



**WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES
HABITAT CONSERVATION PLAN
FY 2003 Annual Report**



Annual Report to the Services:
NOAA Fisheries
U.S. Fish and Wildlife Service

For the period
July 1, 2002 – June 30, 2003

Habitat Conservation Plan

Annual HCP Report to the Services for FY2003

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1. INTRODUCTION



HABITAT CONSERVATION PLAN

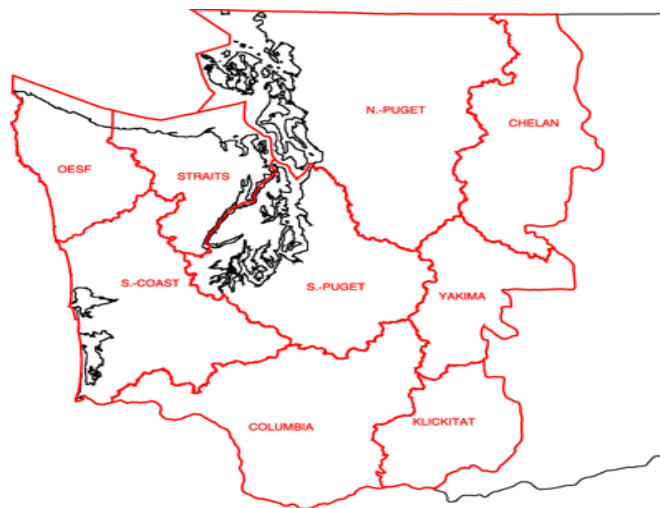
Annual Report to the Services

July 1, 2002 - June 30, 2003
Fiscal Year 2003

INTRODUCTION

The Washington State Department of Natural Resources (DNR) Habitat Conservation Plan (HCP) is a forest management plan that applies to approximately 1.6 million acres of forestlands within the range of the northern spotted owl (*Strix occidentalis*) and managed by the DNR. The Plan (HCP) is a partnership between the DNR and the United States Fish and Wildlife Service and National Marine Fisheries Service (now known as NOAA Fisheries) (Services), authorized under the Endangered Species Act (ESA). In general, the HCP area includes all DNR trust lands west of the Cascade crest and those on the eastern slopes of the Cascades, from the Canadian border to the Columbia River. The HCP enables DNR to comply with ESA requirements by providing conservation objectives and strategies that provide habitat for listed and unlisted species while providing certainty, flexibility, and stability for the DNR in meeting its trust responsibilities.

HABITAT CONSERVATION PLAN: PLANNING UNITS



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

Eastside HCP planning units: Chelan, Klickitat and Yakima

The Habitat Conservation Plan includes habitat management strategies for ESA listed species, and for unique habitats. Some of the major provisions of the HCP are described below.

HCP CONSERVATION PLANNING STRATEGIES

ESA Habitats Protected: HCP trust land management strategies focus primarily on habitat conservation and enhancement for species listed under the ESA. DNR's habitat management plan identifies specific habitat conservation strategies for the northern spotted owl, marbled murrelet, and for riparian dependent species such as bull trout and salmon. The objectives and strategies of the HCP are designed to conserve and enhance habitats that are scientifically appropriate for the support of multiple species, including those listed under the federal Endangered Species Act, and unlisted species.

Multiple Species Protected: The conservation strategies developed for the HCP were designed to provide appropriate habitat protection for many other species that are not currently listed or protected under the ESA. The Department intentionally approached land management in this manner in order to avoid future land management interruptions due to new ESA listings that could disrupt management planning. In addition, the HCP provides specific habitat protection appropriate for numerous state-listed species of concern.

Unique Habitats Protected: Protection of specific habitats includes identification of critical habitats, caves, talus slopes, wetlands, and nesting sites for many species. Future adaptive management changes could modify management practices to address species and habitat needs that is identified through research and monitoring. Therefore, the HCP is also a dynamic, scientifically based management-planning tool.

HIGHLIGHTS OF THE PAST YEAR

DNR has begun to focus on a long-term strategy for the marbled murrelet in the Columbia, South Coast, Straits and OESF Planning Units. The long-term strategy will cover approximately 750,000 acres of DNR-managed lands within these planning units. A "Draft" strategy identifying potential management alternatives is scheduled to be released for review in early 2004. Surveys continue in the North Puget Planning Unit with approximately 25 percent of the reclassified habitat surveyed to Pacific Seabird Group (PSG) protocol.

DNR has been working with the USFWS and the Washington Department of Fish and Wildlife (WDFW) to develop an adaptive management strategy that will address forest health issues and at the same time provide habitat that makes a significant contribution to demographic support, the maintenance of species distribution and the facilitation of dispersal opportunities for northern spotted owls. Several blocks of DNR lands are infested by forest insects, which have increased their susceptibility to fire and decreased their ability to provide suitable habitat for northern spotted owls. The department and the Services are currently reviewing an amended Northern Spotted Owl Conservation Strategy for the Klickitat Planning Unit. We anticipate the amended conservation strategy will be completed in early 2004.

Last year, DNR completed an implementation monitoring pilot project in the North Puget and South Puget planning units covering department trust land management activities. An evaluation of the pilot project has led us to make some modifications to this years'

Implementation Monitoring review. The major changes to this year's implementation monitoring strategy are:

- Sampling HCP elements or strategies rather than activities, and
- Stratifying the samples so that we can more easily predict a statistically valid sample size.

Two main strategies were selected for review, the riparian strategy (specifically stream typing and riparian buffer protections), and the spotted owl strategy. Management activities completed during fiscal year 2002 were sampled in all planning units. Timber management activities, non-timber and silvicultural management activities were sampled and were either randomly selected or 100% sampled. A more detailed description of our methods is included in the Monitoring Section of this report. In subsequent years we plan to continue to select and review HCP elements or strategies in all planning units.

2. NRF AND DISPERSAL MANAGEMENT

Baseline Comparison of Acreage in Designated Areas FY2003 NRF & Dispersal Areas Compared to 1997 Baseline

Designated Management Areas	HCP PLANNING UNITS: ACRES						Totals
	Chelan	Columbia	Klickitat	North Puget	South Puget	Yakima	Total Acres
NRF: Jan 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
Dispersal: Jan 1997	0	38,645	79,095	16,068	71,492	8,332	213,632
Dispersal: June 1999	0	35,234	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

Source: DNR Transactions 11/03

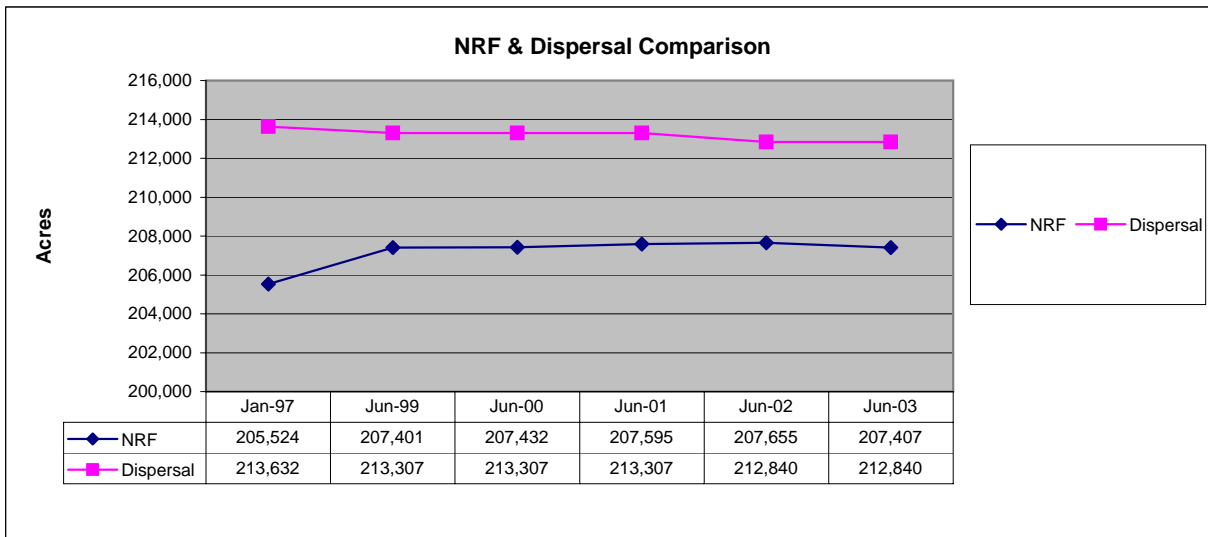
NOTE:

There are no designated NRF or Dispersal management areas in the OESF, Straits or South Coast HCP Planning Units.

Acreage measurements are rounded and may include approximations.

Information is subject to appropriate adjustments and adaptive management changes over time.

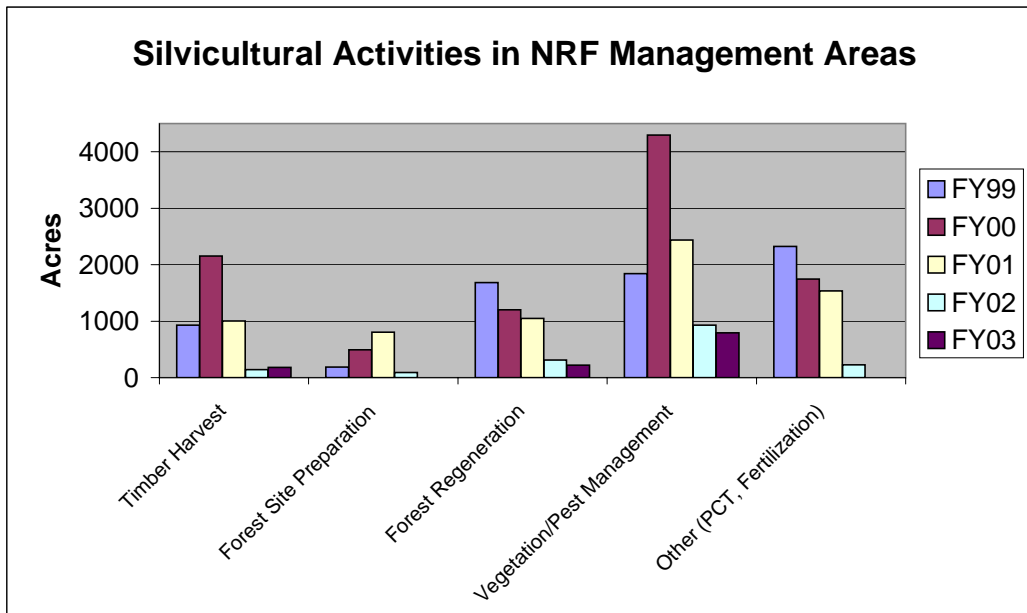
Changes in acreage may be due to management activities, asset repositioning, or updates and refinements in inventory data.



HCP MANAGEMENT OBJECTIVES: NESTING, ROOSTING AND FORAGING AREAS
SILVICULTURAL ACTIVITIES in DESIGNATED NRF MANAGEMENT AREAS
 by
HCP PLANNING UNIT - FY 2003

	Planning Unit						Totals				
	Chelan	Columbia	Klickitat	North Puget	South Puget	Yakima	FY2003 HCP NRF Total	FY2002 HCP NRF Total	FY2001 HCP NRF Total	FY 2000 HCP NRF Total	FY 1999 HCP NRF Total
	5,851	53,252	21,089	111,195	2,453	13,567	207,407	207,655	207,595	207,432	207,401
Total Designated NRF acres in HCP Unit	5,851	53,252	21,089	111,195	2,453	13,567	207,407	207,655	207,595	207,432	207,401
% of Total Designated NRF Acreage	2.8%	25.7%	10.2%	53.6%	1.2%	6.5%	100%	100%	100%	100%	100%
Harvest & Silvicultural Activity											
Acres											
Timber Harvest											
Regeneration Harvest							0	0	451	1354	902
Late rotation thinning				41			41	0	432	140	0
Variable density thinning				143			143				
Phase patch regeneration cut							0	0	0	6	0
Seed tree intermediate cut							0	0	0	147	0
Shelterwood removal							0	0	0	0	28
Selective Product logging							0	0	0	166	0
Smallwood thinning							0	130	0	0	0
Two-aged management							0	0	0	6	0
Uneven-aged management							0	12	118	334	0
Timber Harvest Total	0	0	0	184	0	0	184	142	1001	2153	930
Forest Site Preparation											
Aerial herbicide							0	90	805	326	103
Ground herbicide							0	0	0	82	82
Ground mechanical							0	0	0	83	0
Forest Site Preparation Total	0	0	0	0	0	0	0	90	805	491	185
Forest Regeneration											
Hand Planting	0	10	0	210	0	0	220	291	1048	1202	1684
Natural Regeneration	0						0	19	0	0	0
Forest Regeneration Totals	0	10	0	210	0	0	220	310	1048	1202	1684
Vegetation/Pest Management											
Aerial herbicide				81			81	297	818	741	567
Aerial insecticide							0	0	0	2921	0
Ground herbicide				47			47	153	702	263	337
Hand cutting (slashing)		18		645			663	480	919	370	940
Vegetation/Pest Management Total	0	18	0	773	0	0	791	930	2439	4295	1844
Other											
Pre-commercial thinning							0	226	1537	910	2325
Forest Fertilization							0	0	0	837	0
Other Totals	0	0	0	0	0	0	0	226	1537	1747	2325

Source: Planning & Tracking System 10/03



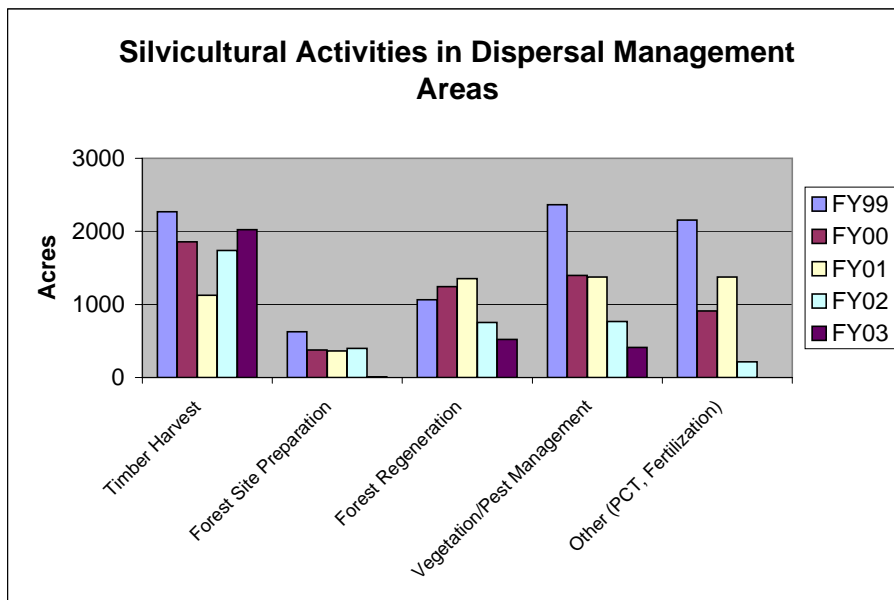
HCP MANAGEMENT OBJECTIVES: SPOTTED OWL DISPERSAL AREAS

SILVICULTURAL ACTIVITIES in DESIGNATED DISPERSAL MANAGEMENT AREAS

by
HCP PLANNING UNIT - FY 2003

	Planning Unit					Totals				
	Columbia	Klickitat	North Puget	South Puget	Yakima	FY2003 HCP Dispersal Total	FY2002 HCP Dispersal Total	FY2001 HCP Dispersal Total	FY2000 HCP Dispersal Total	FY1999 HCP Dispersal Total
Total Designated Dispersal acres in HCP Unit	31,890	79,095	15,344	78,179	8,332	212,840	212,840	213,307	213,307	213,307
% of Total Designated Dispersal Acreage	15.0%	37.2%	7.2%	36.7%	3.9%	100%	100%	100%	100%	100%
Harvest & Silvicultural Activity										
Acres										
Timber Harvest										
Regeneration Harvest				192		192	594	389	572	953
Late rotation thinning		404			211	615	290	7	14	0
Salvage cut		4			674	678	0	0	10	0
Selective product logging						0	0	93	87	60
Shelterwood intermediate cut						0	0	0	259	0
Shelterwood removal						0	78	0	0	260
Smallwood thinning						0	610	397	84	399
Uneven-aged management		538				538	167	240	832	597
Timber Harvest Totals	0	946	0	192	885	2023	1739	1126	1858	2269
Forest Site Preparation										
Aerial herbicide						0	113	294	30	226
Ground herbicide						0	0	0	89	402
Ground mechanical		8				8	33	16	194	0
Hand cutting (slashing)		0				0	240	0	0	0
Pile and burn					0	0	14	54	62	0
Forest Site Preparation Totals	0	8	0	0	0	8	400	364	375	628
Forest Regeneration										
Hand planting		31	0	260	230	521	754		1243	1066
Forest Regeneration Totals	0	31	0	260	230	521	754	1353	1243	1066
Vegetation/Pest Management										
Aerial herbicide						0	134	528	55	912
Aerial insecticide						0	0	0	465	0
Ground herbicide	52		45			97	57	759	100	433
Hand cutting (slashing)	64		249			313	576	89	775	1019
Vegetation/Pest Management Totals	116	0	294	0	0	410	767	1376	1395	2364
Other										
Pre-commercial thinning						0	213	1376	907	2153
Forest fertilization						0	0	0	6	0
Other Totals	0	0	0	0	0	0	213	1376	913	2153

Source: Planning & Tracking System 10/03



3. SILVICULTURAL MANAGEMENT ACTIVITIES

SILVICULTURAL MANAGEMENT ACTIVITIES by HCP PLANNING UNIT - FY2003

Harvest & Silvicultural Activity	Acres of Management Activity by Planning Unit													
	Chelan	Columbia	Klickitat	North Puget	OESF	South Coast	South Puget	Straits	Yakima	FY03 Total Acres	FY02 Total Acres	FY01 Total Acres	FY00 Total Acres	FY99 Total Acres
Timber Harvest Type														
Regeneration Harvest		1524	63	2218	4	2364	1012	850		8035	8102	9,201	13549	9841
Late rotation thinning		147	429	439		809	486		211	2521	1878	2,318	862	51
Variable density thinning				145						145	0	0	0	0
Phased patch regeneration cut							10			10	32	0	0	0
Salvage cut	383		4			45			718	1150	161	5	207	301
Seed tree intermediate cut										0	246	165	188	0
Selective product logging						65	144			209	438	734	1871	1177
Shelterwood intermediate cut							157			157	666	151	581	276
Shelterwood removal										0	78	0	0	0
Smallwood thinning		292		149	640	770	40			1891	3569	4,204	2332	3111
Temporary retention first cut							86			86	192	55	36	0
Two aged management				146						146	0	67	227	180
Uneven-aged management			538	135					1375	2048	414	1,375	2511	1939
Harvest Total:	383	1963	1034	3232	644	4053	1935	850	2304	16398	15776	18,275	22364	16876
Forest Site Preparation														
Aerial herbicide		807		734						1541	1374	1,934	637	519
Ground herbicide										0	252	582	610	669
Ground mechanical		27	8				97		131	263	185	371	620	0
Hand cutting										0	240	0	0	0
Pile and burn/broadcast burn		124				151				275	16	416	249	195
Site Prep. Total:	0	958	8	734	0	151	97	0	131	2079	2067	3,303	2116	1383
Forest Regeneration														
Hand planting	367	2049	321	3036	118	2130	689	1378	257	10345	11588			
Natural regeneration									250	250	258			
Forest Regeneration Total:	367	2,049	321	3,036	118	2,130	689	1,378	507	10595	11846	14,316	15095	13,789
Vegetation Management														
Aerial herbicide		85		356		465				906	3664	4,182	2282	3932
Ground herbicide		178	222	1,067		1456	59			2982	2671	5,105	3343	3241
Hand cutting		439		3,751		1,748	358		40	6336	9382	8,238	12481	12931
Seeding grass	137									137	254	0	0	0
Underburn										0	0	0	40	0
Vegetation Mgmt. Total:	137	702	222	5,174	0	3,669	417	0	40	10361	15971	17,525	18146	20104
Pest Management														
Animal repellent										0	0	91	0	N/A
Animal trapping										0	0	200	0	N/A
Shielding or fencing		17					40			57	40	552	0	N/A
Aerial Pesticide										0	0	0	3618	
Pest Mgmt. Total:	0	17	0	0	0	0	40	0	0	57	40	843	3618	0
Other														
Pre-commercial thinning		127			1,460	713				2300	6115	14,060	10907	23637
Forest fertilization										0	0	186	2862	10187
Tree pruning										0	0	78	0	91
Other Total:	0	127	0	0	1,460	713	0	0	0	2300	6115	14,324	13769	33915
Grand Total	887	5,816	1,585	12,176	2,222	10,716	3,178	2,228	2,982	41,790	51,815	68,586	75108	86,067

Source: Planning & Tracking System

SILVICULTURAL MANAGEMENT ACTIVITIES SUMMARY: HARVEST AND SILVICULTURAL ACTIVITIES FY 2003

Harvest & Silvicultural Activity	Acres of Management Activity by Planning Unit										FY2003 Total Acres	FY2002 Total Acres	FY2001 Total Acres	FY2000 Total Acres	FY1999 Total Acres
	Chelan	Columbia	Klickitat	North Puget	OESF	South Coast	South Puget	Straits	Yakima						
Timber Harvest	383	1,963	1,034	3,232	644	4,053	1,935	850	2,304		16,398	15,776	18,275	22364	16876
Site Preparation	0	958	8	734	0	151	97	0	131		2,079	2,067	3,303	2116	1383
Forest Regeneration	367	2,049	321	3,036	118	2,130	689	1,378	507		10,595	11,846	14,316	15095	13,789
Vegetation Management	137	702	222	5,174	0	3,669	417	0	40		10,361	15,971	17,525	18146	20104
Pest Management	0	17	0	0	0	0	40	0	0		57	40	843	3618	0
Other	0	127	0	0	1,460	713	0	0	0		2,300	6,115	14,324	13769	33915
Grand Total	887	5,816	1,585	12,176	2,222	10,716	3,178	2,228	2,982		41,790	51,815	68,586	75108	86067

Timber Harvest includes regeneration harvest, thinning, selective product logging, salvage cut and others.

