properly managed.

DFC: see desired future condition habitat.

Direct sale: a one-time agreement that removes only small amounts of a resource such as gravel or trees (a maximum of \$25,000 in value) from DNR-managed lands and is not subject to public auction or advertisement.

Dispersal habitat: habitat used by northern spotted owls when moving from one area of nesting, roosting, and foraging habitat to another, often to establish new breeding sites.

Dispersal: the movement of an animal from one sub-population to another, often to establish a new nesting area.

Easement: permission given by one person or business to another, allowing the first to access their property by crossing through property owned by the other.

Ecoregion: an area with generally similar ecosystems and types, quality, and quantities of environmental resources. It is designed to provide a spatial framework for research and monitoring of ecosystems and their components.

Effectiveness monitoring: for the HCP, a system used to determine whether or not a management plan and its specific strategies are producing the desired habitat conditions.

Endemic: a species that is a native of, prevalent in, or confined to a specific region.

First order stream: a stream that does not have any other streams intersecting or feeding into it.

Forest certification: an approval process by an independent auditor that shows that a landowner manages forests by a set of standards that demonstrate environmentally responsible, socially beneficial, and economically viable practices. It is also known as ‘green’ certification.

Forest fertilization: ground or aerial-based fertilization of forest stands using chemical fertilizers or biosolids to enhance growth.

Forest land planning: a DNR process—focused at the HCP planning unit-scale—to integrate social-cultural, economic, and ecological issues into management strategies for forested state trust lands.

Forest management unit (FMU): a forested area with conditions that are ecologically similar enough to allow it to be managed to obtain specific objectives; it is the unit for which a silvicultural prescription is written.

Forest practices road: a road used to access areas used for growing, harvesting, or processing timber. It must be built and maintained to meet or exceed Forest Practices rules, which affect such factors as location, drainage structures, and erosion control measures.

Forest practices: activities related to growing, harvesting, or processing timber; they are conducted on or directly impact forested lands.

Grazing lease: a DNR lease agreement covering smaller areas of land (as compared to the larger rangeland of a grazing permit) which includes a Resource Management Plan to protect natural resources. It allows grazing at any time of year as long as the plan's guidelines are followed.

Grazing permit: a DNR agreement covering large areas of land that includes a Resource Management Plan containing specific details regarding the number of animals allowed as well as when the animals may be on the land.

Ground herbicide: ground-based applications of herbicides used to achieve site preparation or vegetation management objectives. Using ground herbicides allows for application in smaller work areas, thus avoiding spraying areas where herbicides are not desired.

Ground mechanical: in forestry, using mechanized equipment to achieve site preparation objectives.

Guild: a group of species that occupies the same environmental niche and exploits environmental resources in a similar way.

Habitat conservation plan (HCP): a long-term management plan authorized under the Endangered Species Act to conserve threatened and endangered species across a large landscape.

Hand planting: in forestry, planting seedlings of various species or species mixes.

Hand-cutting: in forestry, using hand-held equipment to cut stems of existing vegetation to achieve site preparation or vegetation management objectives, such as removing invasive species.

HCP permit lands: lands that are managed subject to the commitments in the trust lands Habitat Conservation Plan.

Headwater stream: a small, first or second order stream that forms the beginning of a river. It is often seasonal and forms where saturated ground flow first emerges as a recognizable watercourse.

Implementation monitoring: a form of monitoring that determines whether or not a management plan (e.g. an HCP) or its components is implemented as written.

Inholding: a parcel of land owned by one party that is entirely surrounded by another ownership. In terms of DNR land transactions, it generally refers to private land entirely surrounded by state-owned property.

Landscape objective: specific stand conditions to be obtained in part or all of a landscape, usually laid out in a plan that specifies the management activities needed to achieve this goal.

Landslide hazard zonation: a screening tool in which watershed-scale maps are created that show and describe all areas of potentially unstable slopes in a watershed as well as potential mitigation measures to minimize damage.

Large, structurally unique tree: a tree that is tall and/or has a large diameter and contains structural elements that are important for habitat, such as a hollow trunk, broken top, open crown, and large strong limbs. During a timber harvest, DNR leaves such trees to provide habitat and a source of seeds to help develop a new stand.

Late rotation thinning (older stand thinning): a partial cut timber harvest that extends the rotation age of a stand to more than 80 years, or achieves a visual or habitat objective that requires larger trees. Stands eligible for ‘late’ thinning are typically 45 to 70 years old and contain diverse sizes of trees.

Leave tree: see large, structurally unique tree.

LiDAR: short for Light Detection and Ranging, it is a remote sensing technology that uses lasers to detect distant objects and determine their position, velocity, or other characteristics by analyzing reflections. It has a wide variety of uses, including measuring tree canopy heights, making topographical maps, and mapping floodplains.

Logistic regression: a statistical model used to predict the probability of an event occurring by fitting data to a logistic curve. It uses several predictor variables that can be either numerical or categorical.

Marbled murrelet management area: a landscape area that is managed to realize its capability to provide future potential marbled murrelet nesting habitat. Some portion of the DNR-managed lands within its boundary is managed with the goal of providing high-quality nesting habitat.

Mature DFC: as used in the Klickitat Planning Unit, it is a stand that meets the characteristics of desired future condition habitat and is at least 60 years old.

Natural Area Preserve: a state-designated area that protects a high-quality, ecologically important natural feature or rare plant and animal species and their habitat. It often contains a unique feature or one that is typical of Washington State or the Pacific Northwest.

Natural regeneration: allowing naturally produced seedlings to grow after harvest and produce a new forest. DNR assesses success by carrying out a thorough regeneration survey of the stand.

Natural Resources Conservation Area: a state-designated area managed to protect an outstanding example of a native ecosystem or natural feature; habitat for endangered, threatened, or sensitive species; or a scenic landscape.

Nesting, roosting, and foraging (NRF) habitat: a forested area with the right forest structure, a large enough size, and adequate food to meet the needs of a nesting pair of northern spotted owls.

‘No role’ lands: a term used by DNR’s transactions program to refer to lands not designated as NRF, dispersal, or DFC and thus having no role in spotted owl management under the trust lands HCP.

Non-commercial pit: a rock, sand, or gravel pit used to supply materials used in DNR’s silviculture-related activities, primarily building forest roads.

Non-forest practices road: a road not used for activities related to timber harvest or other forest practices—for example one in a Natural Area Preserve or a road that leads only to a recreation site.

NRF: see nesting, roosting, and foraging habitat.

Oil and gas lease: an agreement that allows the leaseholder to reserve the right to explore for underground oil and/or gas deposits on state land. Before active drilling or thumping can occur, the proposal must undergo SEPA review and have a plan of operations approved by DNR.

Pest management: treatments designed to maintain pest populations at levels that don’t present an unacceptable risk of damage to forest stands.

Phased patch regeneration cut: an even-age timber harvest method using small patch cuts (1 to 5 acres) to progressively harvest and regenerate a single stand over a period of up to 15 years. Several separate patches are simultaneously harvested within a forest management unit (FMU). After an adequate green-up period (5-10 years), additional patches are harvested and the process is repeated until the FMU is completely harvested.

Pile and burn: a process where logging slash is placed in piles, generally using mechanized equipment, then the piles are burned under controlled conditions.

Planning unit: in the trust lands Habitat Conservation Plan, it is a management unit based on large watersheds. The roughly 1.8 million acres managed under the HCP are divided into 9 planning units to allow for more efficient planning and management.

Pre-commercial thinning: removal of some trees in a stand, not for immediate financial gain, but rather to reduce stocking to concentrate growth in more commercially desirable trees.

Prospecting and mining lease: an exploration agreement that allows the holder to search for mineral deposits on state lands; if the leaseholder wants to begin active mining operations (extraction and removal of valuable materials) that could alter habitat, they must convert the lease to a contract which includes a plan of operations and undergoes SEPA review.

Radio telemetry: a tracking system where wildlife are outfitted with collars that transmit individual signals that can be monitored to track their movement.

Receiver operating characteristic curve: a graph plotting the fraction of true positives (accurate predictions, such as mapping a stream channel where one exists) versus the fraction of false positives (inaccurate predictions, such as mapping a stream channel where none exist). By plotting such curves for several possible tests or models, you can determine the ones more likely to be accurate in their predictions.

Reclassified habitat: the term DNR uses for the high-quality habitat expected to contain at least 95% of the occupied marbled murrelet sites on DNR-managed lands.

Recreation plan: a DNR document for a forest block or landscape outlining what types of recreation are appropriate in what portions of that landscape, as well as what facilities are needed. It includes broad management guidelines and a plan to implement them.

Regeneration: the act of renewing or re-establishing tree cover in a forest by establishing young trees through seeding or planting sites, usually those that were harvested or burned in a wildfire.

Region public use inventory and assessment: a planning document resulting from an inventory of both authorized and unsanctioned public use in a DNR region. The document identifies management options and strategies for planning recreation that protects natural resources and habitat.

Repositioning: a land transaction process in which DNR exchanges, sells, or transfers trust properties and uses the proceeds to acquire more suitable property for the affected trust(s). Repositioning occurs on lands that don't fit with management strategies or that are not appropriate for long-term trust revenue production.

Resource selection function: a statistical model defined to be proportional to the probability of use of a resource unit. In other words, it gives the probability that a resource (e.g. a stand with a certain number of snags) will be used by a specific species in a given period of time based on tracking the species' use of that resource. The data can be used to determine the amount and type of habitat needed by a certain species and to plan management activities to achieve or maintain appropriate habitat.

Riparian desired future condition: a benchmark for a restored riparian forest against which managers can measure progress towards a structurally complex forest that contains many of the key elements to support a broad range of riparian ecological functions. It includes target levels of large trees, down wood, species diversity, and other characteristics.

Riparian management zone: a buffer of trees and shrubs applied alongside a stream to protect the stream and habitat for salmon and other species. Where necessary, DNR also applies a wind buffer on the side farthest from the stream following timber harvest to protect the riparian buffer from wind damage.

Road construction: the building of new roads in compliance with DNR standards.

Road maintenance and abandonment plan: a plan that covers all forest roads on a landowner's property constructed or used for forest practices after 1974. It is based on a complete inventory that also shows streams and wetlands adjacent to or crossed by roads. The plan lays out a strategy for maintaining existing roads to meet state standards and shows areas of planned or potential road abandonment.

Road reconstruction: a process of bringing existing roads back to drivable conditions that meet state standards.

Rotation: the length of time between when a stand of trees is planted or naturally regenerates and when it is harvested.

Rotational forest management unit objective: goals for a forest stand that land managers want to achieve over the course of a rotation.

Salvage cut: a type of timber harvest used to log trees that are dead, dying or deteriorating due to fire, insect damage, wind, disease or injuries.

Seed tree intermediate cut: the first timber harvest in a series conducted as part of the even-aged seed tree silvicultural harvest system. The purpose is to provide a desirable seed source to establish seedlings. Up to 10 trees per acre may be left following this harvest; once the new trees are established, some of these seed trees may be harvested.

Seeding grass: broadcast seeding of annual grass species so that they—not noxious weeds—will occupy newly prepared sites. This generally is used east of the Cascade crest.

Selective product logging: a timber harvest that removes only specific species above a certain size which are of high value. This typically is a pole or cabin log sale or removal of an individual high value tree.

SEPA: see State Environmental Policy Act.

Seral: relating to an ecological sere.

Sere: the individual sequential stages in forest succession; the gradual replacement of one community of plants by another.

Shelterwood intermediate cut: the first timber harvest in a series conducted as part of the even-age shelterwood harvest system. The purpose is to provide shelter (typically shade) and possibly a seed source for the seedlings that are regenerating in the stand. Up to 20 trees per acre may be left following this harvest, generally disbursed across the stand.

Shelterwood removal cut: the second or final harvest in a series of harvests conducted as part of the even-aged shelterwood harvest system. The purpose is to remove overstory trees that create shade levels that are too high to allow the new understory to thrive.

Shielding or fencing: using a physical barrier to prevent animals from entering an area and damaging trees or other resources.

Silviculture: the art and science of managing or cultivating trees and forests to achieve particular goals and objectives.

Site preparation: activities performed to increase the probability of successful regeneration in a harvested unit by reducing slash and/or undesirable plants that would compete with seedlings for nutrients, water, and light.

Smallwood thinning: a partial cut timber harvest in young stands (typically less than 40 years of age). Smallwood thinning maintains or enhances the stand's growth potential, and improves the quality of the remaining trees.

Special forest products: items that can be harvested from forests, but do not fall in traditional timber or fiber categories, such as Christmas trees and boughs, medicinal plants, and floral greens.

Special use lease: a DNR lease for state trust lands that is issued for one of a wide variety of commercial or other uses, often best described as ‘miscellaneous’ uses (e.g. golf courses; paragliding landing sites; and public use facilities).

Stand: a group of trees that is similar enough in composition, structure, age, spatial arrangement, or condition to distinguish it from adjacent groups of trees.

Stand development stage: a developmental phase for a forest, defined using a classification system based on the structural conditions and developmental processes occurring within a forest stand.

State Environmental Policy Act (SEPA): a process for reviewing proposals that require permits or other forms of agency approval. It requires government agencies to consider the potential environmental consequences of their actions and incorporate environmental values into their decision-making processes. It involves the public and provides the agency decision-maker with supplemental authority to mitigate identified impacts.

Take: as used in the Endangered Species Act, refers to harming, hunting, wounding, collecting, capturing, or killing an endangered or threatened species or disturbing habitat in a way that disrupts a species’ normal behavior.

Temporary retention first cut: a partial cut timber harvest in which selected overstory trees are left for a portion of the next rotation. Shelterwood and seed tree harvests are traditional examples with relatively short retention periods. Habitat objectives increase the length of retention periods up to the time of pre-commercial or smallwood thinnings. The purpose of this harvest method is to retain overstory trees without diminishing establishment of a new stand. Two-aged stands can be an outcome when some level of overstory is left through the entire rotation.

Thumping: measuring seismological tremors caused by the dropping of large weights or the detonation of explosives, used when exploring for oil or gas deposits.

Tree pruning: removal of branches to enhance the commercial wood quality in an existing tree’s stem. The branches may also be removed and sold.

Trust land transfer program: a program in which Common School trust land is transferred from DNR to another public agency or conservation program. The state legislature provides the value of the timber (which is not cut) to the Common School Construction account to build K-12 public schools. The value of the land is placed in an account used to purchase replacement property for the school trust. Land can be transferred to the State Parks and Recreation Commission; Washington Department of Fish and Wildlife; a county or city government; or the state Natural Areas Program.

Trust lands: DNR-managed state lands held as a fiduciary (financial) trust and managed to benefit specific trust beneficiaries (public K-12 schools and universities; capitol buildings; and counties and local services such as libraries).

Trust: a legal term for a relationship where one person, company, or entity (the trustee) holds title to a property and/or manages it for the benefit of another person, company or entity (the beneficiary).

Two-age management–Westside: an even-age harvest method that is essentially the same as a temporary retention harvest except that the overstory trees are not removed until the time of the planned harvest of the younger component of the stand.

Uneven-aged management–ponderosa pine selection system: uneven-age management normally is achievable only on dry ponderosa pine sites. It is a timber harvest conducted as one step in a silvicultural sequence with the objective to create or maintain a forest stand with three or more age cohorts. Cohorts are typically 20 years or more apart in age.

Validation monitoring: for the HCP, a data-collection system that determines whether or not certain species respond as expected to habitat conditions created by following a management plan and its strategies.

Variable density thinning: thinning to create a mosaic of different stand densities on a scale of approximately 0.25 to 1 acre that capitalizes on landforms and stand features. DNR uses variable density thinning to encourage development of structural diversity in areas where spotted owl habitat is needed or to meet other objectives. Diversity is created by thinning to different residual tree densities, retaining large trees, and, in some cases, adding down woody debris and snags.

Vegetation management: using hand-cutting, herbicide, or other means to remove undesirable competing vegetation in a stand after planting but before seedlings become fully established.

Washington Administrative Code (WAC): Washington State’s rules and regulations that explain how state agencies will do business and how the general public can use state resources.



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Appendix A. Silvicultural Activities

Table A.1 details silvicultural activities that took place in each HCP planning unit in fiscal year 2008. The data comes from DNR's Forest Management Planning and Tracking (P&T) database, and includes all activities listed as completed during the reporting period. The type of activity, number of acres impacted, legal location (township, range, and section), and Forest Practices Application (FPA) number are included for each forest management unit in which activities occurred. Not all activities require a Forest Practices Application, so these numbers are listed only where applicable.

The data in this appendix are summarized in the tables in the Silvicultural Management Activities chapter of this report.

