

Memorandum

To: SFAC Members
From: Todd Reinwald, Oregon Department of Forestry
Date: 11/05/20088
Re: Reviewing the 2009 Annual Operations Plan

Included is a summary that introduces our *draft* Annual Operations Plans (AOP's) for fiscal year 2009 on State Forest Lands within the Northwest Oregon Area (NWOA). It has been prepared specifically as a tool for the State Forest Advisory Committee to conduct a review of the five *draft* AOP's in the NWOA.

The attached summary was initially developed in response to past feedback from the SFAC that review of planned operations needed to be streamlined because the individual documents can be very lengthy. This summary format is intended to make easier your review, and in association with the dual meetings (March and April) serve as a means of soliciting comment from the committee specific to this AOP. This year's summary document has several new items compared to last. Feedback from prior reviews indicated that trend data would be helpful when evaluating the AOP and its relative contribution to achieving the goals and objectives of the Northwest Oregon Forest Management Plan (FMP). We have attempted to make useful that data in this year's summary.

AOP's are typically comprised of pre-operation reports describing each planned timber sale and other forest management activities, which are accompanied by maps and various project descriptions. Each District then prepares their own individual summary document that describes all of their planned operation and projects. These along with all of the pre-operation reports, maps and project plans are then assembled in the fall for internal review prior to release to the public for comment and feedback, which this year began on February 15th. The Area-wide summary provided here is a compilation of all the operations and activities identified in those documents.

For the SFAC, we would like to solicit your review of the *draft* '09 AOP's using the attached Area-wide summary. We will be presenting it to you at the March 7th meeting, and soliciting your comments at the April 4th meeting after you have had time to review. As was the case last year, your comments will be considered a part of the official public review, and posted to the public record. ODF will prepare responses to comments from the committee members as well as any other comments received, which also will become part of the public record.

A list of study questions is being provided with the Area-wide summary to help facilitate and guide your review. Should you have any questions, please do not hesitate to call.

Sincerely,

Todd Reinwald
State Forests Planning Coordinator for the Northwest Oregon Area

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List of Acronyms

ATV All-terrain vehicle
BLM Bureau of Land Management
BMP Best Management Practices
BOF Board of Forestry
CSC Closed single canopy (forest stand type)
CSL Common School Lands
DFC Desired future condition
ESA Endangered Species Act
FMP Forest management plan
FPA Forest Practices Act
FPFO Forestry Program for Oregon
GIS Geographic Information System
HCP Habitat conservation plan
IP Implementation plan
LWD Large woody debris
LYR Layered (forest stand type)
MBF Thousand board feet
MMBF Million board feet
NWOA Northwest Oregon Area
ODF Oregon Dept. of Forestry
ODFW Oregon Dept. of Fish and Wildlife
OFS Older forest structure (forest stand type)
OHV Off-highway vehicles
OSCUR State forest inventory system
REG Regeneration (forest stand type)
RMA Riparian management area
ROS Recreation Opportunity Spectrum
SBM Structure-based management
SE Stem exclusion (stand development process) *or* State endangered species
SI Stand initiation (stand development process)
T&E Threatened and endangered
TPA Trees per acre
UDS Understory (forest stand type)
USFWS U.S. Fish and Wildlife Service

NW OREGON AREA SUMMARY OF 2009 ANNUAL OPERATIONS PLANS

INTRODUCTION

This overview summarizes the *draft* Annual Operations Plan (AOP) proposed on State Forest Lands in the five Districts (Astoria, Forest Grove, North Cascade, Tillamook, and West Oregon) of the Oregon Department of Forestry's (ODF) Northwest Oregon Area (NWOA, or "the Area") for Fiscal Year 2009 (FY09), which begins July 1, 2008 and ends June 30, 2009. Described briefly herein are the activities and projects undertaken by the Districts that are intended to achieve the goals, strategies, and objectives of the Northwest Forest Management Plan (FMP), the 10-year Implementation Plans (IP's) of the individual Districts, the Tillamook State Forest Recreation Action Plan, the Santiam State Forest Recreation Management Plan, portions of the (DRAFT) Western Oregon Habitat Conservation Plan, state and federal statutes, regulations, and policies, and also voluntary measures. For additional detail, refer to the IP's and the draft AOP's of the individual Districts for descriptions of physical characteristics, annual objectives, and information specific to proposed operations. Each District's individual summary of planned operations and activities are useful reviews.