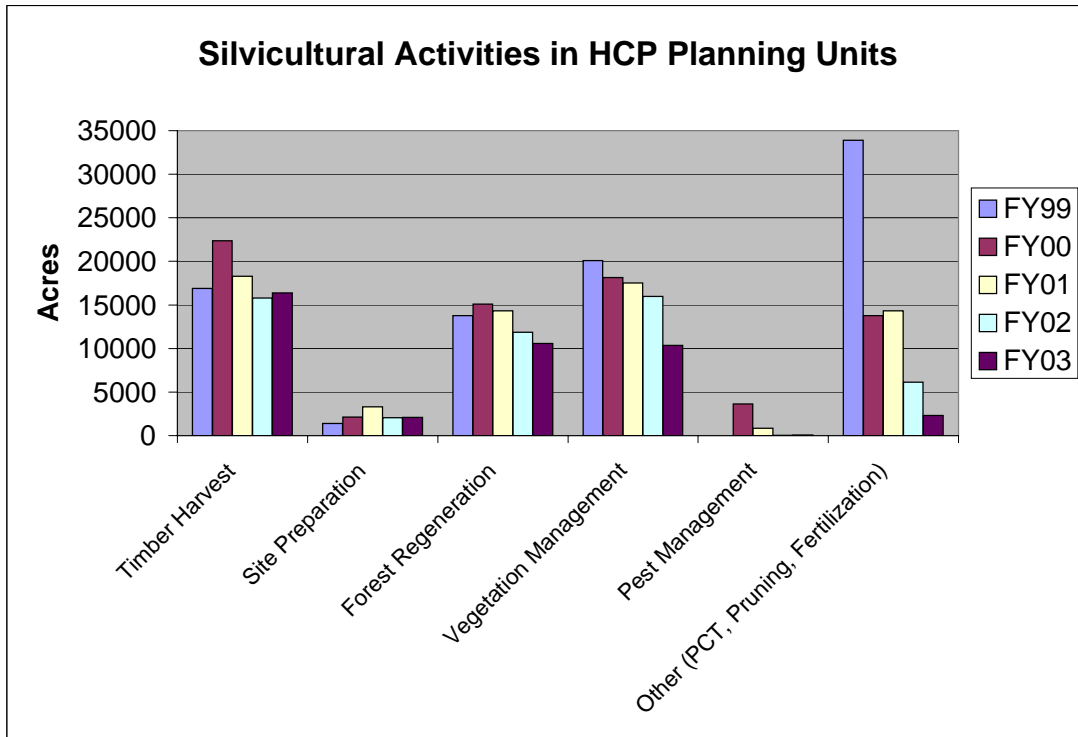
Site Preparation includes herbicide application, ground mechanical and pile and burn.

Forest Regeneration includes hand planting and natural regeneration.

Vegetation Management includes herbicide application and hand cutting.

Pest Management includes animal repellants, trapping and fencing.

Other includes pre-commercial thinning, fertilization and pruning



4. NON-TIMBER ACTIVITIES

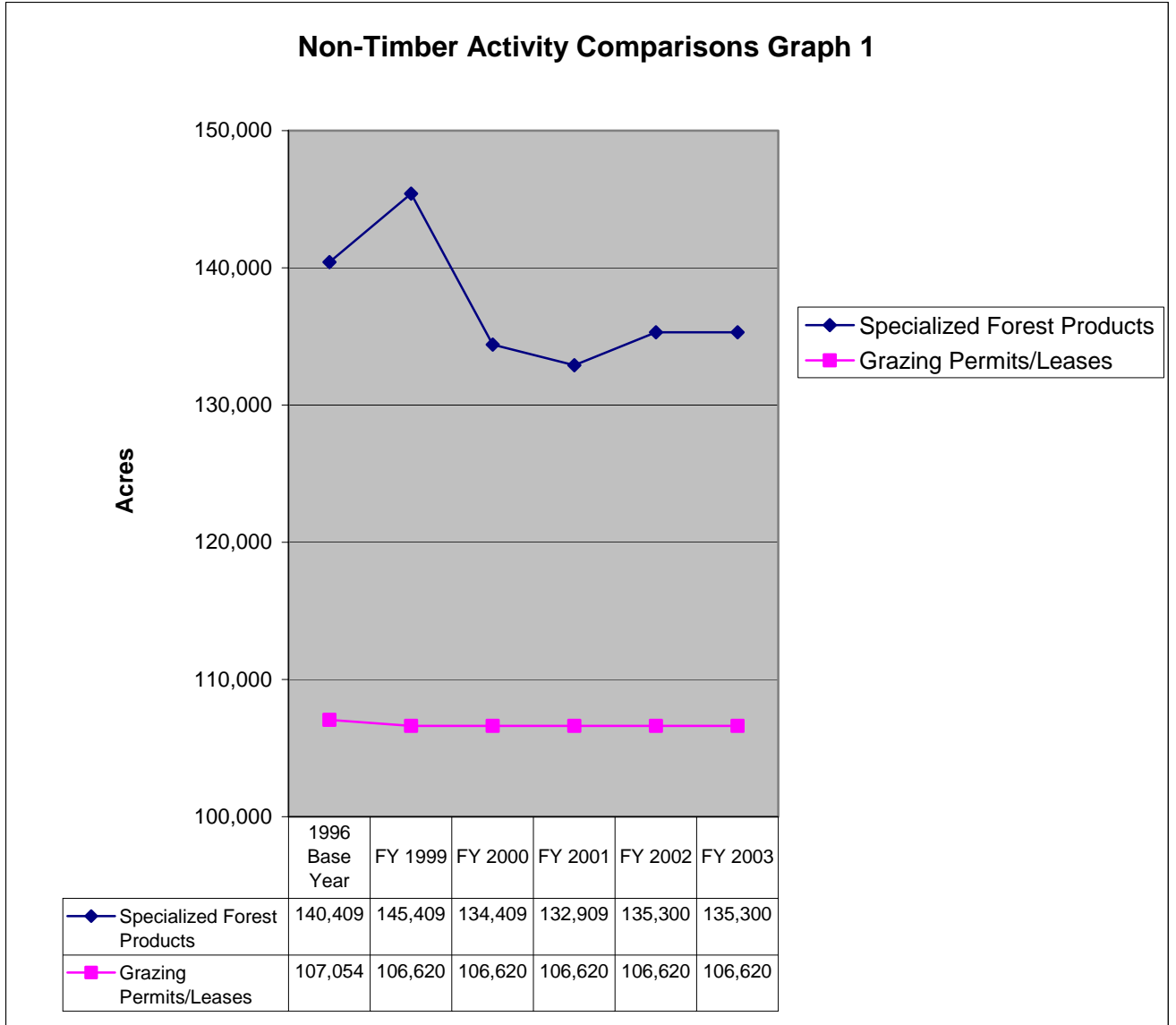
Evaluation of Potential Non-Timber Impacts vs.1996 Base Year Level

Non-Timber Resources Activity Comparison

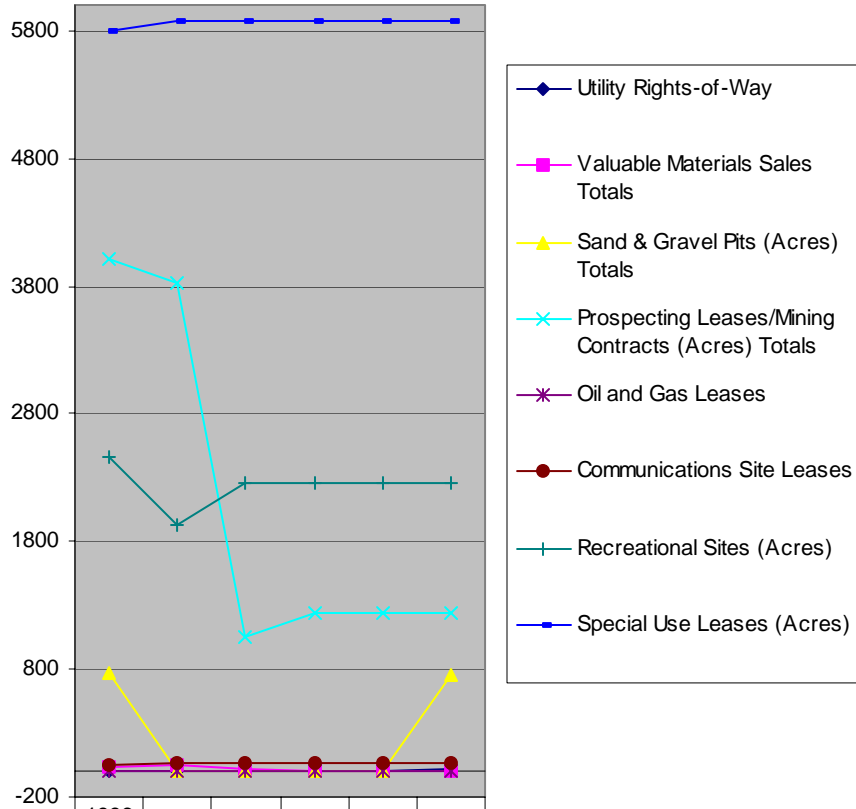
	1996 Base Year		FY 2003		FY 2002		FY 2001		FY 2000		FY 1999	
	Number of Leases/Permits/Rights of Way/Sites	Acres	Number of Leases/Permits/Rights of Way/Sites	Acres	Number of Leases/Permits/Rights of Way/Sites	Acres	Number of Leases/Permits/Rights of Way/Sites	Acres	Number of Leases/Permits/Rights of Way/Sites	Acres	Number of Leases/Permits/Rights of Way/Sites	Acres
The following represent the number and acres of new activities sold, issued or that were active on HCP lands during the reporting period												
Utility Rights-of-Way	9	4 ac. (3.3 miles)	12	109 ac. (45.1 miles)**	0	0	2	0	4	0	4	.03 acres
The following represent the total number and acres of activity in force on HCP lands during the reporting period												
Specialized Forest Products												
Western Greens	360	135,000	330	128,000	315	128,000	335	128,000	320	128,000	331	135,000
Christmas Greens	14	5,000	6	7,000	14	7,000	10	4,500	20	6,000	57	10,000
Christmas Trees	8	409	7	300	7	300	8	409	8	409	8	409
Misc. (Medicinal, cone and transplant)	20		12		15		15		15		10	
Specialized Forest Products (Acres) Totals	402	140,409	355	135,300	351	135,300	368	132,909	363	134,409	406	145,409
Valuable Materials												
Silvicultural Pits												
Active Silvicultural Pits	N/A	N/A	165	317	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Inactive Silvicultural Pits	N/A	N/A	230	216	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Abandoned Silvicultural Pits	N/A	N/A	55	56	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Silvicultural Rock, Sand & Gravel Pits (No Commercial Sales)	332	487	450	589	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Commercial Pits												
Active Commercial Pits	N/A	N/A	7	101	7	89	7	89	8	90	24	360
Inactive Commercial Pits	N/A	N/A	2	66	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Commercial Rock, Sand & Gravel Pits	28	281	9	167	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sand & Gravel Pits (Acres) Totals	360	768	459	756	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Rock, Sand, Gravel Sales	17	222			0	0	0	0	5	34	24	360
Rock, Sand, Gravel Direct Sales	25	50	1	0	1	0	0	0	12	22	34	55.5
Valuable Materials Sales Totals	42	272	1	0	1	0	0	0	17	56	58	415.5
Prospecting Leases/Mining Contracts												
Leases	4	360	1	180	1	180	1	180	0	0	3	249
Contracts	15	3650	7	1056	7	1056	7	1056	7	1056	14	3570
Prospecting Leases/Mining Contracts (Acres) Totals	19	4010	8	1236	8	1236	8	1236	7	1056	17	3819
Oil and Gas Leases												
Leases	43	13196	231	99350	231	99350	6	2552	6	2552	16	4412
Active Sales	1		0	0	0	0	0	0	0	0	0	0
Oil and Gas Leases Totals	1		0		0		0		0		0	
Grazing Permits/Leases												
Eastside	25	105,980	25	105,980	25	105,980	25	105,980	25	105,980	25	105,980
Westside	15	1,074	11	640	11	640	11	640	11	640	11	640
Grazing Permits/Leases (Acres) Totals	40	107,054	36	106,620	36	106,620	36	106,620	36	106,620	36	106,620
Communications Site Leases												
Number Sites	56		61		61		60		60		60	
Number Leases	288		305		305		302		302		302	
Recreational Sites (Acres)	119	2456	126	2252	126	2252	126	2252	126	2252	126	1934
Special Use Leases (Acres)	90	5792	93	5874	93	5874	92	5870	92	5870	92	5870

The level of activity for non-timber activities that was present in 1996 (labeled 1996 Base Year) is considered to be a de minimus level of activity. At the 1996 level of these activities, no take, or insignificant take is occurring. The level of impact resulting from these non-timber activities will be reviewed by DNR, the USFWS and NMFS during the annual meeting.

** See Utility Rights of Way Detail on page



Non-Timber Activity Comparisons Graph 2



	1996 Base Year	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003
Utility Rights-of-Way	9	4	4	2	0	12
Valuable Materials Sales Totals	42	58	17	0	1	1
Sand & Gravel Pits (Acres) Totals	768	0	0	0	0	756
Prospecting Leases/Mining Contracts (Acres) Totals	4010	3819	1056	1236	1236	1236
Oil and Gas Leases	1	0	0	0	0	0
Communications Site Leases	56	60	60	60	61	61
Recreational Sites (Acres)	2456	1934	2252	2252	2252	2252

FY 03 UTILITY RIGHTS OF WAY DETAIL

App #	Grantee	HCP Planning Unit	Region	Miles	Existing Corridor	New Acres	Comments
50-072617	CenturyTel – Clearwater Mainline	OESF	Oly	16.0	X	0	Fiber optic w/in R/W
50-074176	Clallam County PUD	OESF	Oly	1.6		9	OH power – moved outside DOT R/W
50-074878	Verizon	S. Puget	Cen	.05	X	0	Telephone and fiber to Comm site
50-071471 50-073123	Sprint Sprint	Klickitat	SE	.25	X	0	Co-located telephone and fiber
50-074103 50-074318	Touch America AT&T	S. Puget	Cen	.68	X	0	Co-located fiber optic
50-073158	CenturyTel - Sappho Gap	OESF	Oly	2.0	X	0	Fiber optic w/in DOT R/W
50-073160	CenturyTel – Sol Duc	OESF	Oly	1.26	X	0	Telephone line to Hot Springs
50-074130	Qwest – Sappho Gap	OESF	Oly	9	X	0	Fiber optic – West Twin Road
50-073640	Williams Gas Pipeline	S. Puget	Cen	13		100	Gas pipeline through Capitol Forest to Satsop
50-054740	Methow Valley Ski Trail Association	Chelan	NE	1.7	X	0	Ski trail on logging road
Totals				45.1		109	

RECREATION/PUBLIC USE ACTIVITIES

Project Name	Planning Unit	Region	New Trail Construction	Re-Route/Close Trail	Trail Maintenance (Rocking, Shaping, Brushing)	New Bridge	Harden Bridge Approaches	Culvert Maintenance	Culvert Replacement
Capitol Forest Non-Motorized Trail Maintenance	S Puget	SW/CEN			80 mi. Non-motorized trail			X	
Capitol Forest ORV Bridge	S Puget	SW/CEN				1 ORV Bridge	X		2 Undersize Fish Culverts Replaced
Capitol Forest ORV Trail Hardening	S Puget	SW/CEN			5.5 mi. ORV Trail				
Capitol Forest Trails M&O	S Puget	SW/CEN			87 mi. ORV Trail				
Iverson Trail Bridge	S Puget	SPS				1 New Bridge Equestrian, Mt. Bike, Hiking Trail			
Preston Railroad Grade Trail	S Puget	SPS			11 mi. Non-motorized trail Hardening				
Tahuya ORV Bridges	S Puget	SPS				1 New ORV Bridge; Retrofit 1 ORV Bridge			
Tahuya Trail Improvements	S Puget	SPS	6.5 mi. New ORV Const	Re-route and Close					
Tahuya/Green Trails Maintenance	S Puget	SPS			101 mi. ORV Maintenance				
Walker Valley Trail Upgrades	N Puget	NW	1 mi. New ORV Construction; 1.6 mi. Motorcycle Conversion to ORV			5 New ORV Bridges	X		
Yacolt ORV Bridges	Columbia	SW/CEN				3 New ORV Bridges	X		
Yacolt/Elochoman M&O	Columbia/S Coast	SW/CEN			21 mi. ORV Maintenance				
TOTALS			9.1 mi.		305.5 mi.	12 Bridges			2 Culverts

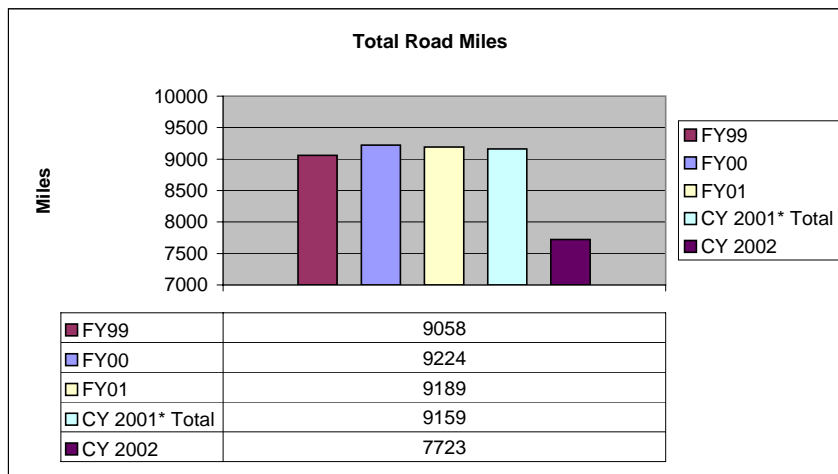
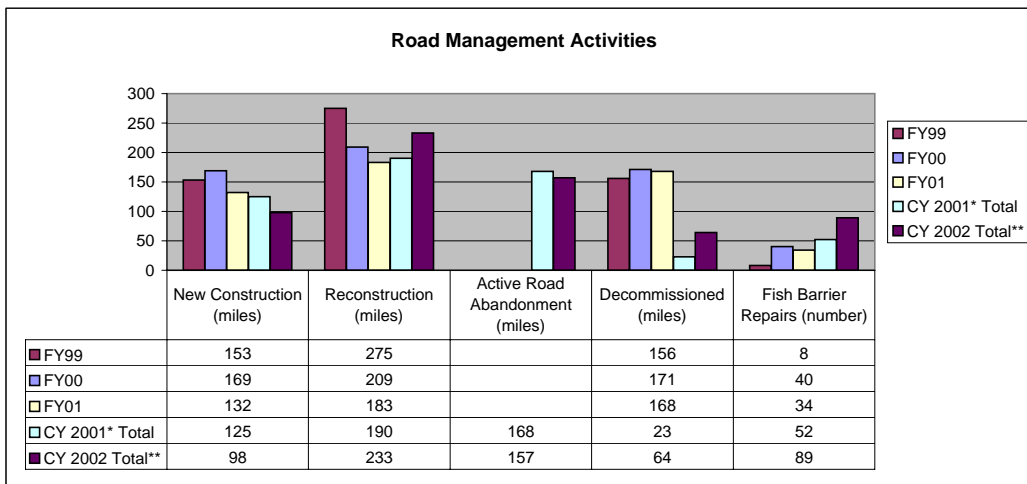
5. ROAD MANAGEMENT ACTIVITIES

**Calendar Year 2002
HCP ROAD MANAGEMENT ACTIVITIES**

FY 2003 HCP Annual Report

	HCP Planning Units										Totals			
	Chelan	Columbia	Klickitat	North Puget	OESF	South Coast	South Puget	Straits	Yakima	CY 2002 Total**	CY 2001* Total	FY01 Total	FY00 Total	FY99 Total
Total Road Miles	82	820	653	2000	1721	531	794	622	500	7723	9159	9189	9224	9058
CONSTRUCTION (miles)	3	16	10	38	3	8	6	9	5	98	125	132	169	153
RECONSTRUCTION (miles)	0	18	28	139	19	7	7	12	3	233	190	183	209	275
ACTIVE FOREST ROADS ABANDONED (miles)	0	34	4	90	0	10	6	1	12	157	168	N/A		
DECOMMISSIONED (miles)	0	7	3	1	40	0	0	3	10	64	23	168	171	156
FISH BARRIERS REMOVED (number)	0	19	8	7	13	30	9	2	1	89	52	34	40	8
PERCENT OF RMAP RESPONSIBILITY ASSESSED	3%	20%	28%	45%	52%	45%	75%	40%	34%	38%	25%	N/A	N/A	N/A

Source: Road Data Management System (RDMS)



*Calendar year 2001 data includes data from the last 6 months of FY 2001

**For CY 2002 Total Road Miles means Total Active Roads and is determined from RMAP assessments

6. LAND BASE CHANGES

Effects of Transactions

Fiscal Year 2003

Effects of Transactions on Permit Lands - July 2002 to June 2003

Information subject to corrections and additions over time.