Table A.1. Silvicultural management activity details by planning unit

Columbia Planning Unit			
Silvicultural Activity	Acres	Location	FPA #
Timber Harvest - Clear cut	89	T02N R04E S01	2912801
Timber Harvest - Clear cut	4	T02N R04E S12	2912801
Timber Harvest - Clear cut	31	T02N R04E S12	2912801
Timber Harvest - Clear cut	1	T02N R04E S12	2912801
Timber Harvest - Clear cut	58	T02N R04E S12	2912801
Timber Harvest - Clear cut	32	T03N R04E S03	2915265
Timber Harvest - Clear cut	90	T03N R04E S03	2914601
Timber Harvest - Clear cut	16	T03N R04E S10	2915265
Timber Harvest - Clear cut	1	T04N R04E S34	2914601
Timber Harvest - Clear cut	47	T04N R04E S35	2915265
Timber Harvest - Clear cut	7	T06N R03E S02	2912613
Timber Harvest - Clear cut	12	T06N R03E S02	2912613
Timber Harvest - Clear cut	11	T06N R04E S15	2914785
Timber Harvest - Clear cut	13	T06N R04E S22	2914785
Timber Harvest - Clear cut	75	T07N R01E S14	2913037
Timber Harvest - Clear cut	95	T07N R01E S22	2912790
Timber Harvest - Clear cut	6	T07N R04E S28	2912844
Timber Harvest - Clear cut	94	T07N R04E S28	2912844
Timber Harvest - Clear cut	88	T09N R05W S14	2916808
Timber Harvest - Clear cut	6	T09N R05W S23	2916808
Timber Harvest - Clear cut	6	T09N R05W S23	2916808
Timber Harvest - Clear cut	3	T09N R05W S23	2916808
Timber Harvest - Clear cut	75	T10N R02E S16	2911104
Timber Harvest - Clear cut	8	T10N R02E S36	2911104
Timber Harvest - Clear cut	34	T10N R02E S36	2911104
Timber Harvest - Clear cut	2	T10N R02E S36	2911104
Timber Harvest - Clear cut	4	T10N R02E S36	2911104

Columbia Planning Unit

Silvicultural Activity	Acres	Location	FPA #
Timber Harvest - Clear cut	4	T10N R02E S36	2911104
Timber Harvest - Clear cut	3	T10N R02E S36	2911104
Timber Harvest - Clear cut	6	T10N R02E S36	2911104
Timber Harvest - Clear cut	31	T10N R02W S07	2914784
Timber Harvest - Clear cut	16	T10N R02W S07	2914784
Timber Harvest - Clear cut	46	T10N R02W S18	2914784
Timber Harvest - Clear cut	15	T11N R02E S14	2916399
Timber Harvest - Clear cut	97	T11N R02E S22	2914594
Timber Harvest - Clear cut	9	T11N R03E S13	2916095
Timber Harvest - Clear cut	99	T11N R03E S16	2916530
Timber Harvest - Clear cut	18	T11N R07W S17	2913510
Timber Harvest - Clear cut	58	T11N R07W S17	2911864
Timber Harvest - Clear cut	14	T11N R07W S18	2911864
Timber Harvest - Clear cut	50	T11N R07W S30	2913510
Timber Harvest - Clear cut	33	T11N R08W S36	2913510
Timber Harvest - Clear cut	28	T12N R02E S33	2916095
Timber Harvest - Clear cut	11	T12N R03W S23	2913908
Timber Harvest - Clear cut	55	T13N R02E S36	2916924
Timber Harvest - Clear cut	21	T13N R02E S36	2916924
Timber Harvest - Salvage cut	14	T08N R05W S16	2917069
Timber Harvest - Salvage cut	39	T09N R05W S14	2916808
Timber Harvest - Salvage cut	6	T09N R05W S14	2916808
Timber Harvest - Salvage cut	19	T09N R05W S14	2916808
Timber Harvest - Salvage cut	10	T09N R05W S23	2916808
Timber Harvest - Salvage cut	8	T09N R05W S23	2916808
Timber Harvest - Salvage cut	8	T09N R05W S23	2916808
Timber Harvest - Salvage cut	5	T10N R06W S16	2917258
Timber Harvest - Selective product logging	98	T12N R03W S24	2912886
Timber Harvest - Smallwood thinning	12	T07N R04E S36	2914785
Timber Harvest - Smallwood thinning	80	T07N R04E S36	2914785
Timber Harvest - Smallwood thinning	82	T12N R03W S23	2913908
Timber Harvest - Variable density thinning	3	T03N R07E S20	2910450
Timber Harvest - Variable density thinning	66	T03N R07E S20	2910450
Timber Harvest - Variable density thinning	8	T03N R07E S20	2910450
Timber Harvest - Variable density thinning	18	T03N R07E S28	2910450
Timber Harvest - Variable density thinning	61	T03N R07E S28	2910450
Timber Harvest - Variable density thinning	13	T06N R04E S12	2913041
Timber Harvest - Variable density thinning	45	T06N R04E S12	2913041
Timber Harvest - Variable density thinning	2	T06N R04E S13	2913041
Timber Harvest - Variable density thinning	30	T06N R05E S29	2913041
Timber Harvest - Variable density thinning	12	T06N R05E S29	2913041
Timber Harvest - Variable density thinning	30	T06N R05E S29	2913041
Forest site preparation - Aerial herbicide	60	T03N R04E S17	2915917
Forest site preparation - Aerial herbicide	56	T03N R04E S19	2915917
Forest site preparation - Aerial herbicide	89	T03N R04E S27	2915917
Forest site preparation - Aerial herbicide	92	T03N R04E S27	2915197
Forest site preparation - Aerial herbicide	53	T03N R04E S29	2915917
Forest site preparation - Aerial herbicide	85	T03N R04E S31	2915917

Columbia Planning Unit

Silvicultural Activity	Acres	Location	FPA #
Forest site preparation - Aerial herbicide	124	T04N R04E S22	2915917
Forest site preparation - Aerial herbicide	6	T04N R04E S22	2915917
Forest site preparation - Aerial herbicide	15	T05N R03E S03	2915917
Forest site preparation - Aerial herbicide	23	T05N R03E S08	2915917
Forest site preparation - Aerial herbicide	21	T05N R03E S09	2915917
Forest site preparation - Aerial herbicide	20	T05N R03E S09	2915917
Forest site preparation - Aerial herbicide	44	T06N R01E S26	2915955
Forest site preparation - Aerial herbicide	68	T06N R02E S19	2915955
Forest site preparation - Aerial herbicide	60	T06N R03E S05	2915917
Forest site preparation - Aerial herbicide	65	T06N R03E S05	2915917
Forest site preparation - Aerial herbicide	47	T06N R03E S14	2915917
Forest site preparation - Aerial herbicide	27	T06N R03E S16	2915917
Forest site preparation - Aerial herbicide	65	T06N R03E S16	2915917
Forest site preparation - Aerial herbicide	70	T06N R03E S31	2915917
Forest site preparation - Aerial herbicide	65	T07N R01E S14	2915955
Forest site preparation - Aerial herbicide	69	T09N R04W S19	2915955
Forest site preparation - Aerial herbicide	74	T09N R05W S22	2915955
Forest site preparation - Aerial herbicide	39	T09N R05W S24	2915955
Forest site preparation - Aerial herbicide	37	T10N R02W S17	2915955
Forest site preparation - Aerial herbicide	14	T10N R02W S17	2915955
Forest site preparation - Aerial herbicide	18	T10N R02W S18	2915955
Forest site preparation - Aerial herbicide	49	T10N R05W S24	2915955
Forest site preparation - Aerial herbicide	40	T10N R05W S24	2915955
Forest site preparation - Aerial herbicide	12	T10N R05W S25	2915955
Forest site preparation - Aerial herbicide	81	T10N R05W S25	2915955
Forest site preparation - Aerial herbicide	22	T10N R06W S25	2915955
Forest site preparation - Aerial herbicide	38	T10N R06W S25	2915955
Forest site preparation - Aerial herbicide	118	T10N R06W S26	2915955
Forest site preparation - Aerial herbicide	23	T10N R06W S26	2915955
Forest site preparation - Aerial herbicide	34	T11N R07W S36	2915955
Forest site preparation - Aerial herbicide	27	T11N R07W S36	2915955
Forest site preparation - Aerial herbicide	12	T11N R07W S36	2915955
Forest site preparation - Ground herbicide	6	T03N R06E S33	
Forest site preparation - Ground herbicide	26	T03N R06E S33	
Forest site preparation - Ground herbicide	2	T05N R03E S09	
Forest site preparation - Ground herbicide	9	T05N R03E S09	
Forest site preparation - Ground herbicide	36	T05N R03E S09	
Forest site preparation - Ground herbicide	12	T05N R03E S10	
Forest site preparation - Ground herbicide	8	T06N R02E S32	
Forest site preparation - Ground herbicide	10	T06N R02E S32	
Forest site preparation - Ground herbicide	20	T06N R02E S32	
Forest site preparation - Ground herbicide	6	T06N R02E S36	
Forest site preparation - Ground herbicide	6	T06N R03E S31	
Forest site preparation - Ground herbicide	87	T11N R03E S13	
Forest site preparation - Ground herbicide	92	T11N R03E S14	
Forest site preparation - Ground herbicide	17	T11N R03E S17	
Forest site preparation - Ground herbicide	40	T11N R03E S20	
Forest site preparation - Ground herbicide	13	T11N R03E S20	

Columbia Planning Unit

Silvicultural Activity	Acres	Location	FPA #
Forest site preparation - Ground herbicide	15	T11N R03E S20	
Forest site preparation - Ground herbicide	8	T11N R03E S20	
Forest site preparation - Pile and burn	76	T11N R02E S16	
Forest site preparation - Pile and burn	97	T11N R02E S22	
Forest site preparation - Pile and burn	80	T11N R03E S13	
Forest site preparation - Pile and burn	67	T11N R03E S14	
Forest site preparation - Pile and burn	10	T11N R03E S20	
Forest site preparation - Pile and burn	40	T11N R03E S20	
Forest site preparation - Pile and burn	2	T11N R03E S20	
Forest site preparation - Pile and burn	8	T11N R03E S20	
Forest site preparation - Pile and burn	5	T11N R07W S18	
Forest site preparation - Pile and burn	5	T11N R07W S30	
Forest site preparation - Pile and burn	33	T11N R08W S36	
Forest site preparation - Pile and burn	12	T12N R02E S33	
Forest site preparation - Pile and burn	48	T12N R02E S33	
Forest regeneration - Hand planting	5	T02N R03E S11	
Forest regeneration - Hand planting	5	T03N R04E S17	
Forest regeneration - Hand planting	60	T03N R04E S17	
Forest regeneration - Hand planting	56	T03N R04E S19	
Forest regeneration - Hand planting	15	T03N R04E S26	
Forest regeneration - Hand planting	81	T03N R04E S27	
Forest regeneration - Hand planting	92	T03N R04E S27	
Forest regeneration - Hand planting	53	T03N R04E S29	
Forest regeneration - Hand planting	79	T03N R04E S31	
Forest regeneration - Hand planting	63	T03N R04E S36	
Forest regeneration - Hand planting	26	T03N R06E S33	
Forest regeneration - Hand planting	6	T03N R06E S33	
Forest regeneration - Hand planting	14	T04N R03E S15	
Forest regeneration - Hand planting	3	T04N R03E S22	
Forest regeneration - Hand planting	18	T04N R03E S24	
Forest regeneration - Hand planting	4	T04N R03E S24	
Forest regeneration - Hand planting	5	T04N R04E S20	
Forest regeneration - Hand planting	124	T04N R04E S22	
Forest regeneration - Hand planting	6	T04N R04E S22	
Forest regeneration - Hand planting	1	T04N R04E S33	
Forest regeneration - Hand planting	3	T04N R04E S33	
Forest regeneration - Hand planting	3	T04N R04E S33	
Forest regeneration - Hand planting	88	T04N R04E S34	
Forest regeneration - Hand planting	48	T04N R04E S36	
Forest regeneration - Hand planting	1	T05N R02E S36	
Forest regeneration - Hand planting	16	T05N R03E S03	
Forest regeneration - Hand planting	23	T05N R03E S08	
Forest regeneration - Hand planting	2	T05N R03E S09	
Forest regeneration - Hand planting	21	T05N R03E S09	
Forest regeneration - Hand planting	9	T05N R03E S09	
Forest regeneration - Hand planting	20	T05N R03E S09	
Forest regeneration - Hand planting	36	T05N R03E S09	
Forest regeneration - Hand planting	12	T05N R03E S10	

Columbia Planning Unit

Silvicultural Activity	Acres	Location	FPA #
Forest regeneration - Hand planting	7	T06N R01E S24	
Forest regeneration - Hand planting	56	T06N R01E S26	
Forest regeneration - Hand planting	17	T06N R01E S34	
Forest regeneration - Hand planting	16	T06N R01E S34	
Forest regeneration - Hand planting	15	T06N R02E S18	
Forest regeneration - Hand planting	68	T06N R02E S19	
Forest regeneration - Hand planting	10	T06N R02E S20	
Forest regeneration - Hand planting	37	T06N R02E S20	
Forest regeneration - Hand planting	18	T06N R02E S20	
Forest regeneration - Hand planting	81	T06N R02E S28	
Forest regeneration - Hand planting	55	T06N R02E S30	
Forest regeneration - Hand planting	10	T06N R02E S32	
Forest regeneration - Hand planting	21	T06N R02E S32	
Forest regeneration - Hand planting	4	T06N R02E S36	
Forest regeneration - Hand planting	65	T06N R03E S05	
Forest regeneration - Hand planting	60	T06N R03E S05	
Forest regeneration - Hand planting	5	T06N R03E S10	
Forest regeneration - Hand planting	47	T06N R03E S14	
Forest regeneration - Hand planting	7	T06N R03E S16	
Forest regeneration - Hand planting	30	T06N R03E S16	
Forest regeneration - Hand planting	65	T06N R03E S16	
Forest regeneration - Hand planting	5	T06N R03E S31	
Forest regeneration - Hand planting	65	T06N R03E S31	
Forest regeneration - Hand planting	8	T06N R03E S32	
Forest regeneration - Hand planting	1	T06N R04E S18	
Forest regeneration - Hand planting	3	T06N R04E S33	
Forest regeneration - Hand planting	2	T06N R04E S33	
Forest regeneration - Hand planting	70	T07N R01E S14	
Forest regeneration - Hand planting	2	T07N R04E S28	
Forest regeneration - Hand planting	72	T07N R04E S29	
Forest regeneration - Hand planting	7	T07N R05E S04	
Forest regeneration - Hand planting	67	T09N R03E S06	
Forest regeneration - Hand planting	69	T09N R04W S19	
Forest regeneration - Hand planting	4	T09N R04W S28	
Forest regeneration - Hand planting	1	T09N R04W S28	
Forest regeneration - Hand planting	2	T09N R04W S29	
Forest regeneration - Hand planting	2	T09N R04W S30	
Forest regeneration - Hand planting	93	T09N R05W S13	
Forest regeneration - Hand planting	74	T09N R05W S22	
Forest regeneration - Hand planting	44	T09N R05W S24	
Forest regeneration - Hand planting	15	T09N R05W S24	
Forest regeneration - Hand planting	20	T09N R05W S24	
Forest regeneration - Hand planting	4	T09N R05W S24	
Forest regeneration - Hand planting	19	T10N R01E S36	
Forest regeneration - Hand planting	21	T10N R01E S36	
Forest regeneration - Hand planting	14	T10N R02W S17	
Forest regeneration - Hand planting	37	T10N R02W S17	
Forest regeneration - Hand planting	18	T10N R02W S18	

Columbia Planning Unit

Silvicultural Activity	Acres	Location	FPA #
Forest regeneration - Hand planting	23	T10N R03E S31	
Forest regeneration - Hand planting	34	T10N R04W S19	
Forest regeneration - Hand planting	40	T10N R05W S24	
Forest regeneration - Hand planting	49	T10N R05W S24	
Forest regeneration - Hand planting	22	T10N R06W S25	
Forest regeneration - Hand planting	38	T10N R06W S25	
Forest regeneration - Hand planting	118	T10N R06W S26	
Forest regeneration - Hand planting	21	T10N R06W S26	
Forest regeneration - Hand planting	4	T10N R06W S36	
Forest regeneration - Hand planting	9	T11N R03E S13	
Forest regeneration - Hand planting	80	T11N R03E S13	
Forest regeneration - Hand planting	87	T11N R03E S14	
Forest regeneration - Hand planting	16	T11N R03E S17	
Forest regeneration - Hand planting	15	T11N R03E S20	
Forest regeneration - Hand planting	40	T11N R03E S20	
Forest regeneration - Hand planting	8	T11N R03E S20	
Forest regeneration - Hand planting	13	T11N R03E S20	
Forest regeneration - Hand planting	18	T11N R07W S17	
Forest regeneration - Hand planting	9	T11N R07W S18	
Forest regeneration - Hand planting	1	T11N R07W S18	
Forest regeneration - Hand planting	50	T11N R07W S30	
Forest regeneration - Hand planting	44	T11N R07W S36	
Forest regeneration - Hand planting	15	T11N R07W S36	
Forest regeneration - Hand planting	12	T11N R07W S36	
Forest regeneration - Hand planting	33	T11N R08W S36	
Forest regeneration - Hand planting	31	T12N R03W S24	
Vegetation management - Aerial herbicide	55	T03N R04E S32	2915917
Vegetation management - Aerial herbicide	68	T04N R03E S16	2915917
Vegetation management - Aerial herbicide	57	T04N R03E S23	2915917
Vegetation management - Aerial herbicide	35	T06N R03E S32	2915917
Vegetation management - Ground herbicide	5	T03N R03E S16	
Vegetation management - Ground herbicide	23	T03N R03E S16	
Vegetation management - Ground herbicide	17	T03N R03E S16	
Vegetation management - Ground herbicide	49	T03N R03E S16	
Vegetation management - Ground herbicide	1	T04N R04E S33	
Vegetation management - Ground herbicide	7	T05N R03E S04	
Vegetation management - Ground herbicide	1	T05N R03E S04	
Vegetation management - Ground herbicide	42	T05N R03E S06	
Vegetation management - Ground herbicide	5	T05N R03E S09	
Vegetation management - Ground herbicide	2	T05N R03E S09	
Vegetation management - Ground herbicide	8	T06N R01E S24	
Vegetation management - Ground herbicide	15	T06N R02E S18	
Vegetation management - Ground herbicide	41	T06N R02E S30	
Vegetation management - Ground herbicide	19	T06N R02E S32	
Vegetation management - Ground herbicide	2	T06N R03E S22	
Vegetation management - Ground herbicide	30	T06N R03E S28	
Vegetation management - Ground herbicide	40	T06N R03E S32	
Vegetation management - Ground herbicide	60	T06N R04E S29	