- The District's IP's can be viewed or acquired online at:
http://egov.oregon.gov/ODF/STATE_FORESTS/District_Implementation_Plans.shtml
- The individual draft AOP's for each District can also be obtained online at:
http://egov.oregon.gov/ODF/STATE_FORESTS/Annual_Operations_Plans.shtml

This summary is divided into five major sections: Integrated Forest Management, Planning and Information Systems, Public Information and Education, Administration, and Appendices. Appendix A contains a summary of commercial timber harvest operations by basin in each district. Appendix B contains summary tables of forest operations, forest structure, roads, the survey status for Threatened and Endangered (T&E) species, and management in designated salmon anchor habitat (SAH) basins. Appendix C contains general definitions and descriptions of harvest types, stand structure, silvicultural prescriptions, young stand management, and reforestation. At the end of the document are a set of vicinity maps for each District's proposed timber harvest operations for FY09. Note that the acres detailed throughout the report express net acres, unless otherwise stated. Net acres reflect the amount of ground that will actually be logged; in other words roads, stream buffers, green tree retention areas, or other identified parcels are excluded from the gross acreage estimate even though they are within an operation's boundaries.

AOP's may change between the drafts submitted for public review in February and final approval in early July due to refinements and new information; or due to unforeseen circumstances such as intense storm events or budget contingencies. The final approved AOP's will include changes to the draft documents, and will be posted by early July at the websites listed above.

INTEGRATED FOREST MANAGEMENT OPERATIONS

Timber Harvest Operations

The annual harvest objective (AHO) for 2009 is similar to that directed by the State Forester for FY's 2007 and 2008. Originally, the objective was to aim for harvest levels close to the mid-point of the *volume* (MMBF) ranges established by each District's IP. At the request of the State Forester, opportunities were explored to increase harvest levels while remaining aligned with the FMP. Analysis determined that an AHO slightly higher than the IP mid-point could be achieved for Astoria and Forest Grove, but that an objective slightly lower than the midpoint was warranted for North Cascade and Tillamook. These adjustments resulted in minor modifications to those District's respective IP's in 2007/2008. There are no proposed modifications for 2009, and the volume objectives remain unchanged.

Table 1 displays the *draft* 2009 AOP in relation to the 2009 AHO and the IP harvest objectives for each of the Districts in the NWOA (see also Table B-1 in Appendix B). All of the Alps for the NWOA have planned to achieve their respective AHO's. There is one minor deviation however, in that the total acres of planned harvest operations on the Tillamook District are slightly below (257 acres) the minimum limit directed in their IP. Pending review, this may be corrected for final approval of their AOP.

To achieve their AHO for '09, Districts were directed to implement a mix of regeneration and partial-cut harvest types within the acreage ranges identified in their IP's (as modified). Hence, volume became the focus for planning the '09 AOP because it is a discrete, single-value objective rather than a range such as acreage. In other words, if the volume objective is achieved then the acre mix of harvest types is less emphasized as long as they are within the IP range. In such circumstances, the acre mix of harvest types may turn out to be higher or lower than the midpoint of the IP range, which is the case for the NWOA for FY09.

The five Districts that comprise the NWOA have planned 47 primary timber harvest operations for the 2009 AOP, totaling an estimated 11,461 acres (2% of the NWOA land base). Most of the operations are planned for Board of Forestry (BOF) lands. Less than 2 percent of the total acreage is planned on Common School Lands (which only account for about 3 % of the land base). About 53 percent of the total acres are proposed partial cut operations, and 47 percent are planned to be regeneration harvest. Table 2 provides a comparison of acreage estimates between the 2009 AOP and those of previous years.