Activity	Planning Unit						Totals
	Columbia	Klickitat	N Puget	S Coast	S Puget	Straits	
Total Acres Acquired	77.00	114.50	5.15	720.39	197.93	160.00	1,274.97
Total Acres Disposed	(242.00)	-	(1,181.36)	-	(195.75)	(82.12)	(1,701.23)
Net Change	(165.00)	114.50	(1,176.21)	720.39	2.18	77.88	(426.26)
Owl Habitat Acquired							
Designated Dispersal	-	-	-	-	-	-	-
Existing Dispersal (41+)	-	-	-	-	-	-	-
Designated NRF	-	114.50	-	-	-	-	114.50
Existing NRF (71+)	-	-	-	-	-	-	-
OESF	-	-	-	-	-	-	-
No Role	77.00	-	5.15	720.39	197.93	160.00	1,160.47
Owl Habitat Disposed							
Designated Dispersal	-	-	-	-	-	-	-
Existing Dispersal (41+)	-	-	-	-	-	-	-
Designated NRF	-	-	(167.86)	-	(195.00)	-	(362.86)
Existing NRF (71+)	-	-	(138.00)	-	(62.00)	-	(200.00)
OESF	-	-	-	-	-	-	-
No Role	(242.00)	-	(1,013.50)	-	(0.75)	(82.12)	(1,338.37)
Other Habitats Acquired							
Murrelet	-	-	-	-	-	-	-
Oregon silverspot butterfly	-	-	-	-	-	-	-
Aleutian Canadian goose	-	-	-	-	-	-	-
Bald eagle	-	-	-	-	-	-	-
Peregrine falcon	-	-	-	-	-	-	-
Gray wolf	-	-	-	-	-	-	-
Grizzly bear	-	-	-	-	-	-	-
Columbia white-tailed deer	-	-	-	-	-	-	-
Talus and cliffs	-	-	-	-	-	-	-
Meadows	-	-	-	-	-	-	-
Other Habitats Disposed							
Murrelet	-	-	-	-	-	-	-
Oregon silverspot butterfly	-	-	-	-	-	-	-
Aleutian Canadian goose	-	-	-	-	-	-	-
Bald eagle	-	-	-	-	-	-	-
Peregrine falcon	-	-	-	-	-	-	-
Gray wolf	-	-	-	-	-	-	-
Grizzly bear	-	-	-	-	-	-	-
Columbia white-tailed deer	-	-	-	-	-	-	-
Talus and cliffs	-	-	-	-	-	-	-
Meadows	-	-	-	-	-	-	-
Riparian: Stream Miles Acquired							
Stream type 1	-	0.58	-	2.18	0.84	-	3.60
Stream type 2	-	-	-	-	0.33	-	0.33
Stream type 3	0.41	-	-	1.02	0.24	-	1.67
Stream type 4	0.22	-	-	0.67	0.37	-	1.26
Stream type 5	0.27	-	-	2.48	-	0.20	2.95
Stream type 9	0.64	0.67	-	6.19	0.03	0.44	7.97
Total Miles	1.54	1.25	-	12.54	1.81	0.64	17.78
ROS/Slopes Acquired							
Rain on Snow	5.64	114.50	-	-	-	124.60	244.74
Unstable Slopes	26.71	-	-	3.95	4.85	95.63	131.14
Riparian: Stream Miles Disposed							
Stream Type 1	-	-	(0.17)	-	-	-	(0.17)
Stream type 2	-	-	-	-	-	-	-
Stream type 3	-	-	(0.19)	-	-	(0.59)	(0.78)
Stream type 4	(0.78)	-	(0.03)	-	(0.04)	(0.17)	(1.02)
Stream type 5	-	-	(0.93)	-	-	(0.03)	(0.96)
Stream type 9	-	-	(0.32)	-	(0.46)	-	(0.78)
Total Miles	(0.78)	-	(1.64)	-	0.59	(0.79)	(3.71)
ROS/Slopes Disposed							
Rain on Snow	-	-	(90.10)	-	-	-	(90.10)
Unstable Slopes	-	-	(78.71)	-	(11.85)	-	(90.56)

	Activity	Planning Unit					Totals	
		Columbia	Klickitat	N Puget	S Coast	S Puget		Straits
Zones:	Oak	-	106.00	-	-	-	-	106.00
Acquired	Puget Sound Douglas Fir	-	-	5.15	-	197.93	-	203.08
	Sitka Spruce	-	-	-	104.36	-	-	104.36
	Western Hemlock	77.00	-	-	616.03	-	160.00	853.03
	Interior Douglas Fir	-	8.50	-	-	-	-	8.50
	Total Acres	77.00	114.50	5.15	720.39	197.93	160.00	1,274.97
Zones:	<i>Puget Sound Douglas Fir</i>	-	-	(611.50)	-	-	(80.00)	(691.50)
Disposed	<i>Silver Fir</i>	-	-	(5.00)	-	-	-	(5.00)
	<i>Mountain Hemlock</i>	-	-	(402.00)	-	-	-	(402.00)
	<i>Willamette Valley</i>	(242.00)	-	-	-	-	-	(242.00)
	<i>Olympic Douglas Fir</i>	-	-	-	-	-	(0.12)	(0.12)
	<i>Western Hemlock</i>	-	-	(162.86)	-	(195.75)	(2.00)	(360.61)
	Total Acres	(242.00)	-	(1,181.36)	-	(195.75)	(82.12)	(1,701.23)
Age class	Open 0-10	77.00	40.20	-	362.00	10.09	128.00	617.29
Acquired	Regeneration 11-20	-	12.70	-	38.00	-	-	50.70
	Pole 21-40	-	-	-	-	38.60	-	38.60
	Closed 41-70	-	40.10	5.15	101.20	76.07	32.00	254.52
	Complex 71-100	-	-	-	-	-	-	-
	Complex 101-150	-	-	-	-	-	-	-
	Functional 150+	-	-	-	-	-	-	-
	Non-Forest Land	-	21.50	-	219.19	73.17	-	313.86
	Total Acres	77.00	114.50	5.15	720.39	197.93	160.00	1,274.97
Age class	<i>Open 0-10</i>	-	-	(125.20)	-	(47.75)	(4.70)	(177.65)
Disposed	<i>Regeneration 11-20</i>	-	-	(125.30)	-	-	(2.70)	(128.00)
	<i>Pole 21-40</i>	-	-	(126.50)	-	-	(2.60)	(129.10)
	<i>Closed 41-70</i>	-	-	(247.00)	-	(77.00)	(72.00)	(396.00)
	<i>Complex 71-100</i>	-	-	(200.50)	-	(62.00)	-	(262.50)
	<i>Complex 101-150</i>	-	-	(278.50)	-	-	-	(278.50)
	<i>Functional 150+</i>	-	-	(60.00)	-	-	-	(60.00)
	<i>Non-Forest Land</i>	(242.00)	-	(18.36)	-	(9.00)	(0.12)	(269.48)
	Total Acres	(242.00)	-	(1,181.36)	-	(195.75)	(82.12)	(1,701.23)
Age class	Open 0-10							
by Zone:	Western Hemlock	77.00	-	-	362.00	-	128.00	567.00
Acquired	Interior Doug Fir	-	1.40	-	-	-	-	1.40
	Puget Sound Doug Fir	-	-	-	-	10.09	-	10.09
	Oak	-	38.80	-	-	-	-	38.80
	Regeneration 11-20							
	Western Hemlock	-	-	-	38.00	-	-	38.00
	Interior Doug Fir	-	1.40	-	-	-	-	1.40
	Oak	-	11.30	-	-	-	-	11.30
	Pole 21-40							
	Western Hemlock	-	-	-	-	-	-	-
	Puget Sound Doug Fir	-	-	-	-	38.60	-	38.60
	Closed 41-70							
	Western Hemlock	-	-	-	18.00	-	32.00	50.00
	Interior Doug Fir	-	4.30	-	-	-	-	4.30
	Puget Sound Doug Fir	-	-	5.15	-	76.07	-	81.22
	Oak	-	35.80	-	-	-	-	35.80
	Sitka Spruce	-	-	-	83.20	-	-	83.20
	Complex 71-100							
	Complex 101-150							
	Functional 150							
	Non-Forest Land							
	Western Hemlock	-	-	-	198.03	-	-	198.03
	Interior Doug Fir	-	2.30	-	-	-	-	2.30
	Puget Sound Doug Fir	-	-	-	-	73.17	-	73.17
	Oak	-	19.20	-	-	-	-	19.20
	Sitka Spruce	-	-	-	21.16	-	-	21.16
	Total Acres	77.00	114.50	5.15	720.39	197.93	160.00	1,274.97
Age class	Open 0-10							
by Zone:	Western Hemlock	-	-	(3.80)	-	(47.75)	(2.00)	(53.55)
Disposed	Mountain Hemlock	-	-	(56.00)	-	-	-	(56.00)
	Puget Sound Doug Fir	-	-	(64.90)	-	-	(2.70)	(67.60)
	Silver Fir	-	-	(0.50)	-	-	-	(0.50)

Activity	Planning Unit						Totals
	Columbia	Klickitat	N Puget	S Coast	S Puget	Straits	
Regeneration 11-20							
Western Hemlock	-	-	(3.80)	-	-	-	(3.80)
Mountain Hemlock	-	-	(56.00)	-	-	-	(56.00)
Puget Sound Doug Fir	-	-	(65.00)	-	-	(2.70)	(67.70)
Silver Fir	-	-	(0.50)	-	-	-	(0.50)
Pole 21-40							
Western Hemlock	-	-	(3.87)	-	-	-	(3.87)
Mountain Hemlock	-	-	(57.00)	-	-	-	(57.00)
Puget Sound Doug Fir	-	-	(65.10)	-	-	(2.60)	(67.70)
Silver Fir	-	-	(0.53)	-	-	-	(0.53)
Closed 41-70							
Western Hemlock	-	-	(9.00)	-	(77.00)	-	(86.00)
Mountain Hemlock	-	-	(230.00)	-	-	-	-
Puget Sound Doug Fir	-	-	(8.00)	-	-	(72.00)	(80.00)
Complex 71-100							
Western Hemlock	-	-	-	-	(62.00)	-	(62.00)
Puget Sound Doug Fir	-	-	(200.50)	-	-	-	-
Complex 101-150							
Western Hemlock	-	-	(74.75)	-	-	-	(74.75)
Puget Sound Doug Fir	-	-	(200.50)	-	-	-	(200.50)
Silver Fir	-	-	(3.25)	-	-	-	(3.25)
Functional 150							
Western Hemlock	-	-	(60.00)	-	-	-	(60.00)
Non-Forest Land							
Western Hemlock	-	-	(7.68)	-	(9.00)	-	(16.68)
Mountain Hemlock	-	-	(3.00)	-	-	-	(3.00)
Puget Sound Doug Fir	-	-	(7.50)	-	-	-	(7.50)
Silver Fir	-	-	(0.18)	-	-	-	(0.18)
Olympic Douglas Fir	-	-	-	-	-	(0.12)	(0.12)
Willamette Valley	(242.00)	-	-	-	-	-	(242.00)
Total Acres	(242.00)	-	(1,181.36)	-	(195.75)	(82.12)	(1,701.23)

Effects of Transactions

January 1997 through June 2003

Effects of Transactions of Permit Lands - January 1997 to June 2003

Information subject to corrections and additions over time.

Activity		Planning Unit									Totals
		Chelan	Columbia	Klickitat	N Puget [1]	OESF	S Coast	S Puget	Straits	Yakima	
	Total Acres Acquired	403.57	5,622.50	1,002.45	11,226.07	3,180.90	3,897.20	10,442.50	1,222.72	39.15	37,037.06
	Total Acres Disposed	-	(9,911.01)	-	(4,637.84)	(837.21)	(2,605.91)	(5,672.15)	(82.12)	-	(23,746.24)
	Net Change - Acres	403.57	(4,288.51)	1,002.45	6,588.23	2,343.69	1,291.29	4,770.35	1,140.60	39.15	13,290.82
Owl Habitat Acquired	Designated Dispersal	-	-	-	10.00	-	-	7,346.73	-	-	7,356.73
	Existing Dispersal (41+)	-	-	-	10.00	-	-	3,279.46	-	-	3,289.46
	Designated NRF	203.57	380.00	992.45	2,076.24	-	-	-	-	-	3,652.26
	Existing NRF (71+)	-	17.39	126.00	-	-	-	-	-	-	143.39
	OESF	-	-	-	-	3,180.90	-	-	-	-	3,180.90
	No Role	200.00	5,242.50	10.00	9,139.83	-	3,897.20	3,095.77	1,222.72	39.15	22,847.17
Owl Habitat Disposed	Designated Dispersal	-	(6,754.57)	-	(734.36)	-	(560.00)	(100.00)	-	-	(8,148.93)
	Existing Dispersal (41+)	-	(2,325.82)	-	(109.00)	-	(38.70)	(93.20)	-	-	(2,566.72)
	Designated NRF	-	(1,284.53)	-	(289.41)	-	-	(195.00)	-	-	(1,768.94)
	Existing NRF (71+)	-	(389.49)	-	(138.00)	-	-	(62.00)	-	-	(589.49)
	OESF	-	-	-	-	(838.21)	-	-	-	-	(838.21)
	No Role	-	(1,871.91)	-	(3,614.07)	1.00	(2,045.91)	(5,377.15)	(82.12)	-	(12,990.16)
Other Habitats Acquired	Murrelet	-	-	-	-	-	-	-	-	-	-
	Oregon silverspot butterfly	-	-	-	-	-	-	-	-	-	-
	Aleutian Canadian goose	-	-	-	-	-	-	-	-	-	-
	Bald eagle	-	-	-	20.00	-	-	-	-	-	20.00
	Peregrine falcon	-	-	-	-	-	-	-	-	-	-
	Gray wolf	-	-	-	-	-	-	-	-	-	-
	Grizzly bear	-	-	-	-	-	-	-	-	-	-
	Columbia white-tailed deer	-	-	-	-	-	-	-	-	-	-
	Talus and cliffs	-	-	-	325.00	-	-	-	-	-	325.00
	Meadows	102.50	-	70.45	-	-	-	-	-	-	172.95
Other Habitats Disposed	Murrelet	-	(567.61)	-	-	-	-	(279.91)	-	-	(847.52)
	Oregon silverspot butterfly	-	-	-	-	-	-	-	-	-	-
	Aleutian Canadian goose	-	-	-	-	-	-	-	-	-	-
	Bald eagle	-	-	-	(5.00)	(49.42)	-	-	-	-	(54.42)
	Peregrine falcon	-	-	-	-	-	-	-	-	-	-
	Gray wolf	-	-	-	-	-	-	-	-	-	-
	Grizzly bear	-	-	-	-	-	-	-	-	-	-
	Columbia white-tailed deer	-	-	-	-	-	-	-	-	-	-
	Talus and cliffs	-	(87.00)	-	(20.00)	-	-	-	-	-	(107.00)
	Meadows	-	(82.00)	-	-	-	-	-	-	-	(82.00)
Riparian: Acquired	Stream type 1	-	2.41	3.70	11.96	0.32	9.23	3.05	-	-	30.67
	Stream type 2	-	-	1.12	0.18	1.02	0.91	0.36	-	-	3.59
	Stream type 3	-	8.24	1.01	11.79	7.24	7.01	9.09	-	-	44.38
	Stream type 4	0.96	9.93	-	13.38	2.25	5.73	10.70	0.31	-	43.26
	Stream type 5	2.47	36.03	0.26	28.50	8.99	9.54	36.14	4.41	-	126.34
	Stream type 9	4.47	39.18	2.79	22.88	4.85	21.59	12.71	2.83	0.25	111.55
	Total Miles	7.90	95.79	8.88	88.69	24.67	54.01	72.05	7.55	0.25	359.79
ROS/Slopes Acquired	Rain on Snow	-	1,070.74	901.45	2,203.10	4.47	-	3,165.84	925.75	3.43	8,274.78
	Unstable Slopes	23.10	836.11	-	959.68	1,137.10	158.50	104.84	923.77	-	4,143.10
Stream Miles Disposed	Stream type 1	-	(1.32)	-	(3.37)	(0.30)	(0.14)	(0.69)	-	-	(5.82)
	Stream type 2	-	-	-	(0.33)	0.00	(1.97)	0.00	-	-	(2.30)
	Stream type 3	-	(15.78)	-	(11.64)	(2.18)	(2.68)	(199.66)	(0.59)	-	(232.53)
	Stream type 4	-	(10.01)	-	(0.47)	(1.71)	(3.89)	(2.62)	(0.17)	-	(18.87)
	Stream type 5	-	(49.42)	-	(3.98)	(5.15)	(12.28)	(3.21)	(0.03)	-	(74.07)
	Stream type 9	-	(31.06)	-	(1.52)	0.00	(13.80)	(7.97)	-	-	(54.35)
	Total Miles	-	(107.59)	-	(21.31)	(9.34)	(34.76)	(214.15)	(0.79)	-	(387.94)
ROS/Slopes Disposed	Rain on Snow	-	(3,611.18)	-	(627.08)	(78.46)	(20.46)	(161.66)	-	-	(4,498.84)
	Unstable Slopes	-	(1,127.60)	-	(456.81)	(14.09)	(31.50)	(61.10)	-	-	(1,691.10)
Zones: Acquired	Interior Douglas Fir	203.57	-	128.50	-	-	-	-	-	-	332.07
	Olympic Douglas Fir	-	-	-	-	-	-	-	161.45	-	161.45
	Puget Sound Douglas Fir	-	-	-	140.67	-	-	1,770.06	0.75	-	1,911.48
	Silver Fir	-	-	-	983.29	-	-	39.32	-	-	1,022.61
	Sitka Spruce	-	-	-	-	389.08	1,312.49	-	-	-	1,701.57
	Western Hemlock	-	5,622.50	-	7,973.35	2,791.82	2,360.19	8,633.30	1,060.52	-	28,441.68
	Subalpine Fir	-	-	-	-	-	-	-	-	-	-
	Mt. Hemlock	-	-	-	2,010.59	-	-	-	-	-	2,010.59
	Oak	-	-	873.95	-	-	-	-	-	-	873.95
	Three-tip Sage	40.00	-	-	-	-	-	-	-	-	40.00
	Central Arid Steppe	120.00	-	-	-	-	-	-	-	26.15	146.15
	Ponderosa Pine	40.00	-	-	-	-	-	-	-	13.00	53.00
	Woodland/Prairie Mosaic	-	-	-	118.17	-	224.52	-	-	-	342.69
	Total Acres	403.57	5,622.50	1,002.45	11,226.07	3,180.90	3,897.20	10,442.68	1,222.72	39.15	37,037.24