Columbia Planning Unit

Silvicultural Activity	Acres	Location	FPA #
Vegetation management - Ground herbicide	41	T06N R04E S29	
Vegetation management - Ground herbicide	5	T07N R04E S28	
Vegetation management - Ground herbicide	31	T12N R03W S24	
Vegetation management - Ground herbicide	23	T13N R09E S09	
Vegetation management - Ground herbicide	25	T13N R09E S10	
Vegetation management - Ground herbicide	8	T13N R09E S16	
Vegetation management - Ground herbicide	6	T13N R09E S16	
Vegetation management - Ground herbicide	7	T13N R09E S16	
Vegetation management - Ground herbicide	1	T13N R09E S16	
Vegetation management - Hand cutting	4	T02N R07E S16	
Vegetation management - Hand cutting	5	T03N R02E S16	
Vegetation management - Hand cutting	5	T03N R03E S26	
Vegetation management - Hand cutting	7	T03N R04E S01	
Vegetation management - Hand cutting	44	T03N R04E S01	
Vegetation management - Hand cutting	57	T03N R06E S36	
Vegetation management - Hand cutting	2	T03N R07E S34	
Vegetation management - Hand cutting	8	T04N R03E S14	
Vegetation management - Hand cutting	8	T04N R03E S15	
Vegetation management - Hand cutting	4	T04N R04E S34	
Vegetation management - Hand cutting	5	T04N R04E S34	
Vegetation management - Hand cutting	26	T05N R02E S36	
Vegetation management - Hand cutting	97	T05N R02E S36	
Vegetation management - Hand cutting	1	T05N R02E S36	
Vegetation management - Hand cutting	10	T05N R02E S36	
Vegetation management - Hand cutting	1	T05N R03E S04	
Vegetation management - Hand cutting	7	T05N R03E S04	
Vegetation management - Hand cutting	5	T05N R03E S06	
Vegetation management - Hand cutting	2	T05N R03E S09	
Vegetation management - Hand cutting	5	T05N R03E S09	
Vegetation management - Hand cutting	14	T06N R02E S29	
Vegetation management - Hand cutting	78	T06N R02E S30	
Vegetation management - Hand cutting	3	T06N R03E S10	
Vegetation management - Hand cutting	24	T06N R04E S13	
Vegetation management - Hand cutting	17	T06N R05E S19	
Vegetation management - Hand cutting	15	T06N R05E S19	
Vegetation management - Hand cutting	8	T06N R05E S31	
Vegetation management - Hand cutting	67	T09N R04W S16	
Vegetation management - Hand cutting	70	T09N R04W S28	
Vegetation management - Hand cutting	40	T09N R05W S12	
Vegetation management - Hand cutting	25	T09N R05W S26	
Vegetation management - Hand cutting	41	T09N R05W S35	
Vegetation management - Hand cutting	48	T11N R02E S13	
Vegetation management - Hand cutting	17	T11N R02E S14	
Vegetation management - Hand cutting	50	T11N R02E S26	
Vegetation management - Hand cutting	18	T11N R02E S28	
Vegetation management - Hand cutting	73	T11N R03E S13	
Vegetation management - Hand cutting	25	T11N R03E S17	
Vegetation management - Hand cutting	18	T11N R03E S17	

Columbia Planning Unit			
Silvicultural Activity	Acres	Location	FPA #
Vegetation management - Hand cutting	97	T11N R03E S20	
Vegetation management - Hand cutting	87	T11N R07W S30	
Vegetation management - Hand cutting	26	T12N R02E S16	
Vegetation management - Hand cutting	44	T12N R02E S28	
Vegetation management - Hand cutting	36	T12N R02E S33	
Pre-commercial thinning	61	T02N R04E S12	
Pre-commercial thinning	35	T02N R04E S12	
Pre-commercial thinning	16	T02N R04E S12	
Pre-commercial thinning	47	T02N R05E S18	
Pre-commercial thinning	65	T02N R05E S24	
Pre-commercial thinning	12	T04N R04E S32	
Pre-commercial thinning	7	T04N R04E S32	
Pre-commercial thinning	79	T05N R03E S09	
Pre-commercial thinning	36	T06N R01E S24	
Pre-commercial thinning	36	T06N R01E S24	
Pre-commercial thinning	55	T06N R01E S25	
Pre-commercial thinning	54	T06N R02E S29	
Pre-commercial thinning	36	T06N R02E S29	
Pre-commercial thinning	4	T06N R02E S35	
Pre-commercial thinning	29	T06N R02E S35	
Pre-commercial thinning	4	T06N R03E S02	
Pre-commercial thinning	190	T06N R03E S15	
Pre-commercial thinning	91	T06N R04E S05	
Pre-commercial thinning	98	T07N R01E S14	
Pre-commercial thinning	92	T07N R01E S22	
Pre-commercial thinning	92	T07N R01E S24	
Pre-commercial thinning	60	T07N R04E S33	
Pre-commercial thinning	1	T10N R08W S02	
Pre-commercial thinning	5	T11N R07W S18	
Pre-commercial thinning	65	T11N R07W S19	
Tree pruning - Hand pruning	20	T06N R05E S28	
Tree pruning - Hand pruning	102	T09N R04W S09	

Klickitat Planning Unit			
Silvicultural Activity	Acres	Location	FPA #
Timber Harvest - Clear cut	28	T04N R11E S28	2703688
Timber Harvest - Clear cut	96	T04N R12E S20	2703685
Timber Harvest - Clear cut	31	T04N R12E S29	2703685
Timber Harvest - Clear cut	31	T05N R10E S10	2703787
Timber Harvest - Clear cut	84	T05N R12E S31	2703684
Timber Harvest - Clear cut	156	T07N R11E S35	2703148
Timber Harvest - Clear cut	25	T07N R12E S26	2703785
Timber Harvest - Clear cut	5	T07N R12E S26	2703785
Timber Harvest - Clear cut	9	T07N R12E S27	2703785
Timber Harvest - Late rotation thinning	290	T04N R13E S06	2703271
Timber Harvest - Late rotation thinning	49	T06N R10E S29	2703787
Timber Harvest - Late rotation thinning	56	T07N R11E S02	2703812
Timber Harvest - Late rotation thinning	76	T07N R11E S02	2703812
Timber Harvest - Late rotation thinning	210	T07N R11E S11	2703151

Klickitat Planning Unit

Silvicultural Activity	Acres	Location	FPA #
Timber Harvest - Late rotation thinning	7	T07N R11E S11	2703812
Timber Harvest - Late rotation thinning	164	T07N R11E S11	2703812
Timber Harvest - Late rotation thinning	177	T07N R11E S11	2703151
Timber Harvest - Late rotation thinning	84	T07N R11E S23	2703812
Timber Harvest - Salvage cut	61	T05N R11E S01	2704000
Timber Harvest - Salvage cut	154	T06N R11E S35	2704000
Timber Harvest - Salvage cut	47	T06N R11E S35	2704000
Timber Harvest - Salvage cut	40	T07N R11E S23	2703151
Timber Harvest - Salvage cut	149	T07N R11E S23	2703151
Timber Harvest - Salvage cut	34	T07N R11E S23	2703151
Timber Harvest - Shelterwood intermediate cut	73	T07N R11E S02	2703151
Timber Harvest - Smallwood thinning	178	T07N R12E S26	2703785
Timber Harvest - Uneven-aged management	515	T05N R13E S11	2702572
Timber Harvest - Uneven-aged management	497	T05N R13E S14	2702572
Timber Harvest - Uneven-aged management	21	T05N R13E S14	2702572
Timber Harvest - Uneven-aged management	61	T05N R13E S14	2702572
Timber Harvest - Uneven-aged management	651	T07N R12E S27	2703812
Forest site preparation - Ground herbicide	3	T05N R11E S36	
Forest site preparation - Ground herbicide	6	T05N R11E S36	
Forest site preparation - Ground herbicide	25	T05N R11E S36	
Forest site preparation - Ground herbicide	156	T07N R11E S35	
Forest site preparation - Ground mechanical	17	T04N R10E S07	
Forest site preparation - Ground mechanical	13	T04N R10E S08	
Forest site preparation - Ground mechanical	16	T04N R10E S08	
Forest site preparation - Ground mechanical	156	T07N R11E S35	2703148
Forest site preparation - Hand cutting	26	T04N R10E S04	
Forest site preparation - Hand cutting	22	T04N R10E S28	
Forest site preparation - Hand cutting	65	T05N R10E S02	
Forest site preparation - Pile and burn	1	T04N R09E S24	
Forest site preparation - Pile and burn	17	T04N R10E S07	
Forest site preparation - Pile and burn	13	T04N R10E S08	
Forest site preparation - Pile and burn	8	T04N R10E S08	
Forest site preparation - Pile and burn	16	T04N R10E S08	
Forest site preparation - Pile and burn	1	T04N R10E S19	
Forest site preparation - Pile and burn	1	T04N R10E S30	
Forest site preparation - Pile and burn	1	T04N R12E S20	
Forest site preparation - Pile and burn	1	T04N R12E S29	
Forest site preparation - Pile and burn	1	T04N R12E S36	
Forest site preparation - Pile and burn	1	T04N R12E S36	
Forest site preparation - Pile and burn	1	T04N R12E S36	
Forest site preparation - Pile and burn	1	T05N R10E S02	
Forest site preparation - Pile and burn	1	T05N R10E S10	
Forest site preparation - Pile and burn	1	T05N R10E S10	
Forest site preparation - Pile and burn	1	T05N R10E S15	
Forest site preparation - Pile and burn	44	T05N R12E S32	
Forest regeneration - Hand planting	90	T04N R09E S24	
Forest regeneration - Hand planting	13	T04N R10E S08	
Forest regeneration - Hand planting	27	T04N R10E S17	

Klickitat Planning Unit

Silvicultural Activity	Acres	Location	FPA #
Forest regeneration - Hand planting	20	T04N R10E S17	
Forest regeneration - Hand planting	30	T04N R10E S18	
Forest regeneration - Hand planting	70	T04N R10E S19	
Forest regeneration - Hand planting	24	T04N R10E S19	
Forest regeneration - Hand planting	51	T04N R10E S30	
Forest regeneration - Hand planting	28	T04N R11E S28	
Forest regeneration - Hand planting	96	T04N R12E S20	
Forest regeneration - Hand planting	31	T04N R12E S29	
Forest regeneration - Hand planting	7	T05N R10E S02	
Forest regeneration - Hand planting	16	T05N R10E S02	
Forest regeneration - Hand planting	4	T05N R11E S29	
Forest regeneration - Hand planting	4	T05N R11E S29	
Forest regeneration - Hand planting	15	T05N R11E S29	
Forest regeneration - Hand planting	70	T05N R11E S31	
Forest regeneration - Hand planting	8	T05N R11E S31	
Forest regeneration - Hand planting	6	T05N R11E S36	
Forest regeneration - Hand planting	3	T05N R11E S36	
Forest regeneration - Hand planting	44	T05N R11E S36	
Forest regeneration - Hand planting	52	T05N R12E S17	
Forest regeneration - Hand planting	15	T05N R12E S18	
Forest regeneration - Hand planting	84	T05N R12E S31	
Forest regeneration - Hand planting	53	T06N R10E S12	
Forest regeneration - Hand planting	17	T06N R10E S18	
Forest regeneration - Hand planting	118	T07N R11E S01	
Forest regeneration - Hand planting	65	T07N R11E S01	
Forest regeneration - Hand planting	10	T07N R11E S02	
Forest regeneration - Hand planting	177	T07N R11E S11	
Forest regeneration - Hand planting	158	T07N R11E S11	
Forest regeneration - Hand planting	34	T07N R11E S23	
Forest regeneration - Hand planting	149	T07N R11E S23	
Forest regeneration - Hand planting	40	T07N R11E S23	
Forest regeneration - Hand planting	20	T07N R11E S25	
Forest regeneration - Hand planting	80	T07N R11E S33	
Forest regeneration - Hand planting	156	T07N R11E S35	
Forest regeneration - Hand planting	55	T07N R11E S35	
Forest regeneration - Hand planting	1	T07N R12E S04	
Forest regeneration - Hand planting	13	T07N R12E S04	
Forest regeneration - Hand planting	88	T07N R12E S05	
Forest regeneration - Hand planting	42	T07N R12E S06	
Forest regeneration - Hand planting	25	T07N R12E S26	
Forest regeneration - Hand planting	5	T07N R12E S26	
Forest regeneration - Hand planting	9	T07N R12E S27	
Forest regeneration - Hand planting	20	T07N R12E S31	
Vegetation management - Aerial herbicide	3	T04N R09E S13	2703925
Vegetation management - Aerial herbicide	10	T04N R09E S14	2703925
Vegetation management - Aerial herbicide	15	T04N R09E S14	2703925
Vegetation management - Aerial herbicide	25	T04N R09E S14	2703925
Vegetation management - Aerial herbicide	21	T04N R09E S14	2703925

Klickitat Planning Unit

Silvicultural Activity	Acres	Location	FPA #
Vegetation management - Aerial herbicide	90	T04N R09E S24	2703925
Vegetation management - Aerial herbicide	15	T04N R10E S07	2703925
Vegetation management - Aerial herbicide	8	T04N R10E S07	2703925
Vegetation management - Aerial herbicide	27	T04N R10E S17	2703925
Vegetation management - Aerial herbicide	20	T04N R10E S17	2703925
Vegetation management - Aerial herbicide	30	T04N R10E S18	2703925
Vegetation management - Aerial herbicide	80	T04N R10E S19	2703925
Vegetation management - Aerial herbicide	24	T04N R10E S19	2703925
Vegetation management - Aerial herbicide	44	T05N R11E S36	2703925
Vegetation management - Aerial herbicide	44	T05N R11E S36	2703925
Vegetation management - Aerial herbicide	48	T05N R12E S17	2703925
Vegetation management - Aerial herbicide	15	T05N R12E S18	2703925
Vegetation management - Aerial herbicide	53	T06N R10E S12	2703925
Vegetation management - Ground herbicide	8	T04N R10E S08	
Vegetation management - Ground herbicide	28	T04N R11E S28	
Vegetation management - Ground herbicide	96	T04N R12E S20	
Vegetation management - Ground herbicide	31	T04N R12E S29	
Vegetation management - Ground herbicide	15	T05N R11E S29	
Vegetation management - Ground herbicide	4	T05N R11E S29	
Vegetation management - Ground herbicide	3	T05N R11E S29	
Vegetation management - Ground herbicide	4	T05N R11E S29	
Vegetation management - Ground herbicide	70	T05N R11E S31	
Vegetation management - Ground herbicide	8	T05N R11E S31	
Vegetation management - Ground herbicide	84	T05N R12E S31	
Vegetation management - Ground herbicide	65	T07N R11E S01	
Vegetation management - Ground herbicide	148	T07N R11E S01	
Vegetation management - Ground herbicide	6	T07N R11E S02	
Vegetation management - Ground herbicide	177	T07N R11E S11	
Vegetation management - Ground herbicide	158	T07N R11E S11	
Vegetation management - Ground herbicide	34	T07N R11E S23	
Vegetation management - Ground herbicide	149	T07N R11E S23	
Vegetation management - Ground herbicide	40	T07N R11E S23	
Vegetation management - Ground herbicide	133	T07N R11E S23	
Vegetation management - Ground herbicide	176	T07N R11E S26	
Vegetation management - Ground herbicide	37	T07N R11E S26	
Vegetation management - Ground herbicide	230	T07N R11E S26	
Vegetation management - Ground herbicide	36	T07N R11E S26	
Vegetation management - Ground herbicide	101	T07N R11E S26	
Vegetation management - Ground herbicide	15	T07N R11E S26	
Vegetation management - Ground herbicide	202	T07N R11E S33	
Vegetation management - Ground herbicide	80	T07N R11E S33	
Vegetation management - Ground herbicide	43	T07N R11E S33	
Vegetation management - Ground herbicide	18	T07N R11E S34	
Vegetation management - Ground herbicide	177	T07N R11E S35	
Vegetation management - Ground herbicide	49	T07N R12E S04	
Vegetation management - Ground herbicide	114	T07N R12E S05	
Vegetation management - Ground herbicide	153	T07N R12E S06	
Vegetation management - Ground herbicide	42	T07N R12E S06	

Klickitat Planning Unit

Silvicultural Activity	Acres	Location	FPA #
Vegetation management - Ground herbicide	4	T07N R12E S06	
Vegetation management - Ground herbicide	73	T07N R12E S07	
Vegetation management - Ground herbicide	36	T07N R12E S07	
Vegetation management - Ground herbicide	34	T07N R12E S09	
Vegetation management - Ground herbicide	16	T07N R12E S17	
Vegetation management - Ground herbicide	24	T07N R12E S17	
Vegetation management - Ground herbicide	24	T07N R12E S17	
Vegetation management - Ground herbicide	9	T07N R12E S17	
Vegetation management - Ground herbicide	95	T07N R12E S18	
Vegetation management - Ground herbicide	25	T07N R12E S26	
Vegetation management - Ground herbicide	5	T07N R12E S26	
Vegetation management - Ground herbicide	9	T07N R12E S27	
Vegetation management - Hand cutting	30	T04N R10E S04	
Vegetation management - Hand cutting	42	T04N R10E S16	
Vegetation management - Hand cutting	78	T04N R10E S22	
Vegetation management - Hand cutting	134	T05N R10E S11	
Vegetation management - Hand cutting	36	T06N R10E S16	
Vegetation management - Hand cutting	356	T07N R11E S25	
Pre-commercial thinning	324	T07N R11E S25	

North Puget Planning Unit

Silvicultural Activity	Acres	Location	FPA #
Timber Harvest - Clear cut	84	T23N R07E S05	2410454
Timber Harvest - Clear cut	44	T23N R07E S09	2410636
Timber Harvest - Clear cut	42	T26N R07E S11	2411812
Timber Harvest - Clear cut	23	T26N R07E S12	2411689
Timber Harvest - Clear cut	4	T26N R08E S17	2411376
Timber Harvest - Clear cut	70	T26N R08E S17	2411376
Timber Harvest - Clear cut	10	T26N R08E S18	2411193
Timber Harvest - Clear cut	24	T26N R08E S18	2411193
Timber Harvest - Clear cut	26	T26N R08E S20	2411193
Timber Harvest - Clear cut	69	T27N R07E S36	2410855
Timber Harvest - Clear cut	40	T27N R08E S31	2410855
Timber Harvest - Clear cut	16	T28N R07E S09	2808511
Timber Harvest - Clear cut	25	T28N R07E S16	2808511
Timber Harvest - Clear cut	25	T28N R07E S16	2808511
Timber Harvest - Clear cut	41	T28N R09E S06	2807569
Timber Harvest - Clear cut	45	T28N R09E S07	2807569
Timber Harvest - Clear cut	78	T29N R07E S11	2808857
Timber Harvest - Clear cut	98	T29N R08E S19	2808590
Timber Harvest - Clear cut	75	T29N R08E S32	2808608
Timber Harvest - Clear cut	7	T30N R07E S22	2809590
Timber Harvest - Clear cut	26	T30N R07E S34	2808685
Timber Harvest - Clear cut	59	T31N R06E S14	2808105
Timber Harvest - Clear cut	37	T31N R06E S23	2808105
Timber Harvest - Clear cut	64	T32N R06E S23	2808813
Timber Harvest - Clear cut	56	T32N R06E S23	2808813
Timber Harvest - Clear cut	12	T33N R05E S12	2809017
Timber Harvest - Clear cut	75	T33N R05E S14	2809317

North Puget Planning Unit

Silvicultural Activity	Acres	Location	FPA #
Timber Harvest - Clear cut	53	T33N R05E S16	2809040
Timber Harvest - Clear cut	52	T33N R06E S25	2809167
Timber Harvest - Clear cut	42	T33N R06E S25	2809167
Timber Harvest - Clear cut	5	T34N R05E S04	2809552
Timber Harvest - Clear cut	31	T34N R05E S09	2808876
Timber Harvest - Clear cut	15	T34N R05E S09	2808876
Timber Harvest - Clear cut	55	T34N R05E S34	2809256
Timber Harvest - Clear cut	55	T34N R05E S34	2809256
Timber Harvest - Clear cut	13	T35N R06E S34	2809614
Timber Harvest - Clear cut	80	T36N R04E S03	2808499
Timber Harvest - Clear cut	54	T36N R05E S01	2808366
Timber Harvest - Clear cut	83	T36N R05E S02	2808820
Timber Harvest - Clear cut	38	T36N R05E S11	2809697
Timber Harvest - Clear cut	4	T36N R05E S13	2809697
Timber Harvest - Clear cut	35	T36N R05E S20	2808504
Timber Harvest - Clear cut	30	T36N R05E S20	2808504
Timber Harvest - Clear cut	63	T36N R06E S25	2808922
Timber Harvest - Clear cut	23	T36N R06E S26	2808922
Timber Harvest - Clear cut	50	T36N R06E S27	2808220
Timber Harvest - Clear cut	32	T36N R06E S27	2808220
Timber Harvest - Clear cut	13	T36N R06E S28	2808220
Timber Harvest - Clear cut	30	T37N R04E S13	2809676
Timber Harvest - Clear cut	17	T37N R04E S34	2808499
Timber Harvest - Clear cut	6	T37N R05E S07	2809676
Timber Harvest - Clear cut	44	T37N R05E S18	2809676
Timber Harvest - Clear cut	38	T37N R05E S19	2808881
Timber Harvest - Clear cut	20	T37N R05E S25	2808960
Timber Harvest - Clear cut	65	T37N R05E S27	2808491
Timber Harvest - Clear cut	7	T37N R06E S31	2808960
Timber Harvest - Clear cut	26	T37N R06E S31	2808960
Timber Harvest - Clear cut	53	T38N R04E S20	2808057
Timber Harvest - Clear cut	43	T38N R04E S20	2808057
Timber Harvest - Clear cut	39	T38N R04E S21	2808057
Timber Harvest - Clear cut	54	T38N R05E S24	2807585
Timber Harvest - Clear cut	56	T38N R05E S27	2808602
Timber Harvest - Clear cut	16	T39N R05E S20	2809344
Timber Harvest - Clear cut	47	T39N R05E S29	2809344
Timber Harvest - Clear cut	7	T40N R05E S13	2807543
Timber Harvest - Clear cut	56	T40N R05E S24	2807543
Timber Harvest - Clear cut	98	T40N R05E S32	2808644
Timber Harvest - Clear cut	60	T40N R06E S18	2807543
Timber Harvest - Clear cut	75	T40N R06E S18	2807543
Timber Harvest - Clear cut	40	T40N R06E S31	2809074
Timber Harvest - Late rotation thinning	45	T32N R09E S15	2808771
Timber Harvest - Late rotation thinning	67	T32N R09E S16	2808771
Timber Harvest - Late rotation thinning	128	T32N R09E S22	2808771
Timber Harvest - Salvage cut	5	T32N R06E S08	2809341
Timber Harvest - Salvage cut	28	T33N R06E S04	2808307

North Puget Planning Unit

Silvicultural Activity	Acres	Location	FPA #
Timber Harvest - Salvage cut	25	T33N R06E S04	2808307
Timber Harvest - Salvage cut	87	T33N R06E S05	2808307
Timber Harvest - Salvage cut	3	T34N R05E S04	2809552
Timber Harvest - Salvage cut	9	T34N R05E S21	2809552
Timber Harvest - Salvage cut	1	T37N R05E S10	2809314
Timber Harvest - Salvage cut	2	T37N R05E S25	2809186
Timber Harvest - Salvage cut	6	T37N R05E S36	2809186
Timber Harvest - Salvage cut	2	T37N R05E S36	2809186
Timber Harvest - Salvage cut	11	T38N R05E S15	2809314
Timber Harvest - Salvage cut	1	T38N R05E S21	2809314
Timber Harvest - Salvage cut	1	T38N R05E S21	2809314
Timber Harvest - Salvage cut	3	T38N R05E S27	2809314
Timber Harvest - Salvage cut	4	T38N R05E S34	2809314
Timber Harvest - Salvage cut	3	T39N R05E S18	2809043
Timber Harvest - Salvage cut	3	T39N R05E S18	2809043
Timber Harvest - Salvage cut	16	T39N R05E S19	2809043
Timber Harvest - Salvage cut	9	T39N R06E S08	2809223
Timber Harvest - Selective product logging	65	T33N R06E S18	2808383
Timber Harvest - Smallwood thinning	104	T23N R08E S06	2411016
Timber Harvest - Smallwood thinning	40	T32N R06E S23	2809170
Timber Harvest - Smallwood thinning	45	T32N R06E S24	2809170
Timber Harvest - Smallwood thinning	36	T32N R06E S24	2809170
Timber Harvest - Smallwood thinning	31	T32N R06E S25	2809170
Timber Harvest - Smallwood thinning	40	T32N R07E S19	2809170
Timber Harvest - Smallwood thinning	140	T33N R05E S21	2807266
Timber Harvest - Smallwood thinning	76	T38N R06E S10	2808897
Timber Harvest - Smallwood thinning	29	T38N R06E S16	2808897
Timber Harvest - Variable density thinning	112	T32N R09E S26	2808771
Timber Harvest - Variable density thinning	34	T32N R09E S27	2808771
Forest site preparation - Aerial herbicide	22	T28N R07E S14	2809240
Forest site preparation - Aerial herbicide	92	T28N R08E S18	2809240
Forest site preparation - Aerial herbicide	60	T30N R07E S21	2809240
Forest site preparation - Aerial herbicide	90	T31N R06E S01	2809240
Forest site preparation - Aerial herbicide	24	T32N R05E S02	2809240
Forest site preparation - Aerial herbicide	22	T32N R06E S04	2809240
Forest site preparation - Aerial herbicide	11	T32N R06E S04	2809240
Forest site preparation - Aerial herbicide	60	T32N R06E S04	2809240
Forest site preparation - Aerial herbicide	88	T32N R06E S06	2809240
Forest site preparation - Aerial herbicide	79	T32N R06E S08	2809240
Forest site preparation - Aerial herbicide	4	T32N R06E S09	2809240
Forest site preparation - Aerial herbicide	46	T32N R06E S27	2809240
Forest site preparation - Aerial herbicide	51	T32N R06E S27	2809240
Forest site preparation - Aerial herbicide	71	T33N R06E S30	2809240
Forest site preparation - Aerial herbicide	72	T33N R07E S19	2809240
Forest site preparation - Aerial herbicide	8	T34N R06E S03	2809240
Forest site preparation - Aerial herbicide	80	T34N R06E S09	2809240
Forest site preparation - Aerial herbicide	26	T34N R09E S01	2809240
Forest site preparation - Aerial herbicide	52	T34N R09E S12	2809240

North Puget Planning Unit

Silvicultural Activity	Acres	Location	FPA #
Forest site preparation - Aerial herbicide	14	T35N R05E S01	2809240
Forest site preparation - Aerial herbicide	24	T35N R05E S02	2809240
Forest site preparation - Aerial herbicide	22	T35N R06E S32	2809240
Forest site preparation - Aerial herbicide	2	T36N R05E S32	2809240
Forest site preparation - Aerial herbicide	25	T36N R05E S32	2809240
Forest site preparation - Aerial herbicide	47	T37N R05E S28	2809240
Forest site preparation - Aerial herbicide	44	T40N R06E S20	2809240
Forest site preparation - Ground herbicide	2	T35N R05E S01	
Forest site preparation - Ground herbicide	10	T35N R07E S01	
Forest site preparation - Ground herbicide	3	T35N R07E S01	
Forest site preparation - Ground herbicide	3	T35N R07E S02	
Forest site preparation - Ground herbicide	54	T35N R08E S01	
Forest site preparation - Ground herbicide	66	T40N R06E S18	
Forest regeneration - Hand planting	22	T23N R07E S04	
Forest regeneration - Hand planting	11	T23N R07E S05	
Forest regeneration - Hand planting	84	T23N R07E S05	
Forest regeneration - Hand planting	38	T23N R07E S09	
Forest regeneration - Hand planting	38	T26N R07E S11	
Forest regeneration - Hand planting	19	T26N R07E S12	
Forest regeneration - Hand planting	62	T26N R08E S17	
Forest regeneration - Hand planting	9	T26N R08E S18	
Forest regeneration - Hand planting	24	T26N R08E S18	
Forest regeneration - Hand planting	23	T26N R08E S20	
Forest regeneration - Hand planting	69	T27N R07E S36	
Forest regeneration - Hand planting	40	T27N R08E S31	
Forest regeneration - Hand planting	38	T28N R07E S09	
Forest regeneration - Hand planting	19	T28N R07E S14	
Forest regeneration - Hand planting	19	T28N R07E S16	
Forest regeneration - Hand planting	20	T28N R07E S16	
Forest regeneration - Hand planting	46	T28N R07E S16	
Forest regeneration - Hand planting	87	T28N R08E S18	
Forest regeneration - Hand planting	73	T29N R08E S19	
Forest regeneration - Hand planting	82	T29N R08E S22	
Forest regeneration - Hand planting	58	T29N R08E S34	
Forest regeneration - Hand planting	58	T30N R07E S21	
Forest regeneration - Hand planting	52	T30N R07E S35	
Forest regeneration - Hand planting	83	T31N R06E S01	
Forest regeneration - Hand planting	53	T31N R06E S14	
Forest regeneration - Hand planting	28	T31N R06E S23	
Forest regeneration - Hand planting	30	T32N R05E S01	
Forest regeneration - Hand planting	19	T32N R05E S02	
Forest regeneration - Hand planting	18	T32N R06E S04	
Forest regeneration - Hand planting	9	T32N R06E S04	
Forest regeneration - Hand planting	55	T32N R06E S04	
Forest regeneration - Hand planting	80	T32N R06E S06	
Forest regeneration - Hand planting	73	T32N R06E S08	
Forest regeneration - Hand planting	5	T32N R06E S08	
Forest regeneration - Hand planting	3	T32N R06E S09	

North Puget Planning Unit

Silvicultural Activity	Acres	Location	FPA #
Forest regeneration - Hand planting	42	T32N R06E S27	
Forest regeneration - Hand planting	47	T32N R06E S27	
Forest regeneration - Hand planting	35	T33N R04E S11	
Forest regeneration - Hand planting	31	T33N R05E S01	
Forest regeneration - Hand planting	20	T33N R05E S02	
Forest regeneration - Hand planting	17	T33N R05E S03	
Forest regeneration - Hand planting	30	T33N R05E S11	
Forest regeneration - Hand planting	11	T33N R06E S06	
Forest regeneration - Hand planting	63	T33N R06E S16	
Forest regeneration - Hand planting	68	T33N R06E S30	
Forest regeneration - Hand planting	30	T33N R06E S31	
Forest regeneration - Hand planting	68	T33N R07E S19	
Forest regeneration - Hand planting	81	T33N R07E S29	
Forest regeneration - Hand planting	7	T33N R10E S08	
Forest regeneration - Hand planting	56	T34N R05E S02	
Forest regeneration - Hand planting	55	T34N R05E S03	
Forest regeneration - Hand planting	30	T34N R05E S03	
Forest regeneration - Hand planting	25	T34N R05E S09	
Forest regeneration - Hand planting	45	T34N R05E S16	
Forest regeneration - Hand planting	9	T34N R05E S16	
Forest regeneration - Hand planting	4	T34N R05E S27	
Forest regeneration - Hand planting	10	T34N R05E S35	
Forest regeneration - Hand planting	8	T34N R06E S03	
Forest regeneration - Hand planting	73	T34N R06E S09	
Forest regeneration - Hand planting	24	T34N R09E S01	
Forest regeneration - Hand planting	48	T34N R09E S12	
Forest regeneration - Hand planting	16	T35N R05E S01	
Forest regeneration - Hand planting	24	T35N R05E S02	
Forest regeneration - Hand planting	20	T35N R06E S32	
Forest regeneration - Hand planting	3	T35N R07E S01	
Forest regeneration - Hand planting	10	T35N R07E S01	
Forest regeneration - Hand planting	3	T35N R07E S02	
Forest regeneration - Hand planting	54	T35N R08E S01	
Forest regeneration - Hand planting	9	T36N R04E S01	
Forest regeneration - Hand planting	14	T36N R04E S01	
Forest regeneration - Hand planting	3	T36N R04E S01	
Forest regeneration - Hand planting	14	T36N R04E S01	
Forest regeneration - Hand planting	31	T36N R05E S20	
Forest regeneration - Hand planting	13	T36N R05E S32	
Forest regeneration - Hand planting	28	T36N R05E S32	
Forest regeneration - Hand planting	23	T36N R06E S16	
Forest regeneration - Hand planting	2	T36N R06E S16	
Forest regeneration - Hand planting	27	T36N R06E S27	
Forest regeneration - Hand planting	42	T36N R06E S27	
Forest regeneration - Hand planting	11	T36N R06E S28	
Forest regeneration - Hand planting	16	T37N R04E S34	
Forest regeneration - Hand planting	3	T37N R04E S36	
Forest regeneration - Hand planting	9	T37N R04E S36	

North Puget Planning Unit

Silvicultural Activity	Acres	Location	FPA #
Forest regeneration - Hand planting	1	T37N R05E S10	
Forest regeneration - Hand planting	38	T37N R05E S19	
Forest regeneration - Hand planting	2	T37N R05E S25	
Forest regeneration - Hand planting	19	T37N R05E S25	
Forest regeneration - Hand planting	52	T37N R05E S27	
Forest regeneration - Hand planting	45	T37N R05E S28	
Forest regeneration - Hand planting	6	T37N R05E S36	
Forest regeneration - Hand planting	2	T37N R05E S36	
Forest regeneration - Hand planting	61	T37N R06E S19	
Forest regeneration - Hand planting	11	T38N R05E S15	
Forest regeneration - Hand planting	1	T38N R05E S16	
Forest regeneration - Hand planting	1	T38N R05E S21	
Forest regeneration - Hand planting	4	T38N R05E S34	
Forest regeneration - Hand planting	25	T38N R06E S16	
Forest regeneration - Hand planting	4	T38N R06E S19	
Forest regeneration - Hand planting	3	T39N R05E S18	
Forest regeneration - Hand planting	16	T39N R05E S19	
Forest regeneration - Hand planting	9	T39N R06E S08	
Forest regeneration - Hand planting	90	T40N R05E S32	
Forest regeneration - Hand planting	63	T40N R06E S18	
Forest regeneration - Hand planting	44	T40N R06E S20	
Forest regeneration - Hand planting	27	T40N R06E S29	
Forest regeneration - Hand planting	35	T40N R06E S31	
Vegetation management - Aerial herbicide	38	T35N R05E S03	2809239
Vegetation management - Aerial herbicide	33	T36N R05E S34	2809239
Vegetation management - Aerial herbicide	63	T36N R06E S16	2809239
Vegetation management - Aerial herbicide	16	T36N R06E S16	2809239
Vegetation management - Aerial herbicide	13	T39N R05E S01	2809239
Vegetation management - Aerial herbicide	31	T39N R05E S08	2809239
Vegetation management - Aerial herbicide	91	T39N R05E S14	2809239
Vegetation management - Ground herbicide	5	T23N R07E S03	
Vegetation management - Ground herbicide	39	T23N R07E S03	
Vegetation management - Ground herbicide	62	T24N R07E S34	
Vegetation management - Ground herbicide	59	T24N R07E S34	
Vegetation management - Ground herbicide	42	T26N R08E S06	
Vegetation management - Ground herbicide	99	T26N R08E S18	
Vegetation management - Ground herbicide	89	T26N R08E S19	
Vegetation management - Ground herbicide	32	T27N R08E S29	
Vegetation management - Ground herbicide	95	T28N R07E S04	
Vegetation management - Ground herbicide	3	T28N R07E S13	
Vegetation management - Ground herbicide	71	T28N R08E S04	
Vegetation management - Ground herbicide	30	T28N R08E S05	
Vegetation management - Ground herbicide	89	T28N R08E S21	
Vegetation management - Ground herbicide	70	T28N R09E S07	
Vegetation management - Ground herbicide	27	T28N R09E S32	
Vegetation management - Ground herbicide	24	T29N R07E S03	
Vegetation management - Ground herbicide	77	T29N R07E S33	
Vegetation management - Ground herbicide	19	T30N R07E S34	