Activity	Planning Unit										Totals	
	Chelan	Columbia	Klickitat	N Puget	OESF	S Coast	S Puget	Straits	Yakima			
Zones:	Interior Douglas Fir	-	-	-	-	-	-	-	-	-	-	
Disposed	Mountain Hemlock	-	-	-	(412.75)	-	-	-	-	-	(412.75)	
	Puget Sound Douglas Fir	-	-	-	(1,006.30)	-	(148.71)	(2,458.40)	(80.00)	-	(3,693.41)	
	Olympic Douglas Fir	-	-	-	-	-	-	-	(0.12)	-	(0.12)	
	Silver Fir	-	(1,250.23)	-	(550.00)	-	-	(488.00)	-	-	(2,288.23)	
	Sitka Spruce	-	-	-	-	(54.21)	(1,120.00)	-	-	-	(1,174.21)	
	Western Hemlock	-	(8,378.78)	-	(2,668.79)	(783.00)	(926.77)	(2,164.75)	(2.00)	-	(14,924.09)	
	Woodland/Prairie	-	-	-	-	-	-	(561.00)	-	-	(561.00)	
	Willamette Valley	-	(242.00)	-	-	-	-	-	-	-	(242.00)	
	Cowlitz River	-	(40.00)	-	-	-	(410.43)	-	-	-	(450.43)	
		Total Acres	-	(9,911.01)	-	(4,637.84)	(837.21)	(2,605.91)	(5,672.15)	(82.12)	-	(23,746.24)
Age class	Open 0-10	97.50	3,821.50	184.65	2,006.65	216.28	1,680.13	2,710.03	289.45	-	11,006.19	
Acquired	Regeneration 11-20	-	2.00	12.70	2,357.57	509.80	542.01	1,224.41	-	-	4,648.49	
	Pole 21-40	0.50	355.00	-	807.56	1,541.21	172.02	1,959.65	-	-	4,835.94	
	Closed 41-70	2.57	1,364.34	89.10	4,580.73	633.50	872.87	3,308.31	907.72	-	11,759.14	
	Complex 71-100	-	26.39	136.00	165.57	113.30	-	597.49	-	-	1,038.75	
	Complex 101-150	-	-	10.00	-	-	-	97.50	-	12.15	119.65	
	Functional 150+	-	-	-	7.00	-	-	-	-	-	7.00	
	Non-Forest Land	303.00	53.27	570.00	1,300.99	166.81	630.17	545.29	25.55	27.00	3,622.08	
		Total Acres	403.57	5,622.50	1,002.45	11,226.07	3,180.90	3,897.20	10,442.68	1,222.72	39.15	37,037.24
Age class	Open 0-10	-	(2,048.85)	-	(685.21)	(42.21)	(655.25)	(655.24)	(4.70)	-	(4,091.46)	
Disposed	Regeneration 11-20	-	(1,307.22)	-	(265.32)	-	(679.67)	(143.21)	(2.70)	-	(2,398.12)	
	Pole 21-40	-	(2,027.53)	-	(637.57)	(207.35)	(304.61)	(275.30)	(2.60)	-	(3,454.96)	
	Closed 41-70	-	(2,474.12)	-	(1,946.89)	(413.00)	(813.63)	(1,683.71)	(72.00)	-	(7,403.35)	
	Complex 71-100	-	(443.20)	-	(481.86)	(140.95)	(33.00)	(1,462.78)	-	-	(2,561.79)	
	Complex 101-150	-	(689.71)	-	(283.50)	-	-	(451.80)	-	-	(1,425.01)	
	Functional 150+	-	(168.99)	-	(119.00)	-	-	(588.00)	-	-	(875.99)	
	Non-Forest Land	-	(751.39)	-	(218.49)	(33.70)	(119.75)	(412.11)	(0.12)	-	(1,535.56)	
		Total Acres	-	(9,911.01)	-	(4,637.84)	(837.21)	(2,605.91)	(5,672.15)	(82.12)	-	(23,746.24)
	Age class	Open 0-10	-	-	-	133.50	-	-	-	-	-	133.50
by Zone:	Mt Hemlock	-	-	-	133.50	-	-	-	-	-	133.50	
	PS Douglas Fir	-	-	-	-	-	-	256.26	-	-	256.26	
	Interior Doug Fir	97.50	-	3.90	-	-	-	-	-	-	101.40	
	Olympic Doug Fir	-	-	-	-	-	-	-	161.45	-	161.45	
	Silver Fir	-	-	-	344.87	-	-	-	-	-	344.87	
	Sitka Spruce	-	-	-	-	77.69	282.15	-	-	-	359.84	
	Western Hemlock	-	3,821.50	-	1,535.28	138.92	1,349.46	2,453.77	128.00	-	9,426.93	
	Oak	-	-	180.75	-	-	-	-	-	-	180.75	
	Woodlnd Prairie Mosaic	-	-	-	-	-	48.52	-	-	-	48.52	
	Regeneration 11-20	-	-	-	-	-	-	296.49	-	-	296.49	
Acquired	PS Douglas Fir	-	-	-	-	-	-	296.49	-	-	296.49	
	Interior Doug Fir	-	-	1.20	-	-	-	-	-	-	1.20	
	Silver Fir	-	-	-	10.50	-	-	39.32	-	-	49.82	
	Sitka Spruce	-	-	-	-	60.96	252.71	-	-	-	313.67	
	Western Hemlock	-	2.00	-	2,093.57	448.71	182.30	888.60	-	-	3,615.18	
	Oak	-	-	11.50	-	-	-	-	-	-	11.50	
	Mt Hemlock	-	-	-	270.50	-	-	-	-	-	270.50	
	Woodlnd Prairie Mosaic	-	-	-	-	-	107.00	-	-	-	107.00	
	Pole 21-40	-	-	-	-	-	-	584.65	-	-	584.65	
	PS Douglas Fir	-	-	-	-	-	-	584.65	-	-	584.65	
Interior Doug Fir	0.50	-	-	-	-	-	-	-	-	0.50		
Silver Fir	-	-	-	79.91	-	-	-	-	-	79.91		
Sitka Spruce	-	-	-	-	142.66	88.02	-	-	-	230.68		
Western Hemlock	-	355.00	-	589.65	1,251.70	20.00	1,375.00	-	-	3,591.35		
Mt Hemlock	-	-	-	138.00	-	-	-	-	-	138.00		
Woodlnd Prairie Mosaic	-	-	-	-	-	64.00	-	-	-	64.00		
Closed 41-70	-	-	-	1,052.40	-	-	-	-	-	1,052.40		
Mt Hemlock	-	-	-	1,052.40	-	-	-	-	-	1,052.40		
PS Douglas Fir	-	-	-	117.97	-	-	239.32	-	-	357.29		
Interior Doug Fir	2.57	-	4.00	-	-	-	-	-	-	6.57		
Silver Fir	-	-	-	428.16	-	-	-	-	-	428.16		
Sitka Spruce	-	-	-	-	52.54	566.87	-	-	-	619.41		
Western Hemlock	-	1,364.34	-	2,853.43	729.40	301.00	3,068.99	907.72	-	9,224.88		
Oak	-	-	85.10	-	-	-	-	-	-	85.10		
Woodlnd Prairie Mosaic	-	-	-	104.77	-	5.00	-	-	-	109.77		
Complex 71-100	-	-	-	47.97	-	-	-	-	-	47.97		
Silver Fir	-	-	-	47.97	-	-	-	-	-	47.97		
PS Douglas Fir	-	-	-	-	-	-	63.93	-	-	63.93		
Interior Doug Fir	-	-	24.20	-	-	-	-	-	-	24.20		
Sitka Spruce	-	-	-	-	49.97	-	-	-	-	49.97		
Western Hemlock	-	26.39	-	117.60	61.47	-	533.56	-	-	739.02		
Oak	-	-	111.80	-	-	-	-	-	-	111.80		
Complex 101-150	-	-	-	-	-	-	97.50	-	-	97.50		
Western Hemlock	-	-	-	-	-	-	97.50	-	-	97.50		
Oak	-	-	10.00	-	-	-	-	-	-	10.00		
Central Arid Steppe	-	-	-	-	-	-	-	-	8.15	8.15		
Ponderosa Pine	-	-	-	-	-	-	-	-	4.00	4.00		

Activity	Planning Unit									Totals
	Chelan	Columbia	Klickitat	N Puget	OESF	S Coast	S Puget	Straits	Yakima	
Functional 150+										
Western Hemlock	-	-	-	7.00	-	-	-	-	-	7.00
Non-Forest Land										
Mt Hemlock	-	-	-	416.19	-	-	-	-	-	416.19
PS Douglas Fir	-	-	-	22.70	-	-	329.59	0.75	-	353.04
Interior Doug Fir	103.00	-	95.20	-	-	-	-	-	-	198.20
Silver Fir	-	-	-	71.88	-	-	-	-	-	71.88
Sitka Spruce	-	-	-	-	5.26	122.74	-	-	-	128.00
Western Hemlock	-	53.27	-	776.82	161.62	507.43	215.70	24.80	-	1,739.64
Oak	-	-	474.80	-	-	-	-	-	-	474.80
Woodland Prairie Mos.	-	-	-	13.40	-	-	-	-	-	13.40
Three-tip Sage	40.00	-	-	-	-	-	-	-	-	40.00
Central Arid Steppe	120.00	-	-	-	-	-	-	-	18.00	138.00
Ponderosa Pine	40.00	-	-	-	-	-	-	-	9.00	49.00
Total Acres	403.57	5,622.50	1,002.45	11,226.07	3180.9	3,897.20	10,442.68	1,222.72	39.15	37,037.24
<i>Age class by Zone:</i>										
<i>Disposed</i>										
Open 0-10										
PS Douglas Fir	-	-	-	(103.84)	-	(39.15)	(222.29)	(2.70)	-	(367.98)
Silver Fir	-	(169.90)	-	(0.50)	(42.21)	-	(191.70)	-	-	(404.31)
Western Hemlock	-	(1,878.95)	-	(524.87)	-	(438.10)	(80.55)	(2.00)	-	(2,924.47)
Mt Hemlock	-	-	-	(56.00)	-	-	-	-	-	(56.00)
Cowlitz River	-	-	-	-	-	(178.00)	-	-	-	(178.00)
Woodlnd Prairie Mosaic	-	-	-	-	-	-	(160.70)	-	-	(160.70)
Regeneration 11-20										
PS Douglas Fir	-	-	-	(65.00)	-	-	(2.00)	(2.70)	-	(69.70)
Silver Fir	-	(239.50)	-	(12.38)	-	-	(115.70)	-	-	(367.58)
Sitka Spruce	-	-	-	-	-	(339.00)	-	-	-	(339.00)
Western Hemlock	-	(1,067.72)	-	(131.94)	-	(340.67)	(25.51)	-	-	(1,565.84)
Mt Hemlock	-	-	-	(56.00)	-	-	-	-	-	(56.00)
Pole 21-40										
PS Douglas Fir	-	-	-	(93.46)	-	-	(221.00)	(2.60)	-	(317.06)
Silver Fir	-	(277.62)	-	(59.61)	-	-	(12.10)	-	-	(349.33)
Sitka Spruce	-	-	-	-	-	(169.20)	-	-	-	(169.20)
Western Hemlock	-	(1,741.93)	-	(427.50)	(207.35)	(65.41)	(33.20)	-	-	(2,475.39)
Mt Hemlock	-	-	-	(57.00)	-	-	-	-	-	(57.00)
Cowlitz River	-	(8.00)	-	-	-	(70.00)	-	-	-	(78.00)
Woodlnd Prairie Mosaic	-	-	-	-	-	-	(9.00)	-	-	(9.00)
Closed 41-70										
Mt Hemlock	-	-	-	(230.00)	-	-	-	-	-	(230.00)
PS Douglas Fir	-	-	-	(83.43)	-	(83.00)	(596.63)	(72.00)	-	(835.06)
Silver Fir	-	(47.82)	-	(450.00)	-	-	(33.70)	-	-	(531.52)
Sitka Spruce	-	-	-	-	-	(596.30)	-	-	-	(596.30)
Western Hemlock	-	(2,426.30)	-	(1,183.46)	(413.00)	(20.00)	(704.19)	-	-	(4,746.95)
Woodlnd Prairie Mosaic	-	-	-	-	-	-	(352.80)	-	-	(352.80)
Cowlitz River	-	-	-	-	-	(114.33)	-	-	-	(114.33)
Complex 71-100										
PS Douglas Fir	-	-	-	(346.86)	-	-	(555.28)	-	-	(902.14)
Silver Fir	-	-	-	(1.70)	-	-	-	-	-	(1.70)
Western Hemlock	-	(417.70)	-	(133.30)	(140.95)	(33.00)	(917.70)	-	-	(1,642.65)
Cowlitz River	-	(25.50)	-	-	-	-	-	-	-	(25.50)
Complex 101-150										
PS Douglas Fir	-	-	-	(200.50)	-	-	(46.10)	-	-	(246.60)
Silver Fir	-	(345.50)	-	(5.10)	-	-	(123.70)	-	-	(474.30)
Western Hemlock	-	(344.21)	-	(77.90)	-	-	(341.01)	-	-	(763.12)
Functional 150+										
PS Douglas Fir	-	-	-	-	-	-	(588.00)	-	-	(588.00)
Silver Fir	-	(131.49)	-	(1.00)	-	-	-	-	-	(132.49)
Western Hemlock	-	(37.50)	-	(118.00)	-	-	-	-	-	(155.50)
Non-Forest Land										
Mt Hemlock	-	-	-	(13.75)	-	-	-	-	-	(13.75)
PS Douglas Fir	-	-	-	(113.21)	-	(26.00)	(227.10)	-	-	(366.31)
Silver Fir	-	(38.40)	-	(19.71)	-	-	(11.10)	-	-	(69.21)
Sitka Spruce	-	-	-	-	(12.00)	(15.50)	-	-	-	(27.50)
Western Hemlock	-	(464.47)	-	(71.82)	(21.70)	(30.15)	(62.59)	-	-	(650.73)
Woodlnd Prairie Mosaic	-	-	-	-	-	-	(38.50)	-	-	(38.50)
Cowlitz River	-	(6.50)	-	-	-	(48.10)	-	-	-	(54.60)
Willamette Valley	-	(242.00)	-	-	-	-	-	-	-	(242.00)
Olympic Doug Fir	-	-	-	-	-	-	-	(0.12)	-	(0.12)
Total Acres	-	(9,911.01)	-	(4,637.84)	(837.21)	(2,605.91)	(5,672.15)	(82.12)	-	(23,746.24)

NOTE: Forest zone acreages have been revised for this report, due to more accurate mapping and acreage calculation methods.

7. MONITORING

HCP MONITORING

In exchange for federal incidental take permits and unlisted species agreements, the Washington State Department of Natural Resources (DNR) has agreed to manage forested state trust lands to provide habitat for salmonids, spotted owls, marbled murrelets, and numerous other wildlife species, many of which depend on late-successional forest, riparian forest, or uncommon habitats. Implementing DNR’s Habitat Conservation Plan (HCP) in an economically efficient manner is an enormous challenge. Many of the silvicultural systems and forest practices needed to meet this challenge are untested or have yet to be developed. Sound application of silvicultural and ecological knowledge, creative ideas, and reliable information are needed to develop innovative forest management capable of achieving the implicit economic and ecological objectives of DNR’s HCP. Reliable information that is directly applicable to DNR managed lands can only be obtained through well planned and well executed monitoring and research.

A hierarchy consisting of three types of monitoring – implementation, effectiveness, and validation – has become a common organizational framework for monitoring programs in forest management (Table 1). Implementation monitoring (also known as compliance monitoring) simply determines whether or not a management plan (e.g., an HCP) is implemented properly on the ground. Effectiveness monitoring is done to determine whether or not the management plan is producing the desired habitat conditions. Validation monitoring is done to determine whether or not certain species respond to the desired habitat conditions as anticipated. Research supports the completion of conservation strategies, tests promising treatment alternatives to current practice, and contributes to the ecological foundation of management practice.

Table 1. Objectives of different types of long-term monitoring, current monitoring and research projects for the DNR HCP.

Type of Long-term Monitoring for the DNR HCP			
	Effectiveness	Validation	Research
Objective	To determine whether the conservation strategies result in anticipated habitat conditions	To evaluate relationships between anticipated habitat conditions and animal populations	1) To provide information for completing the conservation strategies 2) To test alternative procedures to achieve the conservation strategy
Current Monitoring	<ul style="list-style-type: none"> • Riparian Silviculture • Riparian forest integrity • Riparian in-stream conditions and trends • Spotted Owl habitat creation/restoration 	<ul style="list-style-type: none"> • Spotted Owl • Salmon 	<ul style="list-style-type: none"> • Marbled murrelet • Small streams

Research and monitoring implies adaptive management. Monitoring is the feedback loop providing information for management decisions in the adaptive management process. The department focuses on research and monitoring to eliminate the information barriers to full HCP implementation and improve its ability to meet its management goals through adaptive management.

An HCP Monitoring/Scientific Section was established in 2001 with the objective of providing a centralized approach to implementation, effectiveness and validation monitoring, and research, and also providing a systematic, consistent process for reporting HCP compliance to the Services. To further demonstrate the department's commitment to monitoring, this year the HCP Monitoring/Scientific Section has restructured organizationally and added key lead scientist positions that will specifically be responsible for implementation monitoring, owl and murrelet effectiveness monitoring, riparian effectiveness monitoring, unstable slopes monitoring, and validation monitoring and research. Another key scientist position was established to provide HCP consultative services to the regions and also to be the DNR lead scientist responsible for developing the long-term marbled murrelet strategy.

Implementation Monitoring

After completing a HCP implementation monitoring pilot project last year, we began an evaluation of the pilot project in order to help us assess some of our original objectives. The original objectives included:

- ❑ Testing and refining some of the technical aspects of implementation monitoring
- ❑ Identifying any possible logistical problems of implementation monitoring
- ❑ Testing and refining methods of sampling
- ❑ Determining adequate sample size to achieve desired confidence intervals
- ❑ Determining approximate costs of doing implementation monitoring in all of the planning units

Based on the pilot project evaluation, we decided to revise the implementation-monitoring plan to incorporate improved methods and increased efficiencies. The major changes to this year's implementation monitoring strategy are:

- ❑ Sampling HCP elements or strategies rather than activities, and
- ❑ Stratifying the elements with positive responses so that we can more easily predict a statistically valid sample size.

By doing this we were also able to incorporate some of the less frequently implemented HCP elements into our monitoring sample.

This summer and fall we conducted our implementation monitoring field visits to all of the HCP Planning Units. Two major elements of the HCP were selected for review, the spotted owl element and the stream typing and riparian buffer elements. Two less frequently implemented HCP elements (mineral springs and balds) were also reviewed this year. We selected timber management activities, non-timber management activities and silvicultural management activities for review. Silvicultural management activities are distinguished from timber management activities by being non-revenue generating and include such activities as tree planting, vegetation management, and pre-commercial thinning. Activities were selected for review using the following techniques:

- ❑ A 10% random sample of Silvicultural management activities was selected. From the 10% sample, those that required HCP checklist preparation and triggered a positive response for the owl or riparian element were sampled 100%.
- ❑ All non-timber management activities requiring an HCP checklist that triggered a positive owl or riparian response were sampled 100%.
- ❑ Timber management activities that triggered a positive owl response were sampled 100%.
- ❑ If an activity selected for owl review also had a positive response for the riparian element, it was automatically selected for riparian review as well.

- To make up the remainder of the riparian sample, (predetermined to be 28% of the total population) activities were randomly selected using a random numbers table.

Currently we are analyzing the information we collected during the review process and will provide the Services with a monitoring report under separate cover.

Unstable Slopes Pilot Study

During 2003 DNR also conducted a pilot project to evaluate the process by which the department assesses slope stability for timber management activities and to set a baseline for beginning the process of implementation and effectiveness monitoring.

Objectives of the pilot project were to:

- Assess the consistency and accuracy of landform identification by documenting who is assessing timber sales for potential slope instability (e.g. forester, geologist, or other) and how unstable landforms are being delineated, recorded and protected.
- Track how mitigation recommendations are carried through the sale planning process and, if possible, whether they were implemented on the ground.
- Document current post-harvest ground conditions for future effectiveness monitoring.
 - In order to establish a baseline for effectiveness monitoring, the pilot study had to determine what, if any, mitigation measures were applied (implementation monitoring).
 - Once the implemented mitigation is recorded, it is necessary to continue to monitor over time to determine if the implemented mitigation is successful in preventing an increase in the frequency or severity of slope failure (effectiveness monitoring).

During the upcoming year the department will assess how best to establish a program for monitoring of unstable slopes and how to integrate this program with the HCP monitoring process.

Effectiveness Monitoring, Validation Monitoring, and Research

The following provides a summary of current DNR HCP effectiveness monitoring, validation monitoring, and research (see Table 1). The projects within each conservation strategy are arranged by topical area. Projects are multifaceted in the questions they address, thus there is often considerable overlap between research and monitoring in a given project.

Riparian Conservation Strategy

The objective of this monitoring and research is to increase confidence in our ability to integrate biodiversity type thinning of riparian areas and help promote acceleration of older stand conditions in riparian areas, help develop the next generation of guidance for the management of wind throw and support the development of the Type 5 stream conservation strategy. In addition, this work supports the adaptive management goals of the riparian conservation strategy, such as reexamination of watershed condition and changes in aquatic habitat 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) Small Stream Buffer Experimentation - Research

The DNR in cooperation with the USFS Pacific Northwest Experiment Station initiated a project to determine the possible local and down stream impacts and consequences of different management approaches on first order streams in western Washington. The results of this study will help support the development of a long-term conservation strategy for Type 5 streams on state lands in western Washington. The Federal Services are anticipating a DNR long-term conservation strategy for Type 5 streams by 2007.

The study design tests the potential impacts of different management approaches. The following key questions define the objectives of the study:

- How does timber harvesting effect headwater stream functions, i.e., potential sediment delivery, channel morphology, water temperature and chemistry, and changes in plant communities, water levels, and amphibian and invertebrate populations?
- What specific headwater stream functions need to be protected to meet the conservation goal and how will these be measured?
- What are the options for protecting headwater stream functions within the scope of the DNR HCP riparian management strategy?

The study design imposes a range of forested buffer configurations on adjacent headwater streams. The three buffer configurations that we are comparing are: variable buffer widths, fixed widths and no buffers. Each set of streams uses an unmanaged stream as a control. Treatments are controlled within the entire headwater stream basin (typically 10 to 60 ac).

Project activities:

- Updating of the DNR small stream literature review, illustrating the gaps and needed areas of research. This review can be found on the web at <http://www2.wadnr.gov/type5/>.
- Initiation of pre-treatment measurements on nine sets of headwater streams located in the DNR Central region.
- Competed for and obtained additional funding from DNR forest practices
- Began a cooperative study with the Washington State Department of Ecology on stream temperature monitoring.
- A poster entitled "Testing Different Riparian Buffer Configurations along First Order Streams: A Cooperative Study" was presented at an Oregon State University Small Stream conference in January 2002.
- Made preparations with Central region for the first implementation of treatments during the summer of 2003.
- Supported a University of Washington Graduate Student researching the influence of basin size and geology on the seasonality of stream flow.

2) Small Wetland Management Alternatives - Research

The DNR HCP specifies that seeps and wetlands smaller 0.25 acre will be afforded the same protections as Type 5 waters. Research to study the effects on aquatic resources of forest management in and around seeps and small wetlands will be included in research programs for Type 5 waters. Although several stream associated wetlands

occur along the stream in the small stream buffer study, the cooperation in the below projects have provided a state of the art understanding of existing information of forested wetland ecology and management.

Project activities:

- ❑ In cooperation with the Cooperative Monitoring and Evaluation and Research (CMER) committee, the DNR HCP research section was a major contributor in the production of the workshop “*Forested Wetlands and Silvicultural Practices*” that was held in Lacey Washington on November 1, 2002.
- ❑ Also in cooperation with the CMER Wetland Scientific Advisory Group, a draft annotated bibliography and literature review was produced entitled “*Pacific Northwest Forested Wetland Literature Survey Synthesis*”.

3) Riparian Silviculture - Effectiveness Monitoring

Testing current and alternative riparian forest management is one of the ongoing long-term effectiveness monitoring projects. These experimental commercial thinnings of riparian forests are designed to test alternatives to meet the goals of the department.

Project activities:

- ❑ Three replicates of riparian silviculture effectiveness monitoring are currently being established on the OESF.
- ❑ Pre-treatment stand data has been collected on the H-1320 monitoring site.

4) Riparian Silviculture Modeling – Research and Effectiveness Monitoring

In cooperation with the University of Washington’s Olympic Natural Resources Center, we are developing a riparian specific version of the Landscape Management System and riparian specific silvicultural prescriptions. This modeling tool will help quantify working hypotheses being tested in effectiveness monitoring.

Project activities:

- ❑ A working model was delivered to DNR, a revision of the stream shading and down wood recruitment calculators are underway.

5) Windthrow in Riparian Areas– Research and Effectiveness Monitoring

Initiated in 1998, the information from this project was used to redesign the windthrow monitoring approach and will help in the design of future experimental tests of wind buffers. Our current monitoring is focused on the OESF planning unit to quantify the historic windthrow extent in unmanaged RMZ’s. We are using a chronosequence of existing aerial photographs to measure extent of wind impacts on canopies in RMZ’s from the early 1990’s.

Project activities:

- ❑ The DNR is cooperating with The Northwest Indian Fisheries Commission and DNR Forest Practices to gain access to required image analysis equipment.

6) Riparian Conditions and Trends - Effectiveness Monitoring

Riparian conditions and trends monitoring is an ongoing long-term monitoring project. The monitoring has been contracted to the National Marine Fisheries Service, Biological Services Division. Stream temperature monitoring, was initiated in 2001 and continued in 2002, as the first part of the riparian conditions and trends monitoring. The objective of

this monitoring is to obtain data to determine the required monitoring sample sizes for the in-stream habitat conditions and trends effectiveness monitoring and develop an analysis method for trend analysis.

Project activities:

- ❑ Data loggers for the 2003 season were deployed in June 2003.
- ❑ NMFS and DNR ecologists are preparing a report from the last two years monitoring.
- ❑ A report from the last two years of monitoring is being prepared and is targeted for publication in the journal *Water Resources*. The results have provided new insight into the relationship between riparian condition and water temperature of streams on the OESF.
- ❑ A draft manuscript entitled “*Monitoring and Evaluating Riparian Restoration Efforts*” is in preparation by Michael Pollock, Tim Beehie, Sam Chan, and Richard Bigley

7) Riparian Adaptive Management Support Tools - Research and Effectiveness Monitoring

This study was initiated in 1998 and is jointly funded by the U.S. Geological Survey, Biological Services Division, and DNR. The project calibrates a decision support tool for the synthesis of existing information on the impacts of forest management and natural processes on the quality of fish habitats on the western Olympic Peninsula.

Project activities:

- ❑ A final report is now in peer review. The results will help place the riparian conditions and trends monitoring into a landscape context.

8) Stratification of Riparian Validation Monitoring on the OESF - Validation Monitoring

The first steps in riparian validation monitoring will help us to understand where to conduct future fish population monitoring and how changes in natural succession and management might influence fish habitat. The Ecosystems Diagnostics and Treatment (EDT) method is being applied on the Clearwater River watershed to attempt to prioritize sampling sites and the types of samples that would most likely provide validation of changes in fish habitat and populations on the OESF. The EDT method provides a way to analyze the biological performance of salmon at various life stages in comparison with historical and future habitat conditions. Model results will be used to refine proposed riparian validation monitoring.

Project activities:

- ❑ Final contract modeling was completed in June of 2003.
- ❑ Monitoring recommendations to follow in January 2004 as part of the Master’s of Environmental Science thesis by Larry Dominguez at the Evergreen State College.

9) Feasibility Assessment and Design of a Low Cost Escapement Estimation Method for Coho Salmon in the Clallam River - Validation Monitoring

Jointly funded by the University of Washington and DNR, this project was initiated in 2001 and tested a salmon population sampling method that may be of use for riparian conservation strategy validation monitoring.

Project activities:

- A final report was produced in 2002.

10) Restoring Riparian Ecosystems- Research and Effectiveness

Monitoring

This project was initiated on the OESF in the summer of 1998 and was jointly funded by the US Fish and Wildlife Service and DNR. The projects test four prescriptions to convert hardwood dominated riparian areas to conifer stands. The results of this project will help the department understand the effort and probability of success involved in conducting riparian stand conversions.

Project activities:

- A report detailing the treatment establishment and first years growth monitoring was prepared in 2002.

Spotted Owl Conservation Strategy

The objective of this monitoring and research is to increase confidence in our ability to integrate biodiversity type thinning into the timber sales program and help understand its role in meeting habitat goals. In addition, this work supports the adaptive management goals of the HCP Spotted Owl conservation strategy, such as examination of the ecology of down wood levels targeted for different types of habitat.

1) Spotted Owl Effectiveness Monitoring on the OESF- Effectiveness

Monitoring

The operational feasibility and marketability of the proposed HCP spotted owl Effectiveness monitoring prescriptions will be tested on a sub-basin scale on an OESF timber sale in 2004. Extensive analysis by harvest engineers has allowed the placement of two replicates of four treatments on a large thinning sale on the OESF. A report on the 2001 analysis is available. The results of these tests will increase our ability to integrate late biodiversity type thinning into the timber sales program.

Project activities:

- In 2002, a test of pretreatment plot configurations was established to allow analysis to refine sampling of the treatment units.
- A search for sites additional stands on the OESF to replicate of these biodiversity type thinning treatments was conducted.

2) Spotted Owl Effectiveness Monitoring in SE region - Effectiveness

Monitoring

The objective of this monitoring project is to support the revision of the Spotted Owl habitat designations and management approach in the Klickitat HCP planning unit. This is a cooperative effort with Washington State Department of Fish and Wildlife, the US Fish and Wildlife Service, and others.

Project activities:

- A monitoring approach was agreed upon by the cooperators consisting of stand and landscape level effectiveness monitoring, continued monitoring of owl

populations, and investigations into the feasibility of prey and owl movement studies.

- DNR established a long-term agreement with the National Council for Air and Stream Improvement (NCASI), Inc. for baseline monitoring of Spotted Owls in the planning area.
- Extensive modeling of treatment effects was conducted in preparation of monitoring prescriptions.

3) Managing Young Stand Composition and Structure for Forest Productivity and Biodiversity – *Research and Effectiveness Monitoring*

The National Biological Service jointly funds this research/monitoring project initiated on the OESF in the winter of 1998. The project tests four pre-commercial thinning regimes that are designed to restore diverse ecological stand structures and accelerate the development of quality wildlife habitat. A post treatment report was drafted in 1999.

Project activities:

- The treatments were remeasured early in 2003.
- A summary report including modeling of future trends will be produced in 2004.

4) Functional Role of Down Woody Debris and Long-term Ecosystem Productivity - *Research*

This research project is funded by the US Forest Service and was initiated on the OESF in the winter of 1993. The OESF site is one of five replicates in the Pacific Northwest. Reports are available on the web at <http://www.fsl.orst.edu/ltep/>. The project tests the functional role of down woody debris as habitat. Revision of the down wood targets for DNR HCP units is one of our adaptive management goals. The results of this project also support OESF research into long-term site productivity and balancing ecological and commodity production.

Project activities:

- Crews from the Forest Service expended 6 staff months on the remeasurement stand growth on the DNR replicate.
- A poster entitled “*Long-term Site Productivity: Functional role of down woody debris.*” was presented at the Northwest Science Association annual meeting held in Forks Washington March 2002.

5) Baseline Spotted Owl Validation Monitoring on the OESF – *Validation Monitoring*

Conducted annually since 1993, monitoring of the nine sites known to be occupied by Spotted Owls will provide context for eventual Spotted Owl validation monitoring on the OESF.

Project activities:

- DNR and USFS crews visited the Steqaleho site and found no evidence of occupation.

Marbled Murrelet Conservation Strategy

The objective of this research is to support the development of the marbled murrelet long-term conservation strategy. The primary focus has been inland (stand) surveys and

the development of the DNR Habitat Relationship Study. The result will be a long-term marbled murrelet conservation strategy and accompanying monitoring plan.

1) Habitat Relationship Study and Interim Marbled Murrelet Conservation Strategy

Marbled Murrelet inland (stand level) surveys were conducted to support the development of the long-term conservation strategy. To date the department has conducted surveys for over 92,000 acres of state land, primarily through contract.

Project activities:

- A partnership with the Washington State Department of Fish and Wildlife allowed additional surveys on the OESF in 2002.
- Surveys encompassing 600 acres of reclassified habitat in the Straits Planning unit were conducted. These surveys complete the surveys of reclassified habitat in the planning unit under the interim conservation strategy.
- Inventory surveys in the North Puget Planning Unit were conducted in 282 acres with plans to significantly increase surveys in 2004. To date approximately 22,000 acres of reclassified habitat and 5,600 acres of forest lands in addition to the reclassified habitat need surveys.

2) Long-term Marbled Murrelet Conservation Strategy

Three planning units, Straits, South Coast and Columbia, have complete surveys for all reclassified habitat. DNR began the planning process for the development of the long-term marbled murrelet conservation strategy in these planning units in June.

Project activities:

- A planning team was created with representatives from DNR, US Fish and Wildlife Service, and Washington State Department of Fish and Wildlife. The planning team immediately identified the need to convene a scientific summit with the primary goal to generate input from murrelet experts that will be incorporated into the long-term conservation strategy and to recruit willing participants to assist the DNR in the development of this strategy.

3) Influence of Stand Structure, Proximity to Human Activity, and Forest Fragmentation on the Risk of Predation to Nests of Marbled Murrelets on the Olympic Peninsula- *Research*

In 2003, the DNR continued its support of the four-year cooperative University of Washington project to study predation of marbled murrelet nests. The results will provide information that will be used in developing the long-term murrelet conservation strategy.

Project activities:

- A final report is due later in 2003.

4) At-Sea Distribution and Abundance of Marbled Murrelets in Relation to Marine Habitat on the Outer Coast of Washington - *Research*

This jointly funded project by the DNR, WDFW, and others is part of the methods development for the USFS Forest Plan Marbled Murrelet Effectiveness Monitoring. Identical efforts are also underway in Oregon and California. This monitoring is anticipated to become part of the DNR HCP marbled Murrelet validation monitoring.

Project activities:

- Annual reports are produced.

**5) Marbled Murrelet Radio Tracking and Demographic Studies -
Research**

This jointly funded pilot project by the DNR and the USFS Pacific Northwest Forest Experiment Station was initiated the spring of 2003. The objective was to demonstrate murrelet capture feasibility to potential funding cooperators.

Project activities:

- Accomplishments include mapping murrelet distribution at night and the capture and banding of four murrelets.
- From each captured bird blood was withdrawn and submitted for genetic analysis.
- In the autumn of 2003, a research proposal will be written and cooperative funding for 2004 captures and tracking work will be pursued.

For more information on DNR HCP Research, please contact Richard Bigley at the Washington State Department of Natural Resources (360) 902-1717, richard.bigley@wadnr.gov

APPENDIX A: SILVICULTURAL ACTIVITIES

Chelan HCP Planning Unit			
Silvicultural Activity	Acres	Location	FPA #
Timber Harvest - Salvage cut	383	T32N R21E S36	3007254
Forest regeneration - Hand planting	367	T32N R21E S36	
Vegetation management - Seeding grass	137	T32N R21E S36	3007254
Columbia HCP Planning Unit			
Timber Harvest - Clear cut	84	T03N R03E S01	2903346
Timber Harvest - Clear cut	96	T03N R04E S28	2903091
Timber Harvest - Clear cut	8	T03N R04E S29	2903091
Timber Harvest - Clear cut	5	T03N R04E S29	2903091
Timber Harvest - Clear cut	5	T03N R04E S29	2903091
Timber Harvest - Clear cut	55	T03N R04E S32	2903226
Timber Harvest - Clear cut	34	T03N R04E S32	2903226
Timber Harvest - Clear cut	49	T04N R03E S13	2903160
Timber Harvest - Clear cut	55	T04N R03E S14	2903082
Timber Harvest - Clear cut	37	T04N R03E S24	2903082
Timber Harvest - Clear cut	18	T05N R03E S04	2902829
Timber Harvest - Clear cut	1	T05N R03E S04	2902829
Timber Harvest - Clear cut	39	T05N R03E S04	2902829
Timber Harvest - Clear cut	35	T05N R03E S08	2902829
Timber Harvest - Clear cut	90	T06N R03E S12	2902450
Timber Harvest - Clear cut	70	T06N R03E S22	2903473
Timber Harvest - Clear cut	2	T06N R03E S22	2903473
Timber Harvest - Clear cut	49	T06N R04E S29	2903597
Timber Harvest - Clear cut	11	T07N R04E S28	2902108
Timber Harvest - Clear cut	7	T08N R04W S40	2904125
Timber Harvest - Clear cut	57	T08N R05W S03	2902439
Timber Harvest - Clear cut	44	T09N R04W S07	2904334
Timber Harvest - Clear cut	82	T09N R04W S16	2902935
Timber Harvest - Clear cut	2	T09N R04W S17	2904334
Timber Harvest - Clear cut	54	T09N R04W S31	2903600
Timber Harvest - Clear cut	99	T09N R04W S31	2902830
Timber Harvest - Clear cut	100	T09N R05W S36	2904138
Timber Harvest - Clear cut	29	T10N R02W S07	2903151
Timber Harvest - Clear cut	112	T10N R02W S22	2903472
Timber Harvest - Clear cut	25	T10N R03W S01	2903151
Timber Harvest - Clear cut	12	T10N R04W S29	2904085
Timber Harvest - Clear cut	4	T10N R04W S32	2904085
Timber Harvest - Clear cut	73	T11N R03E S13	2507910
Timber Harvest - Clear cut	81	T11N R03E S15	2508949
Timber Harvest - Late rotation thinning	72	T06N R03E S04	2903266
Timber Harvest - Late rotation thinning	7	T06N R03E S04	2903266
Timber Harvest - Late rotation thinning	7	T09N R04W S07	2904334
Timber Harvest - Late rotation thinning	1	T09N R04W S07	2904334
Timber Harvest - Late rotation thinning	2	T09N R04W S07	2904334
Timber Harvest - Late rotation thinning	34	T09N R04W S18	2904334
Timber Harvest - Late rotation thinning	24	T09N R04W S18	2904334
Timber Harvest - Smallwood thinning	9	T11N R02E S16	2506591
Timber Harvest - Smallwood thinning	244	T11N R02E S16	2506591
Timber Harvest - Smallwood thinning	4	T11N R02E S16	2506591
Timber Harvest - Smallwood thinning	6	T11N R02E S16	2506591

Columbia HCP Planning Unit			
Timber Harvest - Smallwood thinning	29	T11N R02E S16	2506591
Forest site preparation - Aerial herbicide	20	T03N R04E S25	2903887
Forest site preparation - Aerial herbicide	45	T03N R04E S25	2903887
Forest site preparation - Aerial herbicide	50	T03N R04E S30	2903887
Forest site preparation - Aerial herbicide	20	T03N R04E S32	2903887
Forest site preparation - Aerial herbicide	30	T03N R04E S32	2903887
Forest site preparation - Aerial herbicide	10	T03N R04E S32	2903887
Forest site preparation - Aerial herbicide	30	T03N R05E S30	2903887
Forest site preparation - Aerial herbicide	20	T03N R05E S30	2903887
Forest site preparation - Aerial herbicide	22	T03N R05E S31	2903887
Forest site preparation - Aerial herbicide	20	T03N R05E S31	2903887
Forest site preparation - Aerial herbicide	45	T05N R02E S36	2903887
Forest site preparation - Aerial herbicide	38	T06N R01E S24	2903887
Forest site preparation - Aerial herbicide	11	T06N R01E S24	2903887
Forest site preparation - Aerial herbicide	56	T06N R01E S24	2903887
Forest site preparation - Aerial herbicide	45	T06N R03E S33	2903887
Forest site preparation - Aerial herbicide	5	T06N R04E S05	2903887
Forest site preparation - Aerial herbicide	35	T06N R04E S05	2903887
Forest site preparation - Aerial herbicide	30	T06N R04E S06	2903887
Forest site preparation - Aerial herbicide	20	T06N R04E S08	2903887
Forest site preparation - Aerial herbicide	20	T06N R04E S08	2903887
Forest site preparation - Aerial herbicide	60	T06N R04E S29	2903887
Forest site preparation - Aerial herbicide	18	T07N R04E S32	2903887
Forest site preparation - Aerial herbicide	17	T07N R04E S32	2903887
Forest site preparation - Aerial herbicide	25	T07N R04E S32	2903887
Forest site preparation - Aerial herbicide	5	T07N R04E S32	2903887
Forest site preparation - Aerial herbicide	45	T08N R04W S04	2903887
Forest site preparation - Aerial herbicide	15	T08N R04W S04	2903887
Forest site preparation - Aerial herbicide	50	T11N R02E S14	2509508
Forest site preparation - Ground mechanical	27	T04N R04E S28	
Forest site preparation - Pile and burn	2	T11N R02E S13	
Forest site preparation - Pile and burn	10	T11N R02E S14	
Forest site preparation - Pile and burn	10	T11N R07W S30	
Forest site preparation - Pile and burn	10	T12N R02E S16	
Forest site preparation - Pile and burn	31	T12N R02E S28	
Forest site preparation - Pile and burn	17	T12N R02E S28	
Forest site preparation - Pile and burn	44	T12N R02E S28	
Forest regeneration - Hand planting	8	T03N R03E S13	
Forest regeneration - Hand planting	10	T03N R03E S13	
Forest regeneration - Hand planting	62	T03N R04E S08	
Forest regeneration - Hand planting	5	T03N R04E S18	
Forest regeneration - Hand planting	21	T03N R04E S25	
Forest regeneration - Hand planting	48	T03N R04E S25	
Forest regeneration - Hand planting	96	T03N R04E S28	
Forest regeneration - Hand planting	7	T03N R04E S29	
Forest regeneration - Hand planting	5	T03N R04E S29	
Forest regeneration - Hand planting	5	T03N R04E S29	
Forest regeneration - Hand planting	53	T03N R04E S30	
Forest regeneration - Hand planting	55	T03N R04E S32	
Forest regeneration - Hand planting	34	T03N R04E S32	