North Puget Planning Unit

Silvicultural Activity	Acres	Location	FPA #
Vegetation management - Ground herbicide	44	T31N R06E S12	
Vegetation management - Ground herbicide	71	T32N R06E S02	
Vegetation management - Ground herbicide	80	T32N R06E S22	
Vegetation management - Ground herbicide	49	T32N R06E S25	
Vegetation management - Ground herbicide	34	T33N R05E S04	
Vegetation management - Ground herbicide	49	T33N R05E S15	
Vegetation management - Ground herbicide	15	T33N R05E S15	
Vegetation management - Ground herbicide	25	T33N R05E S23	
Vegetation management - Ground herbicide	20	T33N R06E S25	
Vegetation management - Ground herbicide	10	T33N R10E S15	
Vegetation management - Ground herbicide	29	T34N R05E S33	
Vegetation management - Ground herbicide	4	T34N R09E S12	
Vegetation management - Ground herbicide	71	T34N R09E S12	
Vegetation management - Ground herbicide	15	T34N R09E S12	
Vegetation management - Ground herbicide	6	T34N R09E S12	
Vegetation management - Ground herbicide	34	T35N R04E S10	
Vegetation management - Ground herbicide	6	T35N R06E S02	
Vegetation management - Ground herbicide	41	T36N R06E S06	
Vegetation management - Ground herbicide	25	T36N R06E S07	
Vegetation management - Ground herbicide	6	T36N R06E S16	
Vegetation management - Ground herbicide	39	T36N R06E S28	
Vegetation management - Ground herbicide	88	T37N R05E S10	
Vegetation management - Ground herbicide	21	T37N R05E S36	
Vegetation management - Ground herbicide	6	T37N R05E S36	
Vegetation management - Ground herbicide	19	T37N R05E S36	
Vegetation management - Ground herbicide	12	T37N R05E S36	
Vegetation management - Ground herbicide	64	T37N R06E S19	
Vegetation management - Ground herbicide	10	T37N R06E S19	
Vegetation management - Ground herbicide	47	T37N R06E S31	
Vegetation management - Ground herbicide	24	T38N R05E S21	
Vegetation management - Ground herbicide	3	T39N R05E S01	
Vegetation management - Ground herbicide	63	T39N R05E S12	
Vegetation management - Ground herbicide	11	T39N R05E S34	
Vegetation management - Ground herbicide	45	T39N R05E S34	
Vegetation management - Ground herbicide	20	T40N R05E S04	
Vegetation management - Ground herbicide	54	T40N R05E S24	
Vegetation management - Ground herbicide	17	T40N R05E S24	
Vegetation management - Ground herbicide	37	T40N R05E S25	
Vegetation management - Ground herbicide	40	T40N R05E S26	
Vegetation management - Ground herbicide	55	T40N R06E S18	
Vegetation management - Ground herbicide	7	T40N R06E S29	
Vegetation management - Hand cutting	20	T23N R07E S03	
Vegetation management - Hand cutting	35	T23N R07E S16	
Vegetation management - Hand cutting	19	T23N R07E S16	
Vegetation management - Hand cutting	35	T23N R09E S21	
Vegetation management - Hand cutting	80	T24N R07E S17	
Vegetation management - Hand cutting	144	T24N R07E S17	
Vegetation management - Hand cutting	6	T26N R07E S11	

North Puget Planning Unit

Silvicultural Activity	Acres	Location	FPA #
Vegetation management - Hand cutting	9	T26N R08E S18	
Vegetation management - Hand cutting	18	T26N R08E S18	
Vegetation management - Hand cutting	9	T26N R08E S18	
Vegetation management - Hand cutting	69	T26N R08E S19	
Vegetation management - Hand cutting	42	T26N R08E S19	
Vegetation management - Hand cutting	70	T26N R08E S20	
Vegetation management - Hand cutting	25	T27N R08E S31	
Vegetation management - Hand cutting	15	T27N R08E S32	
Vegetation management - Hand cutting	16	T28N R07E S02	
Vegetation management - Hand cutting	10	T28N R07E S02	
Vegetation management - Hand cutting	55	T28N R08E S14	
Vegetation management - Hand cutting	19	T29N R07E S02	
Vegetation management - Hand cutting	9	T31N R06E S02	
Vegetation management - Hand cutting	45	T32N R09E S05	
Vegetation management - Hand cutting	15	T32N R09E S09	
Vegetation management - Hand cutting	65	T32N R09E S20	
Vegetation management - Hand cutting	71	T33N R05E S29	
Vegetation management - Hand cutting	7	T33N R05E S35	
Vegetation management - Hand cutting	14	T33N R05E S35	
Vegetation management - Hand cutting	5	T33N R06E S21	
Vegetation management - Hand cutting	17	T33N R09E S36	
Vegetation management - Hand cutting	51	T33N R09E S36	
Vegetation management - Hand cutting	25	T33N R10E S17	
Vegetation management - Hand cutting	56	T33N R10E S19	
Vegetation management - Hand cutting	81	T33N R10E S21	
Vegetation management - Hand cutting	4	T33N R10E S28	
Vegetation management - Hand cutting	4	T33N R10E S28	
Vegetation management - Hand cutting	9	T34N R05E S21	
Vegetation management - Hand cutting	91	T35N R06E S01	
Vegetation management - Hand cutting	44	T36N R03E S11	
Vegetation management - Hand cutting	13	T36N R04E S09	
Vegetation management - Hand cutting	22	T36N R04E S09	
Vegetation management - Hand cutting	26	T36N R04E S16	
Vegetation management - Hand cutting	25	T36N R05E S08	
Vegetation management - Hand cutting	27	T36N R06E S07	
Vegetation management - Hand cutting	26	T36N R06E S18	
Vegetation management - Hand cutting	66	T36N R06E S36	
Vegetation management - Hand cutting	39	T37N R04E S25	
Vegetation management - Hand cutting	16	T37N R05E S15	
Vegetation management - Hand cutting	18	T37N R05E S21	
Vegetation management - Hand cutting	8	T37N R05E S22	
Vegetation management - Hand cutting	57	T37N R05E S22	
Vegetation management - Hand cutting	49	T37N R05E S26	
Vegetation management - Hand cutting	65	T37N R05E S28	
Vegetation management - Hand cutting	11	T37N R05E S31	
Vegetation management - Hand cutting	40	T37N R05E S33	
Vegetation management - Hand cutting	24	T37N R05E S33	
Vegetation management - Hand cutting	31	T37N R05E S34	

North Puget Planning Unit

Silvicultural Activity	Acres	Location	FPA #
Vegetation management - Hand cutting	61	T38N R05E S10	
Vegetation management - Hand cutting	29	T38N R05E S15	
Vegetation management - Hand cutting	47	T38N R05E S15	
Vegetation management - Hand cutting	28	T38N R05E S16	
Vegetation management - Hand cutting	79	T38N R05E S22	
Vegetation management - Hand cutting	26	T38N R05E S24	
Vegetation management - Hand cutting	21	T38N R06E S19	
Vegetation management - Hand cutting	20	T39N R05E S10	
Vegetation management - Hand cutting	52	T39N R06E S04	
Vegetation management - Hand cutting	53	T39N R06E S05	
Vegetation management - Hand cutting	30	T40N R05E S04	
Vegetation management - Hand cutting	12	T40N R05E S04	
Vegetation management - Hand cutting	15	T40N R05E S05	
Vegetation management - Hand cutting	5	T40N R05E S25	
Vegetation management - Hand cutting	11	T40N R05E S29	
Vegetation management - Hand cutting	22	T40N R06E S20	
Vegetation management - Hand cutting	7	T40N R06E S20	
Pre-commercial thinning	14	T23N R09E S02	
Pre-commercial thinning	26	T26N R08E S07	
Pre-commercial thinning	44	T26N R08E S08	
Pre-commercial thinning	19	T26N R08E S17	
Pre-commercial thinning	41	T27N R07E S25	
Pre-commercial thinning	18	T27N R07E S36	
Pre-commercial thinning	64	T27N R08E S32	
Pre-commercial thinning	23	T31N R06E S02	
Pre-commercial thinning	38	T31N R06E S03	
Pre-commercial thinning	9	T37N R04E S23	
Pre-commercial thinning	3	T37N R04E S23	
Pre-commercial thinning	52	T39N R06E S20	
Pre-commercial thinning	56	T39N R06E S27	
Pre-commercial thinning	28	T39N R06E S29	
Pre-commercial thinning	20	T40N R04E S36	

Olympic Experimental State Forest Planning Unit

Silvicultural Activity	Acres	Location	FPA #
Timber Harvest - Clear cut	1	T25N R12W S26	2608531
Timber Harvest - Clear cut	1	T25N R12W S26	2608531
Timber Harvest - Clear cut	1	T25N R12W S26	2608531
Timber Harvest - Clear cut	0	T25N R12W S27	2608531
Timber Harvest - Clear cut	0	T25N R12W S27	2608531
Timber Harvest - Clear cut	4	T27N R12W S28	2608611
Timber Harvest - Clear cut	33	T29N R13W S01	2608073
Timber Harvest - Clear cut	37	T29N R13W S01	2608073
Timber Harvest - Clear cut	9	T29N R13W S12	2608384
Timber Harvest - Clear cut	22	T29N R13W S12	2608073
Timber Harvest - Clear cut	37	T29N R13W S12	2608073
Timber Harvest - Clear cut	5	T30N R11W S25	2608386
Timber Harvest - Clear cut	25	T30N R12W S31	2608503
Timber Harvest - Clear cut	3	T30N R12W S32	2608417

Olympic Experimental State Forest Planning Unit

Silvicultural Activity	Acres	Location	FPA #
Timber Harvest - Clear cut	23	T30N R12W S32	2608503
Timber Harvest - Clear cut	31	T30N R12W S32	2608503
Timber Harvest - Clear cut	7	T30N R13W S19	2608420
Timber Harvest - Clear cut	14	T30N R14W S35	2608532
Timber Harvest - Clear cut	30	T31N R12W S08	2606483
Timber Harvest - Clear cut	31	T31N R12W S17	2606483
Timber Harvest - Clear cut	64	T31N R12W S17	2606483
Timber Harvest - Clear cut	91	T31N R12W S18	2606483
Timber Harvest - Clear cut	23	T32N R13W S16	2607893
Timber Harvest - Clear cut	32	T32N R13W S16	2607893
Timber Harvest - Salvage cut	9	T29N R13W S12	Missing
Timber Harvest - Salvage cut	6	T29N R14W S16	2608612
Timber Harvest - Salvage cut	17	T29N R14W S16	2608612
Timber Harvest - Salvage cut	5	T29N R14W S16	2608612
Timber Harvest - Salvage cut	4	T29N R14W S21	2608612
Timber Harvest - Salvage cut	81	T32N R13W S18	2608216
Forest site preparation - Ground herbicide	64	T31N R12W S17	
Forest regeneration - Hand planting	1	T25N R12W S26	
Forest regeneration - Hand planting	1	T25N R12W S26	
Forest regeneration - Hand planting	1	T25N R12W S26	
Forest regeneration - Hand planting	4	T25N R12W S34	
Forest regeneration - Hand planting	3	T27N R12W S28	
Forest regeneration - Hand planting	2	T27N R12W S28	
Forest regeneration - Hand planting	2	T27N R12W S28	
Forest regeneration - Hand planting	9	T27N R12W S28	
Forest regeneration - Hand planting	4	T27N R12W S28	
Forest regeneration - Hand planting	2	T27N R13W S06	
Forest regeneration - Hand planting	1	T28N R14W S36	
Forest regeneration - Hand planting	1	T28N R14W S36	
Forest regeneration - Hand planting	37	T29N R13W S01	
Forest regeneration - Hand planting	33	T29N R13W S01	
Forest regeneration - Hand planting	37	T29N R13W S12	
Forest regeneration - Hand planting	9	T29N R13W S12	
Forest regeneration - Hand planting	22	T29N R13W S12	
Forest regeneration - Hand planting	5	T29N R14W S16	
Forest regeneration - Hand planting	17	T29N R14W S16	
Forest regeneration - Hand planting	6	T29N R14W S16	
Forest regeneration - Hand planting	15	T29N R14W S16	
Forest regeneration - Hand planting	3	T29N R14W S16	
Forest regeneration - Hand planting	10	T29N R14W S16	
Forest regeneration - Hand planting	4	T29N R14W S21	
Forest regeneration - Hand planting	5	T30N R11W S25	
Forest regeneration - Hand planting	13	T30N R11W S29	
Forest regeneration - Hand planting	14	T30N R12W S18	
Forest regeneration - Hand planting	8	T30N R12W S18	
Forest regeneration - Hand planting	26	T30N R12W S32	
Forest regeneration - Hand planting	23	T30N R12W S32	
Forest regeneration - Hand planting	3	T30N R12W S32	

Olympic Experimental State Forest Planning Unit

Silvicultural Activity	Acres	Location	FPA #
Forest regeneration - Hand planting	6	T30N R12W S35	
Forest regeneration - Hand planting	89	T30N R13W S17	
Forest regeneration - Hand planting	7	T30N R13W S19	
Forest regeneration - Hand planting	14	T30N R14W S35	
Forest regeneration - Hand planting	15	T31N R12W S09	
Forest regeneration - Hand planting	58	T31N R12W S16	
Forest regeneration - Hand planting	64	T31N R12W S17	
Forest regeneration - Hand planting	46	T31N R12W S18	
Forest regeneration - Hand planting	20	T32N R13W S16	
Forest regeneration - Hand planting	30	T32N R13W S16	
Forest regeneration - Natural regeneration	50	T31N R13W S02	
Forest regeneration - Natural regeneration	64	T31N R13W S11	
Vegetation management - Ground herbicide	11	T30N R11W S29	
Vegetation management - Ground herbicide	5	T30N R11W S31	
Vegetation management - Ground herbicide	4	T30N R12W S36	
Vegetation management - Ground herbicide	89	T30N R13W S17	
Vegetation management - Ground herbicide	2	T31N R12W S16	
Vegetation management - Hand cutting	12	T30N R11W S25	
Vegetation management - Hand cutting	11	T30N R11W S29	
Vegetation management - Hand cutting	2	T30N R11W S31	
Pre-commercial thinning	21	T24N R12W S29	
Pre-commercial thinning	45	T24N R12W S29	
Pre-commercial thinning	14	T25N R10W S01	
Pre-commercial thinning	30	T25N R10W S01	
Pre-commercial thinning	8	T25N R10W S01	
Pre-commercial thinning	117	T25N R10W S01	
Pre-commercial thinning	8	T25N R10W S01	
Pre-commercial thinning	9	T25N R11W S34	
Pre-commercial thinning	35	T25N R12W S08	
Pre-commercial thinning	7	T25N R12W S15	
Pre-commercial thinning	131	T25N R12W S16	
Pre-commercial thinning	9	T25N R12W S16	
Pre-commercial thinning	66	T25N R12W S17	
Pre-commercial thinning	4	T25N R12W S17	
Pre-commercial thinning	19	T25N R12W S17	
Pre-commercial thinning	75	T25N R12W S17	
Pre-commercial thinning	2	T25N R12W S19	
Pre-commercial thinning	55	T25N R12W S20	
Pre-commercial thinning	39	T25N R12W S31	
Pre-commercial thinning	9	T25N R12W S31	
Pre-commercial thinning	13	T25N R12W S31	
Pre-commercial thinning	9	T25N R12W S31	
Pre-commercial thinning	21	T25N R12W S31	
Pre-commercial thinning	48	T25N R13W S01	
Pre-commercial thinning	60	T25N R13W S12	
Pre-commercial thinning	76	T25N R13W S12	
Pre-commercial thinning	11	T25N R13W S13	
Pre-commercial thinning	4	T25N R13W S13	

Olympic Experimental State Forest Planning Unit

Silvicultural Activity	Acres	Location	FPA #
Pre-commercial thinning	8	T25N R13W S13	
Pre-commercial thinning	36	T25N R13W S13	
Pre-commercial thinning	113	T25N R13W S14	
Pre-commercial thinning	29	T26N R09W S31	
Pre-commercial thinning	5	T26N R09W S31	
Pre-commercial thinning	20	T26N R09W S31	
Pre-commercial thinning	22	T26N R09W S31	
Pre-commercial thinning	65	T26N R09W S31	
Pre-commercial thinning	5	T26N R09W S31	
Pre-commercial thinning	5	T26N R10W S25	
Pre-commercial thinning	93	T26N R10W S25	
Pre-commercial thinning	75	T26N R10W S25	
Pre-commercial thinning	4	T26N R10W S36	
Pre-commercial thinning	2	T26N R10W S36	
Pre-commercial thinning	18	T26N R10W S36	
Pre-commercial thinning	41	T26N R10W S36	
Pre-commercial thinning	2	T26N R10W S36	
Pre-commercial thinning	11	T26N R10W S36	
Pre-commercial thinning	71	T26N R10W S36	
Pre-commercial thinning	5	T26N R10W S36	
Pre-commercial thinning	77	T26N R10W S36	
Pre-commercial thinning	4	T26N R10W S36	
Pre-commercial thinning	45	T26N R10W S36	
Pre-commercial thinning	70	T26N R10W S36	
Pre-commercial thinning	41	T26N R11W S02	
Pre-commercial thinning	56	T26N R11W S02	
Pre-commercial thinning	26	T26N R11W S20	
Pre-commercial thinning	6	T26N R11W S21	
Pre-commercial thinning	39	T26N R11W S21	
Pre-commercial thinning	15	T26N R11W S33	
Pre-commercial thinning	43	T26N R12W S14	
Pre-commercial thinning	4	T26N R12W S14	
Pre-commercial thinning	9	T26N R13W S02	
Pre-commercial thinning	257	T26N R13W S02	
Pre-commercial thinning	79	T26N R13W S36	
Pre-commercial thinning	12	T27N R12W S15	
Pre-commercial thinning	20	T27N R12W S15	
Pre-commercial thinning	24	T27N R12W S15	
Pre-commercial thinning	33	T27N R12W S16	
Pre-commercial thinning	10	T27N R12W S21	
Pre-commercial thinning	40	T27N R12W S35	
Pre-commercial thinning	86	T27N R12W S35	
Pre-commercial thinning	11	T27N R12W S36	
Pre-commercial thinning	35	T27N R12W S36	
Pre-commercial thinning	14	T27N R12W S36	
Pre-commercial thinning	6	T27N R12W S36	
Pre-commercial thinning	25	T27N R13W S06	
Pre-commercial thinning	102	T27N R13W S17	

Olympic Experimental State Forest Planning Unit

Silvicultural Activity	Acres	Location	FPA #
Pre-commercial thinning	96	T27N R13W S20	
Pre-commercial thinning	45	T27N R13W S36	
Pre-commercial thinning	13	T28N R13W S19	
Pre-commercial thinning	11	T28N R13W S19	
Pre-commercial thinning	41	T28N R13W S19	
Pre-commercial thinning	2	T28N R13W S22	
Pre-commercial thinning	116	T28N R13W S22	
Pre-commercial thinning	44	T28N R13W S30	
Pre-commercial thinning	7	T28N R13W S34	
Pre-commercial thinning	45	T28N R14W S18	
Pre-commercial thinning	41	T28N R14W S19	
Pre-commercial thinning	65	T28N R14W S31	
Pre-commercial thinning	77	T29N R15W S09	
Pre-commercial thinning	14	T29N R15W S09	
Pre-commercial thinning	63	T29N R15W S16	

South Coast Planning Unit

Silvicultural Activity	Acres	Location	FPA #
Timber Harvest - Clear cut	37	T11N R09W S04	2913956
Timber Harvest - Clear cut	99	T11N R09W S08	2912638
Timber Harvest - Clear cut	30	T11N R09W S17	2912638
Timber Harvest - Clear cut	1	T11N R09W S27	2914858
Timber Harvest - Clear cut	5	T11N R09W S27	2914858
Timber Harvest - Clear cut	62	T11N R09W S27	2914858
Timber Harvest - Clear cut	1	T11N R09W S28	2914858
Timber Harvest - Clear cut	80	T13N R04W S16	2914588
Timber Harvest - Clear cut	46	T13N R04W S16	2914588
Timber Harvest - Clear cut	27	T13N R05W S17	2916874
Timber Harvest - Clear cut	27	T13N R06W S25	2913041
Timber Harvest - Clear cut	47	T13N R06W S26	2913041
Timber Harvest - Clear cut	64	T13N R07W S02	2913444
Timber Harvest - Clear cut	27	T13N R07W S02	2913444
Timber Harvest - Clear cut	45	T13N R07W S03	2913444
Timber Harvest - Clear cut	44	T13N R07W S03	2913444
Timber Harvest - Clear cut	14	T13N R07W S16	2913835
Timber Harvest - Clear cut	17	T13N R07W S16	2913835
Timber Harvest - Clear cut	24	T13N R07W S17	2913835
Timber Harvest - Clear cut	25	T13N R07W S17	2913835
Timber Harvest - Clear cut	50	T13N R07W S17	2913835
Timber Harvest - Clear cut	90	T13N R08W S07	2914774
Timber Harvest - Clear cut	80	T13N R08W S07	2916398
Timber Harvest - Clear cut	44	T13N R08W S17	2916398
Timber Harvest - Clear cut	70	T13N R08W S18	2914774
Timber Harvest - Clear cut	33	T13N R08W S20	2914774
Timber Harvest - Clear cut	26	T14N R01W S05	2915358
Timber Harvest - Clear cut	16	T14N R01W S05	2915358
Timber Harvest - Clear cut	38	T14N R01W S06	2915358
Timber Harvest - Clear cut	10	T14N R01W S08	2915358
Timber Harvest - Clear cut	17	T14N R01W S08	2915358

South Coast Planning Unit

Silvicultural Activity	Acres	Location	FPA #
Timber Harvest - Clear cut	93	T14N R04W S10	2914313
Timber Harvest - Clear cut	60	T14N R04W S11	2914313
Timber Harvest - Clear cut	95	T15N R01E S04	2913449
Timber Harvest - Clear cut	75	T15N R01E S08	2913449
Timber Harvest - Clear cut	82	T16N R04W S08	2915026
Timber Harvest - Clear cut	3	T16N R04W S23	2914769
Timber Harvest - Clear cut	24	T16N R04W S23	2914769
Timber Harvest - Clear cut	61	T17N R03W S18	2914359
Timber Harvest - Clear cut	10	T17N R03W S18	2914359
Timber Harvest - Clear cut	39	T17N R04W S12	2914359
Timber Harvest - Clear cut	67	T17N R04W S13	2914359
Timber Harvest - Clear cut	67	T17N R04W S13	2914359
Timber Harvest - Clear cut	76	T17N R04W S14	2914359
Timber Harvest - Clear cut	4	T17N R04W S15	2914033
Timber Harvest - Clear cut	90	T17N R04W S17	2914033
Timber Harvest - Clear cut	33	T17N R04W S29	2914033
Timber Harvest - Clear cut	62	T17N R04W S32	2914033
Timber Harvest - Clear cut	52	T17N R04W S36	2914769
Timber Harvest - Clear cut	61	T18N R03W S29	2914713
Timber Harvest - Clear cut	44	T18N R03W S32	2914713
Timber Harvest - Salvage cut	5	T11N R09W S04	2917269
Timber Harvest - Salvage cut	12	T11N R09W S08	2917482
Timber Harvest - Salvage cut	3	T11N R09W S09	2917482
Timber Harvest - Salvage cut	20	T13N R08W S17	2916398
Timber Harvest - Salvage cut	11	T13N R08W S17	2916398
Timber Harvest - Salvage cut	5	T13N R08W S17	2916398
Timber Harvest - Salvage cut	19	T13N R08W S17	2916398
Timber Harvest - Salvage cut	3	T13N R08W S17	2916398
Timber Harvest - Salvage cut	5	T13N R08W S17	2916398
Timber Harvest - Salvage cut	30	T13N R08W S18	2916398
Timber Harvest - Salvage cut	32	T13N R08W S18	2916398
Timber Harvest - Salvage cut	3	T15N R04W S17	2916330
Timber Harvest - Salvage cut	5	T15N R04W S18	2916330
Timber Harvest - Salvage cut	4	T15N R04W S20	2916330
Timber Harvest - Salvage cut	18	T15N R05W S03	2916330
Timber Harvest - Salvage cut	97	T17N R04W S05	2916331
Timber Harvest - Salvage cut	48	T17N R04W S05	2916437
Timber Harvest - Salvage cut	10	T17N R04W S05	2916331
Timber Harvest - Salvage cut	51	T17N R04W S06	2916437
Timber Harvest - Salvage cut	0	T18N R03W S28	2916329
Timber Harvest - Salvage cut	79	T18N R04W S30	2916436
Timber Harvest - Salvage cut	85	T18N R04W S31	2916436
Timber Harvest - Salvage cut	37	T18N R04W S33	2916437
Timber Harvest - Salvage cut	62	T18N R04W S34	2916437
Timber Harvest - Salvage cut	84	T18N R05W S36	2916331
Timber Harvest - Smallwood thinning	46	T11N R08W S27	2913041
Timber Harvest - Smallwood thinning	4	T11N R08W S27	2913041
Timber Harvest - Smallwood thinning	196	T12N R03W S23	2913908

South Coast Planning Unit

Silvicultural Activity	Acres	Location	FPA #
Forest site preparation - Aerial herbicide	80	T12N R03W S16	2915954
Forest site preparation - Aerial herbicide	80	T14N R04W S25	2915954
Forest site preparation - Aerial herbicide	97	T14N R05W S14	2915954
Forest site preparation - Aerial herbicide	48	T14N R05W S15	2915954
Forest site preparation - Aerial herbicide	77	T14N R05W S23	2915954
Forest site preparation - Aerial herbicide	86	T15N R01E S04	2915956
Forest site preparation - Aerial herbicide	70	T15N R01E S08	2915956
Forest site preparation - Aerial herbicide	57	T15N R04W S17	2915956
Forest site preparation - Aerial herbicide	29	T15N R04W S18	2915956
Forest site preparation - Aerial herbicide	16	T15N R05W S25	2915954
Forest site preparation - Aerial herbicide	7	T15N R05W S25	2915954
Forest site preparation - Aerial herbicide	99	T15N R05W S34	2915954
Forest site preparation - Aerial herbicide	42	T15N R05W S36	2915954
Forest site preparation - Aerial herbicide	50	T16N R01W S35	2915956
Forest site preparation - Aerial herbicide	37	T16N R01W S35	2915956
Forest site preparation - Aerial herbicide	52	T16N R04W S14	2915956
Forest site preparation - Aerial herbicide	39	T16N R05W S27	2915956
Forest site preparation - Aerial herbicide	32	T16N R05W S27	2915956
Forest site preparation - Aerial herbicide	21	T16N R05W S28	2915956
Forest site preparation - Aerial herbicide	39	T16N R05W S35	2915956
Forest site preparation - Aerial herbicide	41	T17N R03W S16	2915956
Forest site preparation - Aerial herbicide	55	T17N R04W S03	2915956
Forest site preparation - Aerial herbicide	49	T17N R04W S06	2915956
Forest site preparation - Aerial herbicide	43	T17N R05W S01	2915956
Forest site preparation - Aerial herbicide	45	T17N R05W S12	2915956
Forest site preparation - Aerial herbicide	56	T17N R05W S13	2915956
Forest site preparation - Aerial herbicide	83	T18N R04W S20	2915956
Forest site preparation - Aerial herbicide	82	T18N R04W S21	2915956
Forest site preparation - Aerial herbicide	62	T18N R04W S32	2915956
Forest site preparation - Aerial herbicide	51	T18N R04W S33	2915956
Forest site preparation - Ground herbicide	16	T13N R03W S21	
Forest site preparation - Ground herbicide	6	T13N R03W S21	
Forest site preparation - Ground herbicide	5	T13N R06W S20	
Forest site preparation - Ground herbicide	44	T13N R07W S03	
Forest site preparation - Ground herbicide	25	T13N R07W S17	
Forest site preparation - Ground herbicide	25	T13N R07W S17	
Forest site preparation - Ground herbicide	24	T13N R07W S22	
Forest site preparation - Ground herbicide	12	T14N R05W S15	
Forest site preparation - Ground herbicide	8	T14N R05W S15	
Forest site preparation - Ground herbicide	80	T15N R03W S16	
Forest site preparation - Ground herbicide	57	T15N R05W S03	
Forest site preparation - Ground herbicide	48	T16N R03W S04	
Forest site preparation - Ground herbicide	29	T16N R03W S04	
Forest site preparation - Ground herbicide	57	T16N R03W S06	
Forest site preparation - Ground herbicide	45	T16N R03W S06	
Forest site preparation - Hand cutting	7	T11N R09W S33	
Forest site preparation - Pile and burn	6	T11N R09W S04	
Forest site preparation - Pile and burn	10	T11N R09W S04	

South Coast Planning Unit

Silvicultural Activity	Acres	Location	FPA #
Forest site preparation - Pile and burn	5	T11N R09W S04	
Forest site preparation - Pile and burn	5	T11N R09W S17	
Forest site preparation - Pile and burn	3	T11N R09W S33	
Forest site preparation - Pile and burn	8	T11N R09W S33	
Forest site preparation - Pile and burn	18	T12N R08W S03	
Forest site preparation - Pile and burn	20	T12N R08W S03	
Forest site preparation - Pile and burn	2	T12N R08W S14	
Forest site preparation - Pile and burn	25	T12N R08W S15	
Forest site preparation - Pile and burn	2	T13N R06W S29	
Forest site preparation - Pile and burn	1	T13N R06W S29	
Forest site preparation - Pile and burn	27	T13N R07W S02	
Forest site preparation - Pile and burn	15	T13N R07W S02	
Forest site preparation - Pile and burn	20	T13N R07W S03	
Forest site preparation - Pile and burn	20	T13N R07W S03	
Forest site preparation - Pile and burn	10	T13N R07W S16	
Forest site preparation - Pile and burn	8	T13N R07W S16	
Forest site preparation - Pile and burn	25	T13N R07W S17	
Forest site preparation - Pile and burn	20	T13N R07W S17	
Forest site preparation - Pile and burn	24	T13N R07W S17	
Forest site preparation - Pile and burn	50	T13N R08W S17	
Forest site preparation - Pile and burn	2	T13N R08W S20	
Forest site preparation - Pile and burn	5	T13N R08W S20	
Forest site preparation - Pile and burn	15	T13N R08W S20	
Forest site preparation - Pile and burn	8	T13N R08W S20	
Forest site preparation - Pile and burn	33	T13N R08W S21	
Forest site preparation - Pile and burn	25	T13N R08W S21	
Forest site preparation - Pile and burn	13	T13N R08W S28	
Forest site preparation - Pile and burn	80	T14N R04W S25	
Forest site preparation - Pile and burn	15	T14N R05W S15	
Forest site preparation - Pile and burn	95	T15N R01E S04	
Forest site preparation - Pile and burn	75	T15N R01E S08	
Forest site preparation - Pile and burn	30	T15N R03W S16	
Forest site preparation - Pile and burn	95	T15N R04W S17	
Forest site preparation - Pile and burn	29	T15N R04W S18	
Forest site preparation - Pile and burn	7	T15N R05W S25	
Forest site preparation - Pile and burn	5	T15N R05W S25	
Forest site preparation - Pile and burn	38	T15N R05W S25	
Forest site preparation - Pile and burn	15	T15N R05W S34	
Forest site preparation - Pile and burn	10	T15N R05W S36	
Forest site preparation - Pile and burn	56	T16N R01W S35	
Forest site preparation - Pile and burn	37	T16N R01W S35	
Forest site preparation - Pile and burn	45	T16N R03W S06	
Forest site preparation - Pile and burn	55	T17N R04W S03	
Forest site preparation - Pile and burn	55	T17N R04W S03	
Forest site preparation - Pile and burn	2	T17N R04W S03	
Forest site preparation - Pile and burn	16	T17N R04W S03	
Forest site preparation - Pile and burn	31	T17N R04W S03	
Forest site preparation - Pile and burn	49	T17N R04W S06	

South Coast Planning Unit

Silvicultural Activity	Acres	Location	FPA #
Forest site preparation - Pile and burn	43	T17N R05W S01	
Forest site preparation - Pile and burn	47	T17N R05W S01	
Forest site preparation - Pile and burn	56	T17N R05W S13	
Forest site preparation - Pile and burn	83	T18N R04W S20	
Forest site preparation - Pile and burn	11	T18N R04W S35	
Forest regeneration - Hand planting	37	T11N R09W S04	
Forest regeneration - Hand planting	6	T11N R09W S14	
Forest regeneration - Hand planting	30	T11N R09W S17	
Forest regeneration - Hand planting	59	T11N R09W S33	
Forest regeneration - Hand planting	22	T11N R09W S33	
Forest regeneration - Hand planting	22	T11N R09W S33	
Forest regeneration - Hand planting	69	T12N R03W S16	
Forest regeneration - Hand planting	65	T12N R08W S03	
Forest regeneration - Hand planting	21	T12N R08W S03	
Forest regeneration - Hand planting	12	T12N R08W S14	
Forest regeneration - Hand planting	49	T12N R08W S15	
Forest regeneration - Hand planting	6	T13N R03W S21	
Forest regeneration - Hand planting	16	T13N R03W S21	
Forest regeneration - Hand planting	5	T13N R06W S20	
Forest regeneration - Hand planting	65	T13N R07W S02	
Forest regeneration - Hand planting	27	T13N R07W S02	
Forest regeneration - Hand planting	44	T13N R07W S03	
Forest regeneration - Hand planting	45	T13N R07W S03	
Forest regeneration - Hand planting	1	T13N R07W S14	
Forest regeneration - Hand planting	9	T13N R07W S16	
Forest regeneration - Hand planting	4	T13N R07W S16	
Forest regeneration - Hand planting	17	T13N R07W S16	
Forest regeneration - Hand planting	25	T13N R07W S17	
Forest regeneration - Hand planting	24	T13N R07W S17	
Forest regeneration - Hand planting	50	T13N R07W S17	
Forest regeneration - Hand planting	24	T13N R07W S22	
Forest regeneration - Hand planting	50	T13N R08W S17	
Forest regeneration - Hand planting	6	T13N R08W S20	
Forest regeneration - Hand planting	33	T13N R08W S20	
Forest regeneration - Hand planting	19	T13N R08W S20	
Forest regeneration - Hand planting	8	T13N R08W S20	
Forest regeneration - Hand planting	3	T13N R08W S21	
Forest regeneration - Hand planting	1	T13N R08W S21	
Forest regeneration - Hand planting	1	T13N R08W S28	
Forest regeneration - Hand planting	75	T14N R04W S25	
Forest regeneration - Hand planting	97	T14N R05W S14	
Forest regeneration - Hand planting	8	T14N R05W S15	
Forest regeneration - Hand planting	48	T14N R05W S15	
Forest regeneration - Hand planting	12	T14N R05W S15	
Forest regeneration - Hand planting	77	T14N R05W S23	
Forest regeneration - Hand planting	86	T15N R01E S04	
Forest regeneration - Hand planting	70	T15N R01E S08	
Forest regeneration - Hand planting	80	T15N R03W S16	