Columbia HCP Planning Unit			
Forest regeneration - Hand planting	10	T03N R04E S32	
Forest regeneration - Hand planting	49	T04N R03E S13	
Forest regeneration - Hand planting	55	T04N R03E S14	
Forest regeneration - Hand planting	37	T04N R03E S24	
Forest regeneration - Hand planting	27	T04N R04E S28	
Forest regeneration - Hand planting	50	T05N R02E S36	
Forest regeneration - Hand planting	49	T05N R03E S06	
Forest regeneration - Hand planting	12	T06N R01E S24	
Forest regeneration - Hand planting	44	T06N R01E S24	
Forest regeneration - Hand planting	58	T06N R01E S24	
Forest regeneration - Hand planting	10	T06N R03E S31	
Forest regeneration - Hand planting	11	T06N R03E S31	
Forest regeneration - Hand planting	6	T06N R04E S05	
Forest regeneration - Hand planting	41	T06N R04E S05	
Forest regeneration - Hand planting	31	T06N R04E S06	
Forest regeneration - Hand planting	21	T06N R04E S08	
Forest regeneration - Hand planting	24	T06N R04E S08	
Forest regeneration - Hand planting	10	T06N R04E S26	
Forest regeneration - Hand planting	71	T06N R04E S29	
Forest regeneration - Hand planting	35	T07N R01E S09	
Forest regeneration - Hand planting	44	T07N R01E S16	
Forest regeneration - Hand planting	28	T07N R04E S32	
Forest regeneration - Hand planting	6	T07N R04E S32	
Forest regeneration - Hand planting	15	T07N R04E S32	
Forest regeneration - Hand planting	19	T07N R04E S32	
Forest regeneration - Hand planting	55	T08N R04W S04	
Forest regeneration - Hand planting	1	T08N R04W S04	
Forest regeneration - Hand planting	36	T08N R04W S04	
Forest regeneration - Hand planting	6	T08N R04W S40	
Forest regeneration - Hand planting	44	T08N R05W S10	
Forest regeneration - Hand planting	6	T09N R02E S03	
Forest regeneration - Hand planting	8	T09N R02E S11	
Forest regeneration - Hand planting	46	T09N R04W S19	
Forest regeneration - Hand planting	99	T09N R04W S31	
Forest regeneration - Hand planting	41	T09N R05W S35	
Forest regeneration - Hand planting	20	T10N R02W S10	
Forest regeneration - Hand planting	60	T10N R06W S35	
Forest regeneration - Hand planting	3	T10N R06W S35	
Forest regeneration - Hand planting	9	T10N R06W S36	
Forest regeneration - Hand planting	31	T11N R02E S13	
Forest regeneration - Hand planting	68	T11N R02E S14	
Forest regeneration - Hand planting	44	T11N R02E S26	
Forest regeneration - Hand planting	17	T11N R02E S28	
Forest regeneration - Hand planting	79	T11N R03E S15	
Forest regeneration - Hand planting	87	T11N R07W S30	
Forest regeneration - Hand planting	26	T12N R02E S16	
Forest regeneration - Hand planting	17	T12N R02E S28	
Forest regeneration - Hand planting	30	T12N R02E S28	
Forest regeneration - Hand planting	44	T12N R02E S28	
Vegetation management - Aerial herbicide	10	T11N R02E S13	2509508

Columbia HCP Planning Unit			
Vegetation management - Aerial herbicide	50	T11N R02E S14	2509508
Vegetation management - Aerial herbicide	10	T11N R02E S14	2509508
Vegetation management - Aerial herbicide	15	T11N R02E S14	2509508
Vegetation management - Ground herbicide	10	T05N R02E S36	
Vegetation management - Ground herbicide	14	T05N R02E S36	
Vegetation management - Ground herbicide	30	T11N R02E S03	
Vegetation management - Ground herbicide	18	T11N R03E S17	
Vegetation management - Ground herbicide	30	T12N R01E S16	
Vegetation management - Ground herbicide	24	T12N R02E S16	
Vegetation management - Ground herbicide	17	T12N R05E S18	
Vegetation management - Ground herbicide	35	T12N R05E S18	
Vegetation management - Hand cutting	18	T06N R04E S34	
Vegetation management - Hand cutting	48	T09N R04W S03	
Vegetation management - Hand cutting	5	T10N R06W S22	
Vegetation management - Hand cutting	8	T11N R01E S07	
Vegetation management - Hand cutting	7	T11N R01E S07	
Vegetation management - Hand cutting	33	T11N R02E S14	
Vegetation management - Hand cutting	5	T11N R07W S18	
Vegetation management - Hand cutting	25	T12N R02E S32	
Vegetation management - Hand cutting	26	T12N R02E S35	
Vegetation management - Hand cutting	20	T12N R03E S29	
Vegetation management - Hand cutting	80	T12N R08E S09	
Vegetation management - Hand cutting	21	T13N R01E S36	
Vegetation management - Hand cutting	22	T13N R01E S36	
Vegetation management - Hand cutting	35	T13N R03E S20	
Vegetation management - Hand cutting	29	T13N R04E S36	
Vegetation management - Hand cutting	5	T13N R09E S09	
Vegetation management - Hand cutting	50	T13N R09E S09	
Vegetation management - Hand cutting	2	T13N R09E S16	
Pre-commercial thinning	34	T09N R04W S08	
Pre-commercial thinning	93	T09N R04W S17	
Pest management - Shielding or fencing	17	T11N R02E S28	
Klickitat HCP Planning Unit			
Timber Harvest - Clear cut	63	T05N R12E S17	2701613
Timber Harvest - Late rotation thinning	5	T05N R12E S17	2701613
Timber Harvest - Late rotation thinning	11	T05N R12E S17	2701613
Timber Harvest - Late rotation thinning	9	T05N R12E S17	2701613
Timber Harvest - Late rotation thinning	404	T06N R11E S35	2701246
Timber Harvest - Salvage cut	4	T04N R09E S24	2702078
Timber Harvest - Uneven-aged management	360	T12N R14E S28	2701648
Timber Harvest - Uneven-aged management	178	T12N R14E S29	2701648
Forest site preparation - Ground mechanical	8	T04N R10E S08	
Forest regeneration - Hand planting	6	T04N R10E S07	
Forest regeneration - Hand planting	15	T04N R10E S07	
Forest regeneration - Hand planting	8	T04N R10E S08	
Forest regeneration - Hand planting	2	T04N R10E S08	
Forest regeneration - Hand planting	5	T05N R12E S17	
Forest regeneration - Hand planting	63	T05N R12E S17	
Forest regeneration - Hand planting	184	T06N R15E S16	
Forest regeneration - Hand planting	38	T06N R15E S18	

North Puget HCP Planning Unit			
Vegetation management - Ground herbicide	184	T06N R15E S16	
Vegetation management - Ground herbicide	38	T06N R15E S18	
Timber Harvest - Clear cut	27	T28N R08E S08	2803991
Timber Harvest - Clear cut	24	T28N R08E S17	2803991
Timber Harvest - Clear cut	37	T28N R08E S17	2803991
Timber Harvest - Clear cut	36	T28N R09E S20	2801397
Timber Harvest - Clear cut	4	T28N R09E S29	2801397
Timber Harvest - Clear cut	74	T28N R09E S29	2801397
Timber Harvest - Clear cut	34	T28N R09E S32	2801397
Timber Harvest - Clear cut	25	T29N R07E S06	2803515
Timber Harvest - Clear cut	27	T29N R07E S09	2803887
Timber Harvest - Clear cut	55	T33N R05E S13	2804176
Timber Harvest - Clear cut	28	T33N R05E S21	2803336
Timber Harvest - Clear cut	15	T33N R05E S35	2802349
Timber Harvest - Clear cut	39	T33N R05E S35	2802349
Timber Harvest - Clear cut	15	T33N R05E S35	2802349
Timber Harvest - Clear cut	62	T33N R05E S35	2802349
Timber Harvest - Clear cut	7	T33N R05E S35	2802349
Timber Harvest - Clear cut	100	T33N R06E S18	2804176
Timber Harvest - Clear cut	45	T33N R06E S23	2804037
Timber Harvest - Clear cut	69	T33N R06E S23	2804037
Timber Harvest - Clear cut	38	T35N R05E S01	2805350
Timber Harvest - Clear cut	84	T35N R05E S03	2805163
Timber Harvest - Clear cut	55	T36N R04E S01	2803110
Timber Harvest - Clear cut	8	T36N R05E S33	2804725
Timber Harvest - Clear cut	81	T36N R05E S34	2804725
Timber Harvest - Clear cut	59	T36N R06E S06	2802418
Timber Harvest - Clear cut	54	T37N R04E S36	2803110
Timber Harvest - Clear cut	39	T37N R05E S03	2803512
Timber Harvest - Clear cut	29	T37N R05E S10	2803512
Timber Harvest - Clear cut	35	T37N R05E S18	2805059
Timber Harvest - Clear cut	34	T37N R05E S18	2805059
Timber Harvest - Clear cut	37	T37N R05E S25	2802418
Timber Harvest - Clear cut	47	T37N R06E S30	2802418
Timber Harvest - Clear cut	17	T37N R06E S31	2802418
Timber Harvest - Clear cut	39	T38N R05E S25	2803261
Timber Harvest - Clear cut	49	T38N R06E S18	2804945
Timber Harvest - Clear cut	79	T38N R06E S19	2803261
Timber Harvest - Clear cut	36	T38N R06E S19	2804945
Timber Harvest - Clear cut	9	T39N R05E S01	2805476
Timber Harvest - Clear cut	23	T39N R05E S02	2805476
Timber Harvest - Clear cut	37	T39N R05E S08	2804536
Timber Harvest - Clear cut	56	T39N R05E S10	2805476
Timber Harvest - Clear cut	31	T39N R05E S12	2804246
Timber Harvest - Clear cut	57	T39N R05E S14	2804239
Timber Harvest - Clear cut	71	T39N R05E S15	2803422
Timber Harvest - Clear cut	73	T39N R06E S03	2802468
Timber Harvest - Clear cut	45	T39N R06E S03	2802468
Timber Harvest - Clear cut	38	T39N R06E S06	2802847
Timber Harvest - Clear cut	59	T39N R06E S06	2802847

North Puget HCP Planning Unit			
Timber Harvest - Clear cut	44	T40N R05E S01	2804918
Timber Harvest - Clear cut	43	T40N R05E S12	2804338
Timber Harvest - Clear cut	48	T40N R05E S30	2804940
Timber Harvest - Clear cut	41	T40N R06E S31	2803746
Timber Harvest - Late rotation thinning	77	T28N R09E S17	2801397
Timber Harvest - Late rotation thinning	41	T28N R09E S21	2801397
Timber Harvest - Late rotation thinning	11	T29N R07E S08	2803515
Timber Harvest - Late rotation thinning	25	T29N R07E S08	2803515
Timber Harvest - Late rotation thinning	12	T29N R07E S08	2803515
Timber Harvest - Late rotation thinning	45	T29N R07E S12	2804340
Timber Harvest - Late rotation thinning	8	T29N R08E S17	2802660
Timber Harvest - Late rotation thinning	25	T29N R08E S17	2802660
Timber Harvest - Late rotation thinning	11	T29N R08E S17	2802660
Timber Harvest - Late rotation thinning	23	T29N R08E S18	2802660
Timber Harvest - Late rotation thinning	46	T29N R08E S18	2802660
Timber Harvest - Late rotation thinning	35	T29N R08E S19	2802660
Timber Harvest - Late rotation thinning	11	T29N R08E S20	2802660
Timber Harvest - Late rotation thinning	31	T29N R08E S20	2802660
Timber Harvest - Late rotation thinning	38	T29N R08E S29	2802988
Timber Harvest - Smallwood thinning	11	T29N R07E S06	2803515
Timber Harvest - Smallwood thinning	138	T37N R05E S09	2803549
Timber Harvest - Two aged management	37	T29N R07E S12	2804340
Timber Harvest - Two aged management	84	T29N R08E S07	2804340
Timber Harvest - Two aged management	25	T29N R08E S07	2804340
Timber Harvest - Uneven-aged management	135	T29N R08E S32	2802988
Timber Harvest - Variable density thinning	145	T32N R09E S21	2804953
Forest site preparation - Aerial herbicide	56	T28N R07E S01	
Forest site preparation - Aerial herbicide	42	T28N R07E S04	
Forest site preparation - Aerial herbicide	55	T28N R08E S15	
Forest site preparation - Aerial herbicide	24	T29N R07E S06	
Forest site preparation - Aerial herbicide	27	T29N R07E S09	
Forest site preparation - Aerial herbicide	13	T31N R06E S16	
Forest site preparation - Aerial herbicide	26	T31N R06E S16	
Forest site preparation - Aerial herbicide	25	T31N R06E S16	
Forest site preparation - Aerial herbicide	71	T31N R07E S32	
Forest site preparation - Aerial herbicide	40	T31N R07E S32	
Forest site preparation - Aerial herbicide	18	T33N R05E S35	
Forest site preparation - Aerial herbicide	15	T33N R05E S35	
Forest site preparation - Aerial herbicide	61	T33N R05E S35	
Forest site preparation - Aerial herbicide	67	T33N R05E S36	
Forest site preparation - Aerial herbicide	93	T33N R06E S18	
Forest site preparation - Aerial herbicide	71	T34N R05E S28	
Forest site preparation - Aerial herbicide	5	T34N R05E S28	
Forest site preparation - Aerial herbicide	25	T34N R05E S33	
Forest regeneration - Hand planting	42	T23N R08E S06	
Forest regeneration - Hand planting	15	T23N R08E S07	
Forest regeneration - Hand planting	5	T23N R08E S07	
Forest regeneration - Hand planting	9	T23N R08E S07	
Forest regeneration - Hand planting	23	T26N R07E S01	
Forest regeneration - Hand planting	5	T26N R07E S01	

North Puget HCP Planning Unit			
Forest regeneration - Hand planting	24	T26N R07E S02	
Forest regeneration - Hand planting	20	T26N R07E S02	
Forest regeneration - Hand planting	10	T26N R07E S11	
Forest regeneration - Hand planting	96	T26N R07E S14	
Forest regeneration - Hand planting	38	T26N R08E S06	
Forest regeneration - Hand planting	30	T26N R08E S17	
Forest regeneration - Hand planting	49	T26N R08E S20	
Forest regeneration - Hand planting	56	T28N R07E S01	
Forest regeneration - Hand planting	42	T28N R07E S04	
Forest regeneration - Hand planting	65	T28N R07E S04	
Forest regeneration - Hand planting	55	T28N R08E S15	
Forest regeneration - Hand planting	23	T29N R07E S06	
Forest regeneration - Hand planting	27	T29N R07E S09	
Forest regeneration - Hand planting	30	T29N R07E S12	
Forest regeneration - Hand planting	12	T29N R07E S12	
Forest regeneration - Hand planting	25	T29N R08E S07	
Forest regeneration - Hand planting	29	T30N R07E S36	
Forest regeneration - Hand planting	17	T30N R07E S36	
Forest regeneration - Hand planting	28	T30N R08E S31	
Forest regeneration - Hand planting	4	T30N R08E S31	
Forest regeneration - Hand planting	39	T30N R08E S31	
Forest regeneration - Hand planting	10	T31N R06E S16	
Forest regeneration - Hand planting	20	T31N R06E S16	
Forest regeneration - Hand planting	25	T31N R06E S16	
Forest regeneration - Hand planting	69	T31N R07E S32	
Forest regeneration - Hand planting	38	T31N R07E S32	
Forest regeneration - Hand planting	4	T32N R06E S05	
Forest regeneration - Hand planting	14	T32N R06E S08	
Forest regeneration - Hand planting	1	T32N R06E S36	
Forest regeneration - Hand planting	12	T32N R07E S03	
Forest regeneration - Hand planting	52	T33N R05E S13	
Forest regeneration - Hand planting	54	T33N R05E S35	
Forest regeneration - Hand planting	15	T33N R05E S35	
Forest regeneration - Hand planting	17	T33N R05E S35	
Forest regeneration - Hand planting	68	T33N R05E S36	
Forest regeneration - Hand planting	27	T33N R06E S16	
Forest regeneration - Hand planting	93	T33N R06E S18	
Forest regeneration - Hand planting	76	T33N R06E S21	
Forest regeneration - Hand planting	5	T33N R06E S21	
Forest regeneration - Hand planting	7	T33N R06E S22	
Forest regeneration - Hand planting	10	T33N R06E S22	
Forest regeneration - Hand planting	42	T33N R06E S23	
Forest regeneration - Hand planting	67	T33N R06E S23	
Forest regeneration - Hand planting	41	T33N R06E S25	
Forest regeneration - Hand planting	12	T33N R10E S17	
Forest regeneration - Hand planting	18	T33N R10E S17	
Forest regeneration - Hand planting	65	T33N R10E S31	
Forest regeneration - Hand planting	6	T34N R05E S28	
Forest regeneration - Hand planting	71	T34N R05E S28	
Forest regeneration - Hand planting	26	T34N R05E S33	

North Puget HCP Planning Unit			
Forest regeneration - Hand planting	73	T35N R06E S01	
Forest regeneration - Hand planting	37	T35N R06E S02	
Forest regeneration - Hand planting	17	T36N R04E S01	
Forest regeneration - Hand planting	78	T36N R05E S34	
Forest regeneration - Hand planting	47	T36N R06E S06	
Forest regeneration - Hand planting	22	T37N R04E S36	
Forest regeneration - Hand planting	33	T37N R05E S02	
Forest regeneration - Hand planting	18	T37N R05E S02	
Forest regeneration - Hand planting	13	T37N R05E S02	
Forest regeneration - Hand planting	17	T37N R05E S15	
Forest regeneration - Hand planting	33	T37N R05E S18	
Forest regeneration - Hand planting	37	T37N R05E S22	
Forest regeneration - Hand planting	35	T37N R05E S25	
Forest regeneration - Hand planting	46	T37N R06E S30	
Forest regeneration - Hand planting	17	T37N R06E S31	
Forest regeneration - Hand planting	36	T38N R05E S25	
Forest regeneration - Hand planting	5	T38N R05E S26	
Forest regeneration - Hand planting	63	T38N R05E S36	
Forest regeneration - Hand planting	48	T38N R06E S18	
Forest regeneration - Hand planting	76	T38N R06E S19	
Forest regeneration - Hand planting	34	T38N R06E S19	
Forest regeneration - Hand planting	55	T39N R05E S08	
Forest regeneration - Hand planting	66	T39N R05E S15	
Forest regeneration - Hand planting	37	T39N R06E S06	
Forest regeneration - Hand planting	57	T39N R06E S06	
Forest regeneration - Hand planting	34	T40N R05E S12	
Forest regeneration - Hand planting	43	T40N R05E S30	
Forest regeneration - Hand planting	61	T40N R06E S06	
Forest regeneration - Hand planting	41	T40N R06E S31	
Forest regeneration - Hand planting	43	T40N R06E S33	
Forest regeneration - Hand planting	31	T40N R06E S33	
Vegetation management - Aerial herbicide	26	T30N R07E S21	
Vegetation management - Aerial herbicide	6	T30N R07E S21	
Vegetation management - Aerial herbicide	41	T33N R06E S20	
Vegetation management - Aerial herbicide	38	T33N R06E S20	
Vegetation management - Aerial herbicide	81	T33N R10E S17	
Vegetation management - Aerial herbicide	75	T34N R05E S33	
Vegetation management - Aerial herbicide	62	T38N R05E S36	2805270
Vegetation management - Aerial herbicide	27	T38N R05E S36	2805270
Vegetation management - Ground herbicide	62	T28N R07E S08	
Vegetation management - Ground herbicide	1	T29N R07E S02	
Vegetation management - Ground herbicide	38	T29N R07E S11	
Vegetation management - Ground herbicide	26	T29N R08E S33	
Vegetation management - Ground herbicide	24	T30N R07E S21	
Vegetation management - Ground herbicide	57	T30N R07E S21	
Vegetation management - Ground herbicide	22	T31N R06E S02	
Vegetation management - Ground herbicide	20	T31N R06E S02	
Vegetation management - Ground herbicide	6	T32N R07E S16	
Vegetation management - Ground herbicide	32	T32N R07E S17	
Vegetation management - Ground herbicide	53	T33N R05E S26	

North Puget HCP Planning Unit			
Vegetation management - Ground herbicide	47	T33N R09E S36	
Vegetation management - Ground herbicide	45	T33N R10E S21	
Vegetation management - Ground herbicide	32	T35N R06E S27	
Vegetation management - Ground herbicide	30	T36N R05E S19	
Vegetation management - Ground herbicide	28	T36N R06E S07	
Vegetation management - Ground herbicide	26	T36N R06E S18	
Vegetation management - Ground herbicide	59	T37N R05E S04	
Vegetation management - Ground herbicide	8	T37N R05E S22	
Vegetation management - Ground herbicide	19	T37N R05E S22	
Vegetation management - Ground herbicide	50	T37N R05E S26	
Vegetation management - Ground herbicide	69	T37N R05E S28	
Vegetation management - Ground herbicide	9	T37N R05E S29	
Vegetation management - Ground herbicide	26	T37N R05E S33	
Vegetation management - Ground herbicide	4	T37N R05E S33	
Vegetation management - Ground herbicide	11	T37N R05E S33	
Vegetation management - Ground herbicide	28	T38N R05E S16	
Vegetation management - Ground herbicide	34	T39N R05E S29	
Vegetation management - Ground herbicide	57	T40N R05E S26	
Vegetation management - Ground herbicide	60	T40N R06E S27	
Vegetation management - Ground herbicide	34	T40N R06E S27	
Vegetation management - Ground herbicide	24	T40N R06E S28	
Vegetation management - Ground herbicide	26	T40N R06E S29	
Vegetation management - Hand cutting	73	T26N R07E S24	
Vegetation management - Hand cutting	60	T26N R08E S06	
Vegetation management - Hand cutting	5	T26N R08E S07	
Vegetation management - Hand cutting	5	T26N R08E S07	
Vegetation management - Hand cutting	5	T26N R08E S07	
Vegetation management - Hand cutting	4	T26N R08E S07	
Vegetation management - Hand cutting	5	T26N R08E S07	
Vegetation management - Hand cutting	47	T27N R07E S36	
Vegetation management - Hand cutting	63	T27N R07E S36	
Vegetation management - Hand cutting	19	T27N R08E S31	
Vegetation management - Hand cutting	63	T28N R08E S07	
Vegetation management - Hand cutting	10	T28N R09E S29	
Vegetation management - Hand cutting	90	T29N R07E S13	
Vegetation management - Hand cutting	211	T29N R07E S13	
Vegetation management - Hand cutting	67	T29N R07E S15	
Vegetation management - Hand cutting	29	T29N R07E S15	
Vegetation management - Hand cutting	94	T30N R07E S34	
Vegetation management - Hand cutting	13	T30N R07E S34	
Vegetation management - Hand cutting	2	T30N R07E S35	
Vegetation management - Hand cutting	29	T32N R06E S27	
Vegetation management - Hand cutting	60	T32N R07E S02	
Vegetation management - Hand cutting	66	T32N R07E S24	
Vegetation management - Hand cutting	44	T32N R08E S19	
Vegetation management - Hand cutting	86	T32N R09E S04	
Vegetation management - Hand cutting	37	T32N R09E S15	
Vegetation management - Hand cutting	30	T32N R09E S18	
Vegetation management - Hand cutting	95	T32N R09E S18	
Vegetation management - Hand cutting	39	T32N R10E S08	

North Puget HCP Planning Unit			
Vegetation management - Hand cutting	50	T33N R05E S05	
Vegetation management - Hand cutting	17	T33N R05E S08	
Vegetation management - Hand cutting	71	T33N R05E S15	
Vegetation management - Hand cutting	31	T33N R05E S17	
Vegetation management - Hand cutting	90	T33N R05E S23	
Vegetation management - Hand cutting	99	T33N R05E S23	
Vegetation management - Hand cutting	5	T33N R06E S36	
Vegetation management - Hand cutting	4	T33N R07E S29	
Vegetation management - Hand cutting	20	T33N R07E S31	
Vegetation management - Hand cutting	1	T33N R10E S08	
Vegetation management - Hand cutting	6	T33N R10E S08	
Vegetation management - Hand cutting	6	T33N R10E S09	
Vegetation management - Hand cutting	34	T33N R10E S15	
Vegetation management - Hand cutting	51	T33N R10E S19	
Vegetation management - Hand cutting	25	T33N R10E S19	
Vegetation management - Hand cutting	79	T33N R10E S21	
Vegetation management - Hand cutting	40	T33N R10E S24	
Vegetation management - Hand cutting	76	T34N R05E S03	
Vegetation management - Hand cutting	18	T34N R05E S04	
Vegetation management - Hand cutting	7	T34N R09E S25	
Vegetation management - Hand cutting	62	T35N R05E S36	
Vegetation management - Hand cutting	93	T35N R05E S36	
Vegetation management - Hand cutting	5	T35N R05E S36	
Vegetation management - Hand cutting	88	T35N R05E S36	
Vegetation management - Hand cutting	15	T35N R06E S23	
Vegetation management - Hand cutting	20	T35N R06E S27	
Vegetation management - Hand cutting	64	T35N R07E S01	
Vegetation management - Hand cutting	77	T35N R07E S06	
Vegetation management - Hand cutting	85	T35N R07E S07	
Vegetation management - Hand cutting	3	T35N R08E S08	
Vegetation management - Hand cutting	5	T35N R08E S08	
Vegetation management - Hand cutting	38	T36N R03E S04	
Vegetation management - Hand cutting	26	T36N R04E S09	
Vegetation management - Hand cutting	39	T36N R04E S09	
Vegetation management - Hand cutting	23	T36N R04E S16	
Vegetation management - Hand cutting	34	T36N R04E S22	
Vegetation management - Hand cutting	100	T36N R05E S19	
Vegetation management - Hand cutting	71	T36N R06E S28	
Vegetation management - Hand cutting	70	T36N R06E S35	
Vegetation management - Hand cutting	84	T37N R04E S24	
Vegetation management - Hand cutting	42	T37N R04E S25	
Vegetation management - Hand cutting	41	T37N R05E S32	
Vegetation management - Hand cutting	68	T37N R05E S35	
Vegetation management - Hand cutting	136	T37N R05E S35	
Vegetation management - Hand cutting	20	T38N R04E S20	
Vegetation management - Hand cutting	22	T38N R04E S29	
Vegetation management - Hand cutting	23	T38N R04E S29	
Vegetation management - Hand cutting	51	T38N R04E S36	
Vegetation management - Hand cutting	47	T38N R04E S36	
Vegetation management - Hand cutting	13	T38N R04E S36	

North Puget HCP Planning Unit			
Vegetation management - Hand cutting	10	T38N R04E S36	
Vegetation management - Hand cutting	6	T38N R05E S13	
Vegetation management - Hand cutting	20	T38N R05E S14	
Vegetation management - Hand cutting	30	T38N R05E S24	
Vegetation management - Hand cutting	10	T38N R05E S36	
Vegetation management - Hand cutting	38	T39N R05E S29	
Vegetation management - Hand cutting	4	T39N R05E S29	
Vegetation management - Hand cutting	16	T39N R05E S29	
Vegetation management - Hand cutting	16	T39N R06E S05	
Vegetation management - Hand cutting	10	T40N R05E S04	
Vegetation management - Hand cutting	31	T40N R05E S04	
Vegetation management - Hand cutting	14	T40N R05E S05	
OESF HCP Planning Unit			
Timber Harvest - Clear cut	4	T27N R12W S19	2602274
Timber Harvest - Smallwood thinning	192	T25N R12W S34	2603114
Timber Harvest - Smallwood thinning	43	T26N R12W S06	2602274
Timber Harvest - Smallwood thinning	8	T26N R12W S06	2602274
Timber Harvest - Smallwood thinning	30	T27N R12W S09	2602274
Timber Harvest - Smallwood thinning	19	T27N R12W S19	2602274
Timber Harvest - Smallwood thinning	59	T27N R12W S19	2602274
Timber Harvest - Smallwood thinning	22	T27N R12W S19	2602274
Timber Harvest - Smallwood thinning	28	T27N R12W S19	2602274
Timber Harvest - Smallwood thinning	44	T27N R12W S19	2602274
Timber Harvest - Smallwood thinning	41	T27N R12W S20	2602274
Timber Harvest - Smallwood thinning	10	T27N R12W S20	2602274
Timber Harvest - Smallwood thinning	20	T27N R12W S21	2602274
Timber Harvest - Smallwood thinning	36	T32N R12W S29	2601475
Timber Harvest - Smallwood thinning	24	T32N R12W S29	2601475
Timber Harvest - Smallwood thinning	64	T32N R12W S30	2601475
Forest regeneration - Hand planting	4	T27N R12W S19	
Forest regeneration - Hand planting	1	T29N R13W S03	
Forest regeneration - Hand planting	5	T29N R14W S25	
Forest regeneration - Hand planting	3	T29N R14W S25	
Forest regeneration - Hand planting	5	T29N R14W S26	
Forest regeneration - Hand planting	15	T29N R14W S26	
Forest regeneration - Hand planting	29	T30N R12W S25	
Forest regeneration - Hand planting	42	T30N R12W S26	
Forest regeneration - Hand planting	9	T30N R13W S30	
Forest regeneration - Hand planting	5	T32N R12W S32	
Pre-commercial thinning	3	T24N R11W S26	
Pre-commercial thinning	47	T24N R11W S26	
Pre-commercial thinning	20	T24N R11W S26	
Pre-commercial thinning	2	T24N R11W S26	
Pre-commercial thinning	6	T25N R11W S02	
Pre-commercial thinning	7	T25N R11W S17	
Pre-commercial thinning	14	T25N R12W S34	
Pre-commercial thinning	98	T26N R10W S15	
Pre-commercial thinning	98	T26N R10W S17	
Pre-commercial thinning	125	T26N R10W S22	
Pre-commercial thinning	34	T26N R10W S28	

OESF HCP Planning Unit			
Pre-commercial thinning	77	T26N R10W S28	
Pre-commercial thinning	20	T27N R14W S36	
Pre-commercial thinning	142	T27N R14W S36	
Pre-commercial thinning	101	T27N R14W S36	
Pre-commercial thinning	47	T27N R14W S36	
Pre-commercial thinning	100	T27N R14W S36	
Pre-commercial thinning	13	T28N R13W S35	
Pre-commercial thinning	37	T28N R14W S03	
Pre-commercial thinning	22	T28N R14W S27	
Pre-commercial thinning	39	T28N R14W S34	
Pre-commercial thinning	27	T28N R14W S34	
Pre-commercial thinning	6	T28N R14W S34	
Pre-commercial thinning	31	T28N R14W S34	
Pre-commercial thinning	17	T28N R15W S10	
Pre-commercial thinning	71	T28N R15W S10	
Pre-commercial thinning	38	T29N R13W S07	
Pre-commercial thinning	37	T29N R13W S07	
Pre-commercial thinning	36	T30N R10W S30	
Pre-commercial thinning	7	T30N R12W S34	
Pre-commercial thinning	63	T30N R13W S34	
Pre-commercial thinning	63	T30N R13W S34	
Pre-commercial thinning	12	T30N R14W S26	
South Coast HCP Planning Unit			
Timber Harvest - Clear cut	86	T11N R08W S27	2508457
Timber Harvest - Clear cut	82	T11N R09W S29	2508445
Timber Harvest - Clear cut	5	T12N R03W S26	2509440
Timber Harvest - Clear cut	55	T12N R08W S02	2508763
Timber Harvest - Clear cut	61	T13N R06W S22	2506339
Timber Harvest - Clear cut	53	T13N R06W S28	2506339
Timber Harvest - Clear cut	47	T13N R07W S01	2508495
Timber Harvest - Clear cut	19	T13N R07W S01	2508495
Timber Harvest - Clear cut	24	T13N R07W S18	2509500
Timber Harvest - Clear cut	57	T13N R07W S29	2508441
Timber Harvest - Clear cut	26	T13N R08W S06	2507782
Timber Harvest - Clear cut	68	T13N R08W S06	2507782
Timber Harvest - Clear cut	36	T13N R08W S12	2509500
Timber Harvest - Clear cut	55	T13N R08W S21	2507780
Timber Harvest - Clear cut	2	T14N R03W S04	2509439
Timber Harvest - Clear cut	39	T14N R03W S09	2508942
Timber Harvest - Clear cut	16	T14N R03W S16	2508942
Timber Harvest - Clear cut	53	T14N R05W S33	2507555
Timber Harvest - Clear cut	50	T14N R05W S34	2508947
Timber Harvest - Clear cut	10	T14N R05W S34	2508947
Timber Harvest - Clear cut	48	T15N R05W S04	2508939
Timber Harvest - Clear cut	84	T15N R05W S35	2507869
Timber Harvest - Clear cut	21	T16N R03W S17	2505889
Timber Harvest - Clear cut	44	T16N R04W S03	2507360
Timber Harvest - Clear cut	29	T16N R04W S05	2508948
Timber Harvest - Clear cut	37	T16N R04W S05	2508948
Timber Harvest - Clear cut	40	T16N R04W S12	2505889

South Coast HCP Planning Unit			
Timber Harvest - Clear cut	68	T16N R04W S16	2510168
Timber Harvest - Clear cut	25	T16N R04W S17	2510168
Timber Harvest - Clear cut	45	T16N R05W S01	2506562
Timber Harvest - Clear cut	74	T16N R05W S08	2504388
Timber Harvest - Clear cut	32	T16N R05W S12	2508668
Timber Harvest - Clear cut	17	T16N R05W S13	2510168
Timber Harvest - Clear cut	29	T17N R03W S05	200001
Timber Harvest - Clear cut	9	T17N R03W S08	2508470
Timber Harvest - Clear cut	22	T17N R03W S08	200001
Timber Harvest - Clear cut	29	T17N R03W S09	2508470
Timber Harvest - Clear cut	55	T17N R03W S32	2507201
Timber Harvest - Clear cut	19	T17N R03W S33	2508159
Timber Harvest - Clear cut	25	T17N R04W S05	2509101
Timber Harvest - Clear cut	22	T17N R04W S26	2507360
Timber Harvest - Clear cut	28	T17N R04W S27	2507360
Timber Harvest - Clear cut	22	T17N R04W S30	2508758
Timber Harvest - Clear cut	68	T17N R04W S31	2507778
Timber Harvest - Clear cut	56	T17N R04W S33	2508159
Timber Harvest - Clear cut	14	T17N R05W S23	2507154
Timber Harvest - Clear cut	20	T17N R05W S23	2505843
Timber Harvest - Clear cut	5	T17N R05W S24	2507154
Timber Harvest - Clear cut	81	T17N R05W S25	2509244
Timber Harvest - Clear cut	4	T17N R05W S25	2507154
Timber Harvest - Clear cut	3	T17N R05W S25	2507154
Timber Harvest - Clear cut	13	T17N R05W S25	2507154
Timber Harvest - Clear cut	24	T18N R03W S28	2507850
Timber Harvest - Clear cut	8	T18N R03W S33	2507573
Timber Harvest - Clear cut	9	T18N R03W S33	2507573
Timber Harvest - Clear cut	33	T18N R04W S30	2508074
Timber Harvest - Clear cut	23	T18N R04W S32	2509101
Timber Harvest - Clear cut	35	T18N R04W S33	2507620
Timber Harvest - Clear cut	35	T18N R04W S33	200000
Timber Harvest - Clear cut	34	T18N R04W S34	2506598
Timber Harvest - Clear cut	4	T18N R04W S34	2506598
Timber Harvest - Clear cut	30	T18N R04W S34	2506598
Timber Harvest - Clear cut	24	T18N R05W S36	2508074
Timber Harvest - Clear cut	40	T21N R09W S16	2604211
Timber Harvest - Clear cut	40	T21N R09W S36	2603138
Timber Harvest - Clear cut	93	T21N R09W S36	2603138
Timber Harvest - Late rotation thinning	40	T16N R04W S04	2509102
Timber Harvest - Late rotation thinning	18	T16N R04W S04	2509102
Timber Harvest - Late rotation thinning	36	T16N R04W S05	2509102
Timber Harvest - Late rotation thinning	41	T16N R04W S08	2508434
Timber Harvest - Late rotation thinning	20	T17N R03W S03	2508769
Timber Harvest - Late rotation thinning	76	T17N R03W S07	2508941
Timber Harvest - Late rotation thinning	222	T17N R04W S29	2508228
Timber Harvest - Late rotation thinning	13	T18N R03W S33	2507573
Timber Harvest - Late rotation thinning	46	T18N R03W S33	2508769
Timber Harvest - Late rotation thinning	4	T18N R03W S33	2507573
Timber Harvest - Late rotation thinning	46	T18N R04W S25	2504964

South Coast HCP Planning Unit			
Timber Harvest - Late rotation thinning	34	T18N R04W S25	2504964
Timber Harvest - Late rotation thinning	98	T18N R04W S25	2504964
Timber Harvest - Late rotation thinning	58	T18N R04W S26	2504964
Timber Harvest - Late rotation thinning	57	T18N R04W S26	2504964
Timber Harvest - Salvage cut	8	T13N R08W S28	2509441
Timber Harvest - Salvage cut	26	T16N R04W S03	2508509
Timber Harvest - Salvage cut	11	T16N R04W S03	2508509
Timber Harvest - Selective product logging	14	T16N R03W S06	2507178
Timber Harvest - Selective product logging	29	T16N R03W S07	2507178
Timber Harvest - Selective product logging	22	T16N R03W S07	2507178
Timber Harvest - Smallwood thinning	19	T16N R04W S07	2508434
Timber Harvest - Smallwood thinning	321	T17N R04W S29	2501427
Timber Harvest - Smallwood thinning	275	T18N R03W S31	2500036
Timber Harvest - Smallwood thinning	155	T18N R04W S32	2507633
Forest site preparation - Pile and burn	46	T10N R10W S16	
Forest site preparation - Pile and burn	2	T12N R08W S02	
Forest site preparation - Pile and burn	26	T13N R06W S06	
Forest site preparation - Pile and burn	2	T13N R06W S06	
Forest site preparation - Pile and burn	61	T13N R06W S22	
Forest site preparation - Pile and burn	3	T13N R06W S28	
Forest site preparation - Pile and burn	2	T13N R07W S03	
Forest site preparation - Pile and burn	6	T13N R08W S06	
Forest site preparation - Pile and burn	2	T13N R08W S06	
Forest site preparation - Pile and burn	1	T13N R08W S32	
Forest regeneration - Hand planting	84	T11N R08W S27	
Forest regeneration - Hand planting	82	T11N R09W S29	
Forest regeneration - Hand planting	5	T12N R03W S26	
Forest regeneration - Hand planting	55	T12N R08W S02	
Forest regeneration - Hand planting	5	T13N R06W S21	
Forest regeneration - Hand planting	61	T13N R06W S22	
Forest regeneration - Hand planting	53	T13N R06W S28	
Forest regeneration - Hand planting	55	T13N R07W S29	
Forest regeneration - Hand planting	26	T13N R08W S06	
Forest regeneration - Hand planting	68	T13N R08W S06	
Forest regeneration - Hand planting	53	T13N R08W S07	
Forest regeneration - Hand planting	55	T13N R08W S21	
Forest regeneration - Hand planting	8	T13N R08W S28	
Forest regeneration - Hand planting	1	T13N R08W S32	
Forest regeneration - Hand planting	14	T13N R08W S34	
Forest regeneration - Hand planting	63	T13N R08W S34	
Forest regeneration - Hand planting	1	T14N R03W S04	
Forest regeneration - Hand planting	39	T14N R03W S09	
Forest regeneration - Hand planting	16	T14N R03W S16	
Forest regeneration - Hand planting	51	T14N R05W S33	
Forest regeneration - Hand planting	10	T15N R01W S03	
Forest regeneration - Hand planting	18	T15N R05W S34	
Forest regeneration - Hand planting	18	T15N R05W S34	
Forest regeneration - Hand planting	87	T15N R05W S35	
Forest regeneration - Hand planting	30	T16N R03W S07	
Forest regeneration - Hand planting	44	T16N R04W S03	