South Coast Planning Unit

Silvicultural Activity	Acres	Location	FPA #
Forest regeneration - Hand planting	57	T15N R04W S17	
Forest regeneration - Hand planting	29	T15N R04W S18	
Forest regeneration - Hand planting	57	T15N R05W S03	
Forest regeneration - Hand planting	2	T15N R05W S25	
Forest regeneration - Hand planting	1	T15N R05W S25	
Forest regeneration - Hand planting	7	T15N R05W S25	
Forest regeneration - Hand planting	16	T15N R05W S25	
Forest regeneration - Hand planting	2	T15N R05W S25	
Forest regeneration - Hand planting	95	T15N R05W S34	
Forest regeneration - Hand planting	42	T15N R05W S36	
Forest regeneration - Hand planting	37	T16N R01W S35	
Forest regeneration - Hand planting	50	T16N R01W S35	
Forest regeneration - Hand planting	48	T16N R03W S04	
Forest regeneration - Hand planting	29	T16N R03W S04	
Forest regeneration - Hand planting	53	T16N R03W S06	
Forest regeneration - Hand planting	45	T16N R03W S06	
Forest regeneration - Hand planting	2	T16N R03W S16	
Forest regeneration - Hand planting	52	T16N R04W S14	
Forest regeneration - Hand planting	4	T16N R05W S11	
Forest regeneration - Hand planting	39	T16N R05W S27	
Forest regeneration - Hand planting	32	T16N R05W S27	
Forest regeneration - Hand planting	21	T16N R05W S28	
Forest regeneration - Hand planting	39	T16N R05W S35	
Forest regeneration - Hand planting	41	T17N R03W S16	
Forest regeneration - Hand planting	12	T17N R03W S28	
Forest regeneration - Hand planting	55	T17N R04W S03	
Forest regeneration - Hand planting	46	T17N R04W S06	
Forest regeneration - Hand planting	43	T17N R05W S01	
Forest regeneration - Hand planting	45	T17N R05W S12	
Forest regeneration - Hand planting	53	T17N R05W S13	
Forest regeneration - Hand planting	3	T18N R03W S33	
Forest regeneration - Hand planting	83	T18N R04W S20	
Forest regeneration - Hand planting	82	T18N R04W S21	
Forest regeneration - Hand planting	62	T18N R04W S32	
Forest regeneration - Hand planting	51	T18N R04W S33	
Forest regeneration - Hand planting	35	T19N R10W S36	
Vegetation management - Aerial herbicide	46	T16N R04W S06	2915956
Vegetation management - Aerial herbicide	61	T16N R05W S32	2915956
Vegetation management - Aerial herbicide	35	T17N R03W S05	2915956
Vegetation management - Aerial herbicide	25	T17N R04W S05	2915956
Vegetation management - Aerial herbicide	65	T17N R04W S28	2915956
Vegetation management - Aerial herbicide	61	T17N R04W S32	2915956
Vegetation management - Aerial herbicide	12	T17N R04W S35	2915956
Vegetation management - Aerial herbicide	81	T17N R05W S25	2915956
Vegetation management - Aerial herbicide	66	T18N R03W S31	2915956
Vegetation management - Aerial herbicide	24	T18N R04W S20	2915956
Vegetation management - Aerial herbicide	34	T18N R04W S25	2915956
Vegetation management - Aerial herbicide	23	T18N R04W S32	2915956

South Coast Planning Unit

Silvicultural Activity	Acres	Location	FPA #
Vegetation management - Ground herbicide	45	T12N R03W S16	
Vegetation management - Ground herbicide	31	T13N R03W S21	
Vegetation management - Ground herbicide	54	T13N R07W S24	
Vegetation management - Ground herbicide	25	T13N R08W S32	
Vegetation management - Ground herbicide	57	T15N R03W S32	
Vegetation management - Ground herbicide	66	T15N R05W S02	
Vegetation management - Ground herbicide	15	T15N R05W S35	
Vegetation management - Ground herbicide	36	T16N R01W S29	
Vegetation management - Ground herbicide	2	T16N R03W S16	
Vegetation management - Ground herbicide	37	T16N R04W S05	
Vegetation management - Ground herbicide	40	T16N R04W S05	
Vegetation management - Ground herbicide	38	T16N R04W S07	
Vegetation management - Ground herbicide	24	T16N R04W S13	
Vegetation management - Ground herbicide	54	T16N R04W S16	
Vegetation management - Ground herbicide	2	T16N R04W S23	
Vegetation management - Ground herbicide	45	T16N R05W S01	
Vegetation management - Ground herbicide	34	T16N R05W S32	
Vegetation management - Ground herbicide	73	T16N R05W S33	
Vegetation management - Ground herbicide	60	T16N R05W S34	
Vegetation management - Ground herbicide	40	T16N R05W S34	
Vegetation management - Ground herbicide	7	T17N R03W S20	
Vegetation management - Ground herbicide	30	T17N R03W S21	
Vegetation management - Ground herbicide	35	T17N R03W S28	
Vegetation management - Ground herbicide	12	T17N R03W S28	
Vegetation management - Ground herbicide	10	T17N R03W S30	
Vegetation management - Ground herbicide	57	T17N R03W S33	
Vegetation management - Ground herbicide	31	T17N R04W S14	
Vegetation management - Ground herbicide	30	T17N R04W S29	
Vegetation management - Ground herbicide	22	T17N R04W S34	
Vegetation management - Ground herbicide	22	T17N R04W S34	
Vegetation management - Ground herbicide	5	T17N R05W S24	
Vegetation management - Ground herbicide	3	T17N R05W S25	
Vegetation management - Ground herbicide	13	T17N R05W S25	
Vegetation management - Ground herbicide	42	T17N R05W S35	
Vegetation management - Ground herbicide	35	T19N R10W S36	
Vegetation management - Ground herbicide	16	T20N R11W S36	
Vegetation management - Ground herbicide	38	T20N R11W S36	
Vegetation management - Hand cutting	30	T12N R01W S03	
Vegetation management - Hand cutting	43	T12N R06W S03	
Vegetation management - Hand cutting	16	T12N R08W S02	
Vegetation management - Hand cutting	24	T12N R08W S02	
Vegetation management - Hand cutting	53	T13N R05W S15	
Vegetation management - Hand cutting	23	T13N R05W S15	
Vegetation management - Hand cutting	34	T13N R05W S15	
Vegetation management - Hand cutting	26	T13N R05W S19	
Vegetation management - Hand cutting	26	T13N R05W S19	
Vegetation management - Hand cutting	25	T13N R05W S20	
Vegetation management - Hand cutting	63	T13N R06W S14	

South Coast Planning Unit

Silvicultural Activity	Acres	Location	FPA #
Vegetation management - Hand cutting	48	T13N R06W S14	
Vegetation management - Hand cutting	70	T13N R06W S22	
Vegetation management - Hand cutting	56	T13N R07W S03	
Vegetation management - Hand cutting	56	T13N R07W S36	
Vegetation management - Hand cutting	70	T14N R03W S10	
Vegetation management - Hand cutting	69	T14N R03W S18	
Vegetation management - Hand cutting	33	T14N R03W S18	
Vegetation management - Hand cutting	15	T14N R03W S18	
Vegetation management - Hand cutting	13	T14N R03W S19	
Vegetation management - Hand cutting	4	T14N R03W S20	
Vegetation management - Hand cutting	53	T14N R03W S20	
Vegetation management - Hand cutting	14	T14N R03W S20	
Vegetation management - Hand cutting	56	T14N R04W S12	
Vegetation management - Hand cutting	41	T14N R04W S12	
Vegetation management - Hand cutting	40	T14N R04W S13	
Vegetation management - Hand cutting	29	T14N R04W S25	
Vegetation management - Hand cutting	28	T14N R05W S02	
Vegetation management - Hand cutting	43	T14N R05W S03	
Vegetation management - Hand cutting	33	T14N R05W S04	
Vegetation management - Hand cutting	46	T14N R05W S10	
Vegetation management - Hand cutting	53	T14N R05W S10	
Vegetation management - Hand cutting	41	T14N R05W S22	
Vegetation management - Hand cutting	36	T14N R05W S22	
Vegetation management - Hand cutting	64	T14N R05W S26	
Vegetation management - Hand cutting	38	T14N R05W S27	
Vegetation management - Hand cutting	50	T14N R05W S27	
Vegetation management - Hand cutting	70	T15N R03W S31	
Vegetation management - Hand cutting	77	T15N R05W S04	
Vegetation management - Hand cutting	32	T15N R05W S26	
Vegetation management - Hand cutting	24	T15N R05W S34	
Vegetation management - Hand cutting	41	T15N R05W S36	
Vegetation management - Hand cutting	25	T16N R01W S34	
Vegetation management - Hand cutting	5	T16N R01W S36	
Vegetation management - Hand cutting	12	T16N R03W S06	
Vegetation management - Hand cutting	15	T16N R03W S10	
Vegetation management - Hand cutting	46	T16N R04W S03	
Vegetation management - Hand cutting	26	T16N R04W S03	
Vegetation management - Hand cutting	29	T16N R04W S05	
Vegetation management - Hand cutting	48	T16N R04W S07	
Vegetation management - Hand cutting	53	T16N R04W S08	
Vegetation management - Hand cutting	68	T16N R04W S08	
Vegetation management - Hand cutting	52	T16N R04W S08	
Vegetation management - Hand cutting	9	T16N R04W S09	
Vegetation management - Hand cutting	28	T16N R04W S12	
Vegetation management - Hand cutting	10	T16N R04W S13	
Vegetation management - Hand cutting	26	T16N R04W S16	
Vegetation management - Hand cutting	24	T16N R04W S17	
Vegetation management - Hand cutting	6	T16N R05W S13	

South Coast Planning Unit

Silvicultural Activity	Acres	Location	FPA #
Vegetation management - Hand cutting	58	T16N R05W S31	
Vegetation management - Hand cutting	43	T17N R03W S07	
Vegetation management - Hand cutting	4	T17N R03W S08	
Vegetation management - Hand cutting	24	T17N R03W S09	
Vegetation management - Hand cutting	2	T17N R03W S19	
Vegetation management - Hand cutting	24	T17N R03W S20	
Vegetation management - Hand cutting	39	T17N R03W S30	
Vegetation management - Hand cutting	30	T17N R03W S30	
Vegetation management - Hand cutting	38	T17N R03W S30	
Vegetation management - Hand cutting	46	T17N R03W S31	
Vegetation management - Hand cutting	24	T17N R03W S31	
Vegetation management - Hand cutting	55	T17N R03W S32	
Vegetation management - Hand cutting	37	T17N R04W S04	
Vegetation management - Hand cutting	2	T17N R04W S04	
Vegetation management - Hand cutting	46	T17N R04W S05	
Vegetation management - Hand cutting	73	T17N R04W S07	
Vegetation management - Hand cutting	66	T17N R04W S22	
Vegetation management - Hand cutting	5	T17N R04W S22	
Vegetation management - Hand cutting	21	T17N R04W S23	
Vegetation management - Hand cutting	80	T17N R04W S25	
Vegetation management - Hand cutting	20	T17N R04W S31	
Vegetation management - Hand cutting	42	T17N R04W S32	
Vegetation management - Hand cutting	42	T17N R04W S35	
Vegetation management - Hand cutting	31	T17N R05W S02	
Vegetation management - Hand cutting	15	T17N R05W S11	
Vegetation management - Hand cutting	50	T17N R05W S11	
Vegetation management - Hand cutting	1	T17N R05W S11	
Vegetation management - Hand cutting	16	T17N R05W S13	
Vegetation management - Hand cutting	3	T17N R05W S13	
Vegetation management - Hand cutting	20	T17N R05W S25	
Vegetation management - Hand cutting	76	T17N R05W S26	
Vegetation management - Hand cutting	38	T17N R05W S36	
Vegetation management - Hand cutting	43	T17N R06W S36	
Vegetation management - Hand cutting	53	T18N R03W S29	
Vegetation management - Hand cutting	24	T18N R03W S33	
Vegetation management - Hand cutting	3	T18N R04W S09	
Vegetation management - Hand cutting	10	T18N R04W S09	
Vegetation management - Hand cutting	4	T18N R04W S10	
Vegetation management - Hand cutting	71	T18N R04W S15	
Vegetation management - Hand cutting	36	T18N R04W S18	
Vegetation management - Hand cutting	40	T18N R04W S19	
Vegetation management - Hand cutting	62	T18N R04W S20	
Vegetation management - Hand cutting	40	T18N R04W S21	
Vegetation management - Hand cutting	30	T18N R04W S26	
Vegetation management - Hand cutting	36	T18N R04W S27	
Vegetation management - Hand cutting	30	T18N R04W S27	
Vegetation management - Hand cutting	28	T18N R04W S30	
Vegetation management - Hand cutting	60	T18N R05W S24	

South Coast Planning Unit

Silvicultural Activity	Acres	Location	FPA #
Vegetation management - Hand cutting	2	T18N R05W S26	
Vegetation management - Hand cutting	27	T18N R05W S26	
Pre-commercial thinning	42	T10N R08W S02	
Pre-commercial thinning	27	T11N R07W S18	
Pre-commercial thinning	30	T11N R08W S22	
Pre-commercial thinning	41	T12N R08W S02	
Pre-commercial thinning	12	T13N R06W S23	
Pre-commercial thinning	71	T13N R07W S13	
Pre-commercial thinning	59	T13N R07W S13	
Pre-commercial thinning	9	T13N R07W S24	
Pre-commercial thinning	45	T13N R08W S28	
Pre-commercial thinning	75	T16N R04W S12	
Pre-commercial thinning	88	T16N R05W S27	
Pre-commercial thinning	43	T16N R05W S34	
Pre-commercial thinning	58	T17N R05W S25	

South Puget Planning Unit

Silvicultural Activity	Acres	Location	FPA #
Timber Harvest - Clear cut	113	T15N R05E S09	2411175
Timber Harvest - Clear cut	6	T15N R05E S15	2411175
Timber Harvest - Clear cut	12	T15N R05E S22	2411277
Timber Harvest - Clear cut	10	T15N R05E S22	2411277
Timber Harvest - Clear cut	3	T15N R05E S22	2411277
Timber Harvest - Clear cut	83	T22N R01W S31	2412688
Timber Harvest - Clear cut	22	T22N R01W S36	2411778
Timber Harvest - Clear cut	1	T22N R01W S36	2411778
Timber Harvest - Clear cut	4	T22N R01W S36	2411778
Timber Harvest - Clear cut	9	T22N R01W S36	2411778
Timber Harvest - Clear cut	5	T22N R01W S36	2411778
Timber Harvest - Clear cut	12	T22N R01W S36	2411778
Timber Harvest - Clear cut	13	T23N R01W S16	2412329
Timber Harvest - Clear cut	98	T23N R02W S25	2412329
Timber Harvest - Clear cut	89	T24N R01W S21	2411211
Timber Harvest - Late rotation thinning	90	T22N R01W S36	2411778
Timber Harvest - Late rotation thinning	27	T22N R01W S36	2411778
Timber Harvest - Late rotation thinning	7	T22N R01W S36	2411778
Timber Harvest - Salvage cut	68	T18N R03W S04	2916329
Timber Harvest - Salvage cut	16	T18N R03W S04	2916329
Timber Harvest - Salvage cut	43	T18N R03W S04	2916329
Timber Harvest - Salvage cut	68	T18N R03W S15	2916329
Timber Harvest - Salvage cut	41	T18N R03W S18	2916329
Timber Harvest - Salvage cut	48	T18N R03W S28	2916329
Timber Harvest - Selective product logging	98	T21N R07E S01	2411768
Timber Harvest - Selective product logging	8	T21N R07E S01	2411768
Timber Harvest - Selective product logging	82	T24N R01W S09	2411245
Timber Harvest - Selective product logging	108	T24N R01W S17	2411245
Timber Harvest - Shelterwood removal cut	40	T23N R01W S16	2412329
Timber Harvest - Variable density thinning	47	T15N R05E S14	2411277
Timber Harvest - Variable density thinning	76	T15N R05E S15	2411277

South Puget Planning Unit

Silvicultural Activity	Acres	Location	FPA #
Timber Harvest - Variable density thinning	57	T15N R05E S22	2411277
Timber Harvest - Variable density thinning	52	T15N R05E S22	2411277
Timber Harvest - Variable density thinning	76	T15N R05E S22	2411277
Timber Harvest - Variable density thinning	34	T15N R05E S23	2411277
Timber Harvest - Variable density thinning	47	T15N R05E S24	2411277
Timber Harvest - Variable density thinning	166	T15N R05E S24	2411277
Forest site preparation - Ground herbicide	24	T18N R03W S26	
Forest site preparation - Ground herbicide	2	T18N R03W S26	
Forest site preparation - Ground herbicide	44	T18N R03W S26	
Forest site preparation - Ground herbicide	3	T18N R03W S26	
Forest site preparation - Ground herbicide	1	T18N R03W S26	
Forest site preparation - Ground herbicide	9	T18N R03W S26	
Forest site preparation - Pile and burn	24	T18N R03W S26	
Forest site preparation - Pile and burn	44	T18N R03W S26	
Forest site preparation - Pile and burn	9	T18N R03W S26	
Forest regeneration - Hand planting	5	T15N R05E S01	
Forest regeneration - Hand planting	70	T15N R05E S01	
Forest regeneration - Hand planting	63	T15N R05E S09	
Forest regeneration - Hand planting	6	T15N R05E S15	
Forest regeneration - Hand planting	2	T15N R05E S22	
Forest regeneration - Hand planting	10	T15N R05E S22	
Forest regeneration - Hand planting	12	T15N R05E S22	
Forest regeneration - Hand planting	7	T15N R05E S24	
Forest regeneration - Hand planting	68	T15N R06E S06	
Forest regeneration - Hand planting	29	T15N R06E S17	
Forest regeneration - Hand planting	1	T18N R03W S26	
Forest regeneration - Hand planting	43	T18N R03W S26	
Forest regeneration - Hand planting	9	T18N R03W S26	
Forest regeneration - Hand planting	2	T18N R03W S26	
Forest regeneration - Hand planting	24	T18N R03W S26	
Forest regeneration - Hand planting	3	T18N R03W S26	
Forest regeneration - Hand planting	95	T21N R07E S01	
Forest regeneration - Hand planting	6	T21N R07E S01	
Forest regeneration - Hand planting	4	T22N R01W S36	
Forest regeneration - Hand planting	9	T22N R01W S36	
Forest regeneration - Hand planting	5	T22N R01W S36	
Forest regeneration - Hand planting	1	T22N R01W S36	
Forest regeneration - Hand planting	12	T22N R01W S36	
Forest regeneration - Hand planting	18	T22N R01W S36	
Forest regeneration - Hand planting	11	T23N R01E S36	
Forest regeneration - Hand planting	82	T23N R02W S26	
Forest regeneration - Hand planting	54	T24N R01W S21	
Vegetation management - Ground herbicide	16	T15N R06E S20	
Vegetation management - Ground herbicide	10	T18N R03W S03	
Vegetation management - Ground herbicide	10	T18N R03W S03	
Vegetation management - Ground herbicide	62	T18N R03W S05	
Vegetation management - Ground herbicide	78	T18N R03W S09	
Vegetation management - Ground herbicide	6	T18N R03W S18	

South Puget Planning Unit

Silvicultural Activity	Acres	Location	FPA #
Vegetation management - Ground herbicide	15	T18N R03W S18	
Vegetation management - Ground herbicide	10	T18N R03W S18	
Vegetation management - Ground herbicide	10	T18N R04W S14	
Vegetation management - Ground herbicide	88	T18N R04W S15	
Vegetation management - Ground herbicide	27	T22N R07E S35	
Vegetation management - Ground herbicide	26	T23N R06E S11	
Vegetation management - Hand cutting	66	T15N R05E S01	
Vegetation management - Hand cutting	27	T15N R05E S24	
Vegetation management - Hand cutting	4	T16N R01W S36	
Vegetation management - Hand cutting	33	T16N R05E S32	
Vegetation management - Hand cutting	10	T18N R03W S03	
Vegetation management - Hand cutting	9	T18N R03W S03	
Vegetation management - Hand cutting	61	T18N R03W S05	
Vegetation management - Hand cutting	54	T18N R03W S09	
Vegetation management - Hand cutting	10	T18N R03W S10	
Vegetation management - Hand cutting	30	T18N R03W S14	
Vegetation management - Hand cutting	3	T18N R03W S14	
Vegetation management - Hand cutting	7	T18N R03W S15	
Vegetation management - Hand cutting	4	T18N R03W S19	
Vegetation management - Hand cutting	15	T18N R03W S19	
Vegetation management - Hand cutting	10	T18N R03W S20	
Vegetation management - Hand cutting	44	T18N R03W S26	
Vegetation management - Hand cutting	3	T18N R03W S29	
Vegetation management - Hand cutting	3	T18N R03W S30	
Vegetation management - Hand cutting	2	T18N R03W S33	
Vegetation management - Hand cutting	8	T18N R04W S10	
Vegetation management - Hand cutting	5	T18N R04W S10	
Vegetation management - Hand cutting	17	T18N R04W S15	
Vegetation management - Hand cutting	6	T20N R08E S02	
Vegetation management - Hand cutting	12	T20N R08E S02	
Vegetation management - Hand cutting	30	T21N R01W S06	
Vegetation management - Hand cutting	45	T21N R07E S16	
Vegetation management - Hand cutting	7	T21N R07E S16	
Vegetation management - Hand cutting	11	T21N R07E S20	
Vegetation management - Hand cutting	14	T21N R08E S10	
Vegetation management - Hand cutting	6	T21N R08E S22	
Vegetation management - Hand cutting	3	T21N R08E S22	
Vegetation management - Hand cutting	39	T22N R01W S31	
Vegetation management - Hand cutting	6	T22N R02W S25	
Vegetation management - Hand cutting	59	T22N R02W S25	
Vegetation management - Hand cutting	24	T23N R03W S33	
Vegetation management - Hand cutting	30	T24N R01W S04	
Vegetation management - Hand cutting	15	T24N R01W S04	
Vegetation management - Hand cutting	13	T24N R01W S10	
Vegetation management - Hand cutting	8	T24N R01W S14	
Pre-commercial thinning	46	T18N R03W S22	
Pre-commercial thinning	49	T22N R02W S02	
Pre-commercial thinning	53	T22N R02W S10	

South Puget Planning Unit

Silvicultural Activity	Acres	Location	FPA #
Pre-commercial thinning	50	T23N R02W S16	
Pre-commercial thinning	12	T23N R02W S34	
Pre-commercial thinning	4	T23N R02W S35	
Pre-commercial thinning	38	T25N R01W S35	

Straits Planning Unit

Silvicultural Activity	Acres	Location	FPA #
Timber Harvest - Clear cut	85	T23N R04W S15	2411830
Timber Harvest - Clear cut	32	T23N R04W S21	2412188
Timber Harvest - Clear cut	6	T23N R04W S22	2412122
Timber Harvest - Clear cut	83	T23N R04W S23	2412188
Timber Harvest - Clear cut	67	T23N R04W S24	2411385
Timber Harvest - Clear cut	36	T23N R04W S27	2410860
Timber Harvest - Clear cut	8	T23N R04W S27	2410860
Timber Harvest - Clear cut	19	T23N R04W S27	2410860
Timber Harvest - Clear cut	78	T23N R04W S28	2410860
Timber Harvest - Clear cut	28	T23N R04W S28	2410860
Timber Harvest - Clear cut	36	T23N R04W S28	2412188
Timber Harvest - Clear cut	7	T23N R04W S35	2412122
Timber Harvest - Clear cut	45	T24N R03W S02	2412197
Timber Harvest - Clear cut	2	T24N R03W S21	2411865
Timber Harvest - Clear cut	61	T24N R03W S21	2411865
Timber Harvest - Clear cut	2	T27N R02W S22	2608379
Timber Harvest - Clear cut	0	T29N R03W S09	2608994
Timber Harvest - Clear cut	1	T31N R08W S32	2608957
Timber Harvest - Salvage cut	2	T23N R04W S26	2412122
Timber Harvest - Salvage cut	1	T23N R04W S35	2412122
Timber Harvest - Salvage cut	7	T29N R05W S01	2608454
Timber Harvest - Salvage cut	1	T30N R09W S10	2608579
Timber Harvest - Salvage cut	1	T31N R08W S32	2608579
Timber Harvest - Salvage cut	1	T31N R09W S34	2608579
Timber Harvest - Selective product logging	97	T24N R03W S09	2411928
Forest site preparation - Ground herbicide	48	T28N R02W S33	
Forest site preparation - Ground herbicide	47	T28N R02W S34	
Forest site preparation - Ground herbicide	29	T29N R02W S08	
Forest site preparation - Ground herbicide	11	T29N R02W S09	
Forest site preparation - Ground herbicide	11	T30N R04W S28	
Forest site preparation - Ground herbicide	19	T30N R07W S18	
Forest site preparation - Ground herbicide	2	T30N R07W S18	
Forest site preparation - Ground herbicide	76	T30N R07W S18	
Forest site preparation - Pile and burn	1	T30N R04W S28	
Forest site preparation - Pile and burn	1	T30N R06W S25	
Forest site preparation - Pile and burn	1	T30N R06W S30	
Forest site preparation - Pile and burn	0	T30N R06W S32	
Forest site preparation - Pile and burn	1	T30N R06W S32	
Forest site preparation - Pile and burn	1	T30N R06W S33	
Forest site preparation - Pile and burn	1	T30N R07W S18	
Forest site preparation - Pile and burn	1	T30N R07W S18	
Forest site preparation - Pile and burn	1	T30N R09W S06	

Straits Planning Unit

Silvicultural Activity	Acres	Location	FPA #
Forest site preparation - Pile and burn	1	T31N R09W S29	
Forest site preparation - Pile and burn	1	T31N R09W S31	
Forest site preparation - Pile and burn	1	T31N R09W S31	
Forest regeneration - Hand planting	6	T23N R04W S22	
Forest regeneration - Hand planting	2	T23N R04W S26	
Forest regeneration - Hand planting	34	T23N R04W S27	
Forest regeneration - Hand planting	6	T23N R04W S27	
Forest regeneration - Hand planting	18	T23N R04W S27	
Forest regeneration - Hand planting	27	T23N R04W S28	
Forest regeneration - Hand planting	75	T23N R04W S28	
Forest regeneration - Hand planting	1	T23N R04W S35	
Forest regeneration - Hand planting	6	T23N R04W S35	
Forest regeneration - Hand planting	53	T24N R03W S21	
Forest regeneration - Hand planting	2	T24N R03W S21	
Forest regeneration - Hand planting	36	T27N R01W S07	
Forest regeneration - Hand planting	27	T27N R02W S16	
Forest regeneration - Hand planting	2	T27N R02W S22	
Forest regeneration - Hand planting	4	T28N R01W S31	
Forest regeneration - Hand planting	18	T28N R01W S31	
Forest regeneration - Hand planting	60	T28N R01W S33	
Forest regeneration - Hand planting	24	T28N R02W S16	
Forest regeneration - Hand planting	47	T28N R02W S33	
Forest regeneration - Hand planting	45	T28N R02W S34	
Forest regeneration - Hand planting	1	T29N R01W S27	
Forest regeneration - Hand planting	29	T29N R02W S08	
Forest regeneration - Hand planting	11	T29N R02W S09	
Forest regeneration - Hand planting	20	T29N R02W S15	
Forest regeneration - Hand planting	79	T29N R02W S16	
Forest regeneration - Hand planting	90	T29N R05W S02	
Forest regeneration - Hand planting	54	T30N R02W S24	
Forest regeneration - Hand planting	40	T30N R04W S28	
Forest regeneration - Hand planting	11	T30N R04W S28	
Forest regeneration - Hand planting	90	T30N R04W S32	
Forest regeneration - Hand planting	4	T30N R05W S23	
Forest regeneration - Hand planting	19	T30N R07W S18	
Forest regeneration - Hand planting	73	T30N R07W S18	
Forest regeneration - Hand planting	2	T30N R07W S18	
Forest regeneration - Hand planting	46	T30N R08W S05	
Forest regeneration - Hand planting	2	T30N R09W S05	
Forest regeneration - Hand planting	1	T30N R09W S10	
Vegetation management - Ground herbicide	60	T23N R04W S21	
Vegetation management - Ground herbicide	80	T28N R01W S16	
Vegetation management - Ground herbicide	7	T28N R01W S16	
Vegetation management - Ground herbicide	7	T28N R01W S16	
Vegetation management - Ground herbicide	7	T28N R01W S16	
Vegetation management - Ground herbicide	7	T28N R01W S16	
Vegetation management - Ground herbicide	9	T28N R01W S16	
Vegetation management - Ground herbicide	9	T28N R01W S16	

Straits Planning Unit

Silvicultural Activity	Acres	Location	FPA #
Vegetation management - Ground herbicide	4	T28N R01W S31	
Vegetation management - Ground herbicide	24	T28N R02W S16	
Vegetation management - Ground herbicide	77	T28N R02W S16	
Vegetation management - Ground herbicide	18	T29N R05W S14	
Vegetation management - Ground herbicide	6	T29N R05W S14	
Vegetation management - Ground herbicide	59	T30N R02W S29	
Vegetation management - Ground herbicide	66	T30N R02W S30	
Vegetation management - Ground herbicide	44	T30N R02W S31	
Vegetation management - Ground herbicide	68	T30N R02W S32	
Vegetation management - Ground herbicide	14	T30N R06W S25	
Vegetation management - Ground herbicide	54	T30N R06W S36	
Vegetation management - Ground herbicide	18	T30N R07W S13	
Vegetation management - Ground herbicide	18	T30N R07W S13	
Vegetation management - Hand cutting	58	T23N R04W S24	
Vegetation management - Hand cutting	24	T23N R04W S35	

Yakima Planning Unit

Silvicultural Activity	Acres	Location	FPA #
Timber Harvest - Late rotation thinning	108	T11N R14E S04	2702553
Timber Harvest - Late rotation thinning	16	T12N R14E S33	2702532
Timber Harvest - Late rotation thinning	59	T20N R20E S20	2703809
Timber Harvest - Late rotation thinning	100	T20N R20E S28	2703809
Timber Harvest - Salvage cut	127	T20N R21E S06	2703970
Timber Harvest - Salvage cut	131	T21N R20E S20	2703970
Timber Harvest - Salvage cut	121	T21N R20E S20	2703970
Timber Harvest - Seed tree intermediate cut	100	T22N R19E S36	2703339
Timber Harvest - Selective product logging	115	T20N R13E S02	2702826
Timber Harvest - Selective product logging	24	T20N R13E S02	2702826
Timber Harvest - Shelterwood removal cut	109	T11N R13E S12	2703152
Timber Harvest - Shelterwood removal cut	79	T11N R13E S12	2703152
Timber Harvest - Uneven-aged management	240	T20N R20E S32	2703712
Timber Harvest - Uneven-aged management	100	T20N R20E S34	2703712
Timber Harvest - Variable density thinning	323	T12N R14E S04	2703496
Forest site preparation - Ground mechanical	90	T11N R13E S12	2703152
Forest site preparation - Ground mechanical	79	T11N R13E S12	2703152
Forest site preparation - Ground mechanical	100	T20N R20E S34	
Forest site preparation - Pile and burn	79	T11N R13E S12	
Forest site preparation - Pile and burn	109	T11N R13E S12	
Forest site preparation - Pile and burn	91	T11N R13E S12	
Forest site preparation - Pile and burn	73	T11N R13E S12	
Forest site preparation - Pile and burn	110	T16N R16E S02	
Forest site preparation - Pile and burn	202	T16N R16E S16	
Forest site preparation - Pile and burn	99	T16N R16E S16	
Forest site preparation - Pile and burn	66	T16N R16E S16	
Forest site preparation - Pile and burn	11	T17N R16E S36	
Forest site preparation - Pile and burn	6	T17N R16E S36	
Forest site preparation - Pile and burn	10	T19N R16E S16	
Forest site preparation - Pile and burn	5	T19N R21E S08	
Forest site preparation - Pile and burn	8	T19N R21E S18	

Yakima Planning Unit

Silvicultural Activity	Acres	Location	FPA #
Forest site preparation - Pile and burn	10	T19N R21E S18	
Forest site preparation - Pile and burn	61	T19N R21E S18	
Forest site preparation - Pile and burn	5	T20N R19E S02	
Forest site preparation - Pile and burn	22	T20N R19E S02	
Forest site preparation - Pile and burn	41	T20N R19E S02	
Forest site preparation - Pile and burn	5	T20N R19E S02	
Forest site preparation - Pile and burn	29	T20N R19E S12	
Forest site preparation - Pile and burn	17	T20N R19E S12	
Forest site preparation - Pile and burn	16	T20N R19E S12	
Forest site preparation - Pile and burn	33	T20N R19E S14	
Forest site preparation - Pile and burn	3	T20N R20E S24	
Forest site preparation - Pile and burn	5	T20N R21E S28	
Forest site preparation - Pile and burn	29	T20N R21E S30	
Forest site preparation - Pile and burn	12	T20N R21E S30	
Forest site preparation - Pile and burn	9	T20N R21E S30	
Forest site preparation - Pile and burn	43	T20N R21E S30	
Forest site preparation - Pile and burn	5	T20N R21E S32	
Forest site preparation - Pile and burn	92	T20N R21E S32	
Forest site preparation - Pile and burn	18	T20N R21E S32	
Forest regeneration - Hand planting	137	T12N R14E S22	
Forest regeneration - Hand planting	16	T12N R14E S33	
Forest regeneration - Hand planting	20	T12N R14E S33	
Forest regeneration - Hand planting	19	T17N R16E S24	
Vegetation management - Ground herbicide	19	T17N R16E S24	
Pre-commercial thinning	37	T13N R14E S14	
Pre-commercial thinning	36	T13N R14E S14	
Pre-commercial thinning	47	T13N R14E S23	
Pre-commercial thinning	34	T13N R14E S24	
Pre-commercial thinning	164	T15N R15E S32	
Pre-commercial thinning	23	T15N R15E S32	
Pre-commercial thinning	19	T15N R15E S32	
Pre-commercial thinning	15	T15N R15E S32	
Pre-commercial thinning	61	T15N R15E S34	
Pre-commercial thinning	122	T16N R16E S28	
Pre-commercial thinning	84	T19N R19E S12	
Pre-commercial thinning	29	T19N R19E S12	
Pre-commercial thinning	137	T19N R19E S12	
Pre-commercial thinning	7	T19N R19E S12	
Pre-commercial thinning	251	T20N R19E S20	