South Coast HCP Planning Unit			
Forest regeneration - Hand planting	9	T16N R04W S03	
Forest regeneration - Hand planting	26	T16N R04W S03	
Forest regeneration - Hand planting	24	T16N R04W S13	
Forest regeneration - Hand planting	22	T16N R04W S14	
Forest regeneration - Hand planting	21	T16N R04W S15	
Forest regeneration - Hand planting	45	T16N R05W S01	
Forest regeneration - Hand planting	74	T16N R05W S08	
Forest regeneration - Hand planting	56	T16N R05W S34	
Forest regeneration - Hand planting	12	T17N R03W S19	
Forest regeneration - Hand planting	25	T17N R03W S20	
Forest regeneration - Hand planting	48	T17N R03W S32	
Forest regeneration - Hand planting	87	T17N R04W S06	
Forest regeneration - Hand planting	21	T17N R04W S26	
Forest regeneration - Hand planting	28	T17N R04W S27	
Forest regeneration - Hand planting	22	T17N R04W S30	
Forest regeneration - Hand planting	68	T17N R04W S31	
Forest regeneration - Hand planting	14	T17N R05W S23	
Forest regeneration - Hand planting	20	T17N R05W S23	
Forest regeneration - Hand planting	5	T17N R05W S24	
Forest regeneration - Hand planting	4	T17N R05W S25	
Forest regeneration - Hand planting	3	T17N R05W S25	
Forest regeneration - Hand planting	13	T17N R05W S25	
Forest regeneration - Hand planting	87	T17N R05W S26	
Forest regeneration - Hand planting	42	T17N R05W S35	
Forest regeneration - Hand planting	24	T18N R03W S28	
Forest regeneration - Hand planting	8	T18N R03W S33	
Forest regeneration - Hand planting	10	T18N R03W S33	
Forest regeneration - Hand planting	33	T18N R04W S30	
Forest regeneration - Hand planting	37	T18N R04W S33	
Forest regeneration - Hand planting	29	T18N R04W S34	
Forest regeneration - Hand planting	34	T18N R04W S34	
Forest regeneration - Hand planting	4	T18N R04W S34	
Forest regeneration - Hand planting	40	T21N R09W S16	
Forest regeneration - Hand planting	40	T21N R09W S36	
Forest regeneration - Hand planting	93	T21N R09W S36	
Vegetation management - Aerial herbicide	57	T13N R06W S19	991862
Vegetation management - Aerial herbicide	88	T13N R06W S19	991862
Vegetation management - Aerial herbicide	20	T14N R03W S18	2509508
Vegetation management - Aerial herbicide	15	T14N R03W S18	2509508
Vegetation management - Aerial herbicide	30	T14N R03W S18	2509508
Vegetation management - Aerial herbicide	65	T14N R03W S19	2509508
Vegetation management - Aerial herbicide	10	T14N R03W S19	2509508
Vegetation management - Aerial herbicide	15	T14N R03W S19	2509508
Vegetation management - Aerial herbicide	25	T14N R03W S19	2509508
Vegetation management - Aerial herbicide	50	T14N R03W S20	2509508
Vegetation management - Aerial herbicide	10	T14N R03W S20	2509508
Vegetation management - Aerial herbicide	40	T14N R05W S02	2509508
Vegetation management - Aerial herbicide	40	T14N R05W S10	2509508
Vegetation management - Ground herbicide	78	T13N R06W S31	
Vegetation management - Ground herbicide	16	T13N R07W S36	
Vegetation management - Ground herbicide	65	T14N R03W S04	

South Coast HCP Planning Unit			
Vegetation management - Ground herbicide	94	T14N R03W S07	
Vegetation management - Ground herbicide	120	T14N R03W S08	
Vegetation management - Ground herbicide	70	T14N R03W S10	
Vegetation management - Ground herbicide	40	T14N R04W S10	
Vegetation management - Ground herbicide	30	T15N R02W S18	
Vegetation management - Ground herbicide	65	T15N R03W S31	
Vegetation management - Ground herbicide	69	T15N R03W S32	
Vegetation management - Ground herbicide	27	T15N R03W S32	
Vegetation management - Ground herbicide	82	T15N R04W S36	
Vegetation management - Ground herbicide	82	T15N R05W S03	
Vegetation management - Ground herbicide	78	T15N R05W S04	
Vegetation management - Ground herbicide	10	T16N R01W S27	
Vegetation management - Ground herbicide	53	T16N R01W S27	
Vegetation management - Ground herbicide	51	T16N R04W S07	
Vegetation management - Ground herbicide	20	T16N R04W S21	
Vegetation management - Ground herbicide	20	T16N R04W S21	
Vegetation management - Ground herbicide	2	T16N R04W S22	
Vegetation management - Ground herbicide	5	T16N R04W S22	
Vegetation management - Ground herbicide	0	T16N R04W S22	
Vegetation management - Ground herbicide	12	T16N R04W S23	
Vegetation management - Ground herbicide	58	T16N R05W S31	
Vegetation management - Ground herbicide	51	T16N R05W S34	
Vegetation management - Ground herbicide	39	T17N R03W S07	
Vegetation management - Ground herbicide	39	T17N R03W S07	
Vegetation management - Ground herbicide	29	T17N R03W S18	
Vegetation management - Ground herbicide	20	T17N R04W S19	
Vegetation management - Ground herbicide	43	T17N R04W S30	
Vegetation management - Ground herbicide	52	T18N R04W S16	
Vegetation management - Ground herbicide	36	T18N R04W S19	
Vegetation management - Hand cutting	27	T11N R07W S18	
Vegetation management - Hand cutting	33	T11N R08W S21	
Vegetation management - Hand cutting	7	T11N R08W S21	
Vegetation management - Hand cutting	42	T11N R08W S27	
Vegetation management - Hand cutting	43	T11N R08W S34	
Vegetation management - Hand cutting	50	T12N R08W S02	
Vegetation management - Hand cutting	41	T12N R08W S02	
Vegetation management - Hand cutting	4	T13N R05W S19	
Vegetation management - Hand cutting	7	T13N R05W S19	
Vegetation management - Hand cutting	6	T13N R05W S19	
Vegetation management - Hand cutting	2	T13N R05W S19	
Vegetation management - Hand cutting	9	T13N R05W S20	
Vegetation management - Hand cutting	4	T13N R05W S20	
Vegetation management - Hand cutting	6	T13N R05W S21	
Vegetation management - Hand cutting	6	T13N R05W S21	
Vegetation management - Hand cutting	2	T13N R05W S22	
Vegetation management - Hand cutting	10	T13N R05W S22	
Vegetation management - Hand cutting	4	T13N R05W S22	
Vegetation management - Hand cutting	2	T13N R05W S22	
Vegetation management - Hand cutting	5	T13N R05W S29	
Vegetation management - Hand cutting	10	T13N R05W S29	

South Coast HCP Planning Unit			
Vegetation management - Hand cutting	17	T13N R05W S30	
Vegetation management - Hand cutting	7	T13N R05W S31	
Vegetation management - Hand cutting	3	T13N R05W S31	
Vegetation management - Hand cutting	2	T13N R05W S32	
Vegetation management - Hand cutting	9	T13N R05W S32	
Vegetation management - Hand cutting	5	T13N R05W S36	
Vegetation management - Hand cutting	15	T13N R06W S13	
Vegetation management - Hand cutting	13	T13N R06W S13	
Vegetation management - Hand cutting	49	T13N R06W S14	
Vegetation management - Hand cutting	17	T14N R03W S08	
Vegetation management - Hand cutting	15	T14N R03W S08	
Vegetation management - Hand cutting	39	T16N R03W S04	
Vegetation management - Hand cutting	41	T16N R04W S06	
Vegetation management - Hand cutting	68	T16N R04W S06	
Vegetation management - Hand cutting	24	T16N R04W S17	
Vegetation management - Hand cutting	15	T16N R04W S17	
Vegetation management - Hand cutting	31	T16N R04W S17	
Vegetation management - Hand cutting	41	T16N R05W S12	
Vegetation management - Hand cutting	30	T16N R05W S13	
Vegetation management - Hand cutting	39	T16N R05W S16	
Vegetation management - Hand cutting	192	T16N R06W S01	
Vegetation management - Hand cutting	69	T17N R03W S05	
Vegetation management - Hand cutting	53	T17N R03W S30	
Vegetation management - Hand cutting	20	T17N R03W S32	
Vegetation management - Hand cutting	65	T17N R04W S23	
Vegetation management - Hand cutting	62	T17N R04W S34	
Vegetation management - Hand cutting	379	T17N R05W S21	
Vegetation management - Hand cutting	69	T17N R05W S35	
Vegetation management - Hand cutting	12	T18N R04W S09	
Vegetation management - Hand cutting	27	T18N R05W S26	
Pre-commercial thinning	14	T12N R08W S03	
Pre-commercial thinning	386	T13N R07W S27	
Pre-commercial thinning	13	T13N R07W S36	
Pre-commercial thinning	1	T13N R09W S24	
Pre-commercial thinning	20	T16N R04W S09	
Pre-commercial thinning	69	T16N R04W S22	
Pre-commercial thinning	73	T16N R05W S11	
Pre-commercial thinning	61	T17N R03W S32	
Pre-commercial thinning	32	T17N R05W S11	
Pre-commercial thinning	44	T18N R05W S36	
South Puget HCP Planning Unit			
Timber Harvest - Clear cut	98	T15N R05E S08	2408229
Timber Harvest - Clear cut	81	T15N R05E S16	2407615
Timber Harvest - Clear cut	3	T15N R06E S07	2408209
Timber Harvest - Clear cut	5	T15N R06E S07	2408209
Timber Harvest - Clear cut	5	T15N R06E S07	2408209
Timber Harvest - Clear cut	28	T18N R03W S04	2510125
Timber Harvest - Clear cut	68	T18N R03W S15	2507850
Timber Harvest - Clear cut	2	T18N R03W S28	2507850
Timber Harvest - Clear cut	39	T18N R03W S28	2507850

South Puget HCP Planning Unit			
Timber Harvest - Clear cut	60	T18N R04W S14	2509910
Timber Harvest - Clear cut	10	T18N R04W S14	2507620
Timber Harvest - Clear cut	46	T21N R02W S01	2407584
Timber Harvest - Clear cut	56	T21N R02W S02	2407584
Timber Harvest - Clear cut	9	T21N R02W S02	2407584
Timber Harvest - Clear cut	21	T21N R06E S36	2408283
Timber Harvest - Clear cut	2	T21N R06E S36	2408283
Timber Harvest - Clear cut	8	T21N R06E S36	2408283
Timber Harvest - Clear cut	45	T21N R06E S36	2408283
Timber Harvest - Clear cut	97	T21N R07E S16	2408040
Timber Harvest - Clear cut	75	T22N R02W S35	2407584
Timber Harvest - Clear cut	19	T22N R07E S36	2408314
Timber Harvest - Clear cut	18	T23N R01W S08	2407571
Timber Harvest - Clear cut	34	T23N R01W S08	2407571
Timber Harvest - Clear cut	3	T23N R01W S18	2409105
Timber Harvest - Clear cut	72	T23N R01W S18	2407571
Timber Harvest - Clear cut	36	T24N R02W S16	2408378
Timber Harvest - Clear cut	72	T24N R02W S16	2408378
Timber Harvest - Late rotation thinning	42	T18N R03W S14	2507850
Timber Harvest - Late rotation thinning	56	T18N R03W S21	2507850
Timber Harvest - Late rotation thinning	1	T18N R03W S33	2508769
Timber Harvest - Late rotation thinning	4	T18N R04W S25	2504964
Timber Harvest - Late rotation thinning	18	T18N R04W S25	2504964
Timber Harvest - Late rotation thinning	27	T21N R07E S20	2408168
Timber Harvest - Late rotation thinning	21	T21N R07E S20	2408168
Timber Harvest - Late rotation thinning	13	T21N R07E S20	2408168
Timber Harvest - Late rotation thinning	34	T21N R07E S20	2408168
Timber Harvest - Late rotation thinning	22	T21N R07E S20	2408168
Timber Harvest - Late rotation thinning	3	T21N R07E S20	2408168
Timber Harvest - Late rotation thinning	20	T21N R07E S20	2408168
Timber Harvest - Late rotation thinning	33	T21N R07E S20	2408168
Timber Harvest - Late rotation thinning	22	T21N R07E S20	2408168
Timber Harvest - Late rotation thinning	55	T22N R07E S36	2408314
Timber Harvest - Late rotation thinning	101	T22N R07E S36	2408314
Timber Harvest - Late rotation thinning	7	T22N R07E S36	2408314
Timber Harvest - Late rotation thinning	7	T22N R07E S36	2408314
Timber Harvest - Phased patch regeneration cut	10	T18N R04W S14	200000
Timber Harvest - Selective product logging	44	T18N R03W S09	2507433
Timber Harvest - Selective product logging	9	T21N R06E S36	2408283
Timber Harvest - Selective product logging	40	T27N R02E S16	2407359
Timber Harvest - Selective product logging	20	T27N R02E S16	2407359
Timber Harvest - Selective product logging	4	T27N R02E S16	2407359
Timber Harvest - Selective product logging	27	T27N R02E S16	2407359
Timber Harvest - Shelterwood intermediate cut	91	T23N R01W S16	2408266
Timber Harvest - Shelterwood intermediate cut	19	T23N R01W S16	2408266
Timber Harvest - Shelterwood intermediate cut	47	T23N R01W S16	2408266
Timber Harvest - Smallwood thinning	40	T18N R03W S31	2500036
Timber Harvest - Temporary retention removal cut	1	T16N R01E S30	2507428
Timber Harvest - Temporary retention removal cut	31	T16N R01E S30	2507428
Timber Harvest - Temporary retention removal cut	54	T16N R01E S30	2507428

South Puget HCP Planning Unit			
Forest site preparation - Ground mechanical	97	T21N R07E S16	
Forest regeneration - Hand planting	8	T14N R06E S05	
Forest regeneration - Hand planting	98	T15N R05E S08	
Forest regeneration - Hand planting	81	T15N R05E S16	
Forest regeneration - Hand planting	73	T15N R05E S18	
Forest regeneration - Hand planting	1	T16N R01E S30	
Forest regeneration - Hand planting	49	T16N R01E S30	
Forest regeneration - Hand planting	29	T16N R01E S30	
Forest regeneration - Hand planting	13	T18N R03W S15	
Forest regeneration - Hand planting	12	T18N R03W S21	
Forest regeneration - Hand planting	2	T18N R03W S28	
Forest regeneration - Hand planting	39	T18N R03W S28	
Forest regeneration - Hand planting	40	T18N R03W S34	
Forest regeneration - Hand planting	10	T18N R04W S14	
Forest regeneration - Hand planting	45	T21N R06E S36	
Forest regeneration - Hand planting	8	T21N R06E S36	
Forest regeneration - Hand planting	21	T21N R06E S36	
Forest regeneration - Hand planting	2	T21N R06E S36	
Forest regeneration - Hand planting	92	T21N R07E S16	
Forest regeneration - Hand planting	1	T21N R07E S20	
Forest regeneration - Hand planting	1	T21N R07E S20	
Forest regeneration - Hand planting	19	T22N R07E S36	
Forest regeneration - Hand planting	45	T23N R06E S13	
Vegetation management - Ground herbicide	6	T18N R03W S10	
Vegetation management - Ground herbicide	32	T18N R03W S15	
Vegetation management - Ground herbicide	21	T21N R07E S20	
Vegetation management - Hand cutting	69	T18N R03W S24	
Vegetation management - Hand cutting	24	T21N R01W S24	
Vegetation management - Hand cutting	48	T24N R01W S03	
Vegetation management - Hand cutting	33	T24N R01W S10	
Vegetation management - Hand cutting	5	T24N R01W S10	
Vegetation management - Hand cutting	13	T24N R01W S10	
Vegetation management - Hand cutting	13	T24N R02W S15	
Vegetation management - Hand cutting	53	T24N R02W S15	
Vegetation management - Hand cutting	100	T26N R01E S16	
Pest management - Shielding or fencing	40	T18N R03W S34	
Straits HCP Planning Unit			
Timber Harvest - Clear cut	63	T23N R04W S10	2408287
Timber Harvest - Clear cut	63	T23N R04W S10	2408287
Timber Harvest - Clear cut	96	T23N R04W S21	2408362
Timber Harvest - Clear cut	43	T23N R04W S28	2408362
Timber Harvest - Clear cut	14	T23N R04W S35	2407380
Timber Harvest - Clear cut	74	T23N R04W S35	2407380
Timber Harvest - Clear cut	91	T24N R03W S11	2408362
Timber Harvest - Clear cut	72	T27N R02W S16	2602193
Timber Harvest - Clear cut	35	T27N R02W S22	2602193
Timber Harvest - Clear cut	4	T27N R02W S25	2603206
Timber Harvest - Clear cut	77	T27N R02W S28	2602193
Timber Harvest - Clear cut	1	T27N R02W S28	2602193
Timber Harvest - Clear cut	47	T29N R01W S36	2604294

Straits HCP Planning Unit			
Timber Harvest - Clear cut	56	T30N R06W S36	2602194
Timber Harvest - Clear cut	29	T30N R06W S36	2602194
Timber Harvest - Clear cut	85	T30N R09W S06	2601979
Forest regeneration - Hand planting	55	T23N R03W S09	
Forest regeneration - Hand planting	91	T23N R04W S21	
Forest regeneration - Hand planting	43	T23N R04W S28	
Forest regeneration - Hand planting	14	T23N R04W S35	
Forest regeneration - Hand planting	74	T23N R04W S35	
Forest regeneration - Hand planting	18	T24N R03W S01	
Forest regeneration - Hand planting	90	T24N R03W S11	
Forest regeneration - Hand planting	28	T27N R01W S17	
Forest regeneration - Hand planting	10	T27N R01W S17	
Forest regeneration - Hand planting	72	T27N R02W S16	
Forest regeneration - Hand planting	11	T27N R02W S21	
Forest regeneration - Hand planting	35	T27N R02W S22	
Forest regeneration - Hand planting	4	T27N R02W S25	
Forest regeneration - Hand planting	77	T27N R02W S28	
Forest regeneration - Hand planting	1	T27N R02W S28	
Forest regeneration - Hand planting	36	T27N R02W S36	
Forest regeneration - Hand planting	34	T27N R02W S36	
Forest regeneration - Hand planting	67	T28N R02W S35	
Forest regeneration - Hand planting	19	T29N R01W S16	
Forest regeneration - Hand planting	47	T29N R01W S16	
Forest regeneration - Hand planting	63	T29N R05W S02	
Forest regeneration - Hand planting	66	T29N R05W S10	
Forest regeneration - Hand planting	59	T30N R02W S29	
Forest regeneration - Hand planting	66	T30N R02W S30	
Forest regeneration - Hand planting	79	T30N R02W S32	
Forest regeneration - Hand planting	19	T30N R05W S23	
Forest regeneration - Hand planting	2	T30N R05W S31	
Forest regeneration - Hand planting	2	T30N R06W S19	
Forest regeneration - Hand planting	54	T30N R06W S36	
Forest regeneration - Hand planting	29	T30N R06W S36	
Forest regeneration - Hand planting	6	T30N R08W S22	
Forest regeneration - Hand planting	4	T30N R08W S23	
Forest regeneration - Hand planting	2	T30N R09W S05	
Forest regeneration - Hand planting	1	T30N R09W S09	
Forest regeneration - Hand planting	32	T31N R09W S30	
Forest regeneration - Hand planting	2	T31N R09W S31	
Forest regeneration - Hand planting	66	T31N R09W S31	
Yakima HCP Planning Unit			
Timber Harvest - Late rotation thinning	72	T13N R14E S33	2701923
Timber Harvest - Late rotation thinning	33	T13N R14E S34	2701923
Timber Harvest - Late rotation thinning	106	T13N R14E S34	2701923
Timber Harvest - Salvage cut	351	T13N R14E S26	2701923
Timber Harvest - Salvage cut	195	T13N R14E S27	2701923
Timber Harvest - Salvage cut	111	T13N R14E S33	2701923
Timber Harvest - Salvage cut	61	T13N R14E S34	2701923
Timber Harvest - Uneven-aged management	250	T17N R16E S30	2701633
Timber Harvest - Uneven-aged management	59	T18N R17E S32	2700364

Yakima HCP Planning Unit			
Timber Harvest - Uneven-aged management	560	T19N R16E S16	2700364
Timber Harvest - Uneven-aged management	200	T19N R21E S08	2701176
Timber Harvest - Uneven-aged management	3	T20N R19E S12	2700882
Timber Harvest - Uneven-aged management	303	T21N R20E S22	2701435
Forest site preparation - Ground mechanical	100	T17N R16E S30	
Forest site preparation - Ground mechanical	20	T19N R21E S08	
Forest site preparation - Ground mechanical	11	T20N R19E S02	
Forest regeneration - Hand planting	199	T13N R14E S27	
Forest regeneration - Hand planting	1	T13N R14E S33	
Forest regeneration - Hand planting	0	T13N R14E S33	
Forest regeneration - Hand planting	8	T13N R14E S33	
Forest regeneration - Hand planting	3	T13N R14E S34	
Forest regeneration - Hand planting	46	T13N R14E S34	
Forest regeneration - Natural regeneration	250	T17N R16E S30	
Vegetation management - Hand cutting	40	T15N R15E S10	2702145