For brief descriptions of each of the planned harvest operations in the 2009 AOP see Appendix A.

Table 1. A Comparison of the Range of Harvest Acres (defined in the IP's - as modified¹), their 2009 AHO, and their 2009 AOP Objective.

District	Objective	Partial Cut Acres	Regen. Acres	Total Acres	Volume (MMBF) ²
Astoria	IP range	875 – 1,800	1,000 – 1,600	1,875 – 3,400	41.0 – 76.7
	2009 AHO ³	1,338	1,300	2,638	64.0
	2009 AOP	1,016	1,173	2,189	64.7
Forest Grove	IP range	2,365 – 3,547	338 – 1,100	2,703 – 4,647	44.9 – 67.4
	2009 AHO ³	2,956	719	3,675	62.5
	2009 AOP	2,428	774	3,202	62.5
North Cascade	IP range	470 – 900	180 - 270	735 – 1,170	13.0 – 15.0
	2009 AHO ³	685	225	910	14.0
	2009 AOP	677	270	947	14.5
Tillamook	IP range	1,000 – 3,000	2,000 – 6,200	4,500 – 7,600	49.0 – 78.7
	2009 AHO ³	2,000	4,100	6,050	60.0
	2009 AOP	1,305	2,938	4,243	59.3
West Oregon	IP range	550 – 720	200 - 250	750 – 970	7.6 – 12.5
	2009 AHO ³	664	228	892	10.1
	2009 AOP	646	234	880	11.2
NWOA Total	IP range	5,260 – 9,967	3,718 – 9,420	10,563 - 17,787	155.5 – 250.3
	2009 AHO ³	7,614	6,569	14,175	210.6
	2009 AOP	6,072	5,389	11,461	212.2

¹ Reiterations of the Harvest and Habitat growth and yield modeling have resulted in minor modifications to the acreage mix of harvest types and volume objectives originally defined in the 2003 IP's.

² million board feet

³ Harvest type acres for the '09 AHO equate to the midpoint of the IP range.

The total acres planned for harvest in the 2009 AOP is lower than the previous two years. This is attributed primarily to an increase in the percentage of planned regeneration harvest. Regeneration harvests generate more volume per acre than thinning, thus requiring fewer total acres to achieve volume objectives. Some of the contributing factors for the increase in regeneration harvests include:

- the extent of past thinning practices on several Districts has reduced the availability of candidate stands for partial cutting,
- an effort to enhance economic outputs over the past several years has resulted in the need for harvest types that yield a greater margin of return,
- Policy direction that reduces the extent of available operable acres, which translates into more intensive management on unencumbered areas (ex.- practicing Take Avoidance, implementing provisions of the draft HCP, and Salmon Anchor Habitat [SAH] strategies)
- the need to treat many acres of small diameter, slow-growing, marginal stands

Table 2. Comparison of 2009 AOP Acreage Estimates with Those of Previous Years.

District	FY AOP	Partial Cut Acres (%) ²	Regen. Harvest Acres	Total Acres
Astoria	Avg. '02-'06 ¹	2,634 (76)	838	3,472
	2007	2,100 (69)	929	3,029
	2008	1,296 (53)	1,149	2,445
	2009	1,016 (46)	1,173	2,189
Forest Grove	Avg. '02-'06	2,847 (85)	512	3,359
	2007	2,374 (82)	772	3,146
	2008	2,380 (76)	735	3,115
	2009	2,428 (76)	774	3,202
North Cascade	Avg. '02-'06	1,044 (81)	246	1,290
	2007	723 (73)	270	993
	2008	487 (63)	289	776
	2009	677 (71)	270	947
Tillamook	Avg. '02-'06	1,508 (26)	4,216	5,724
	2007	2,834 (56)	2,244	5,078
	2008	2,607 (53)	2,334	4,941
	2009	1,305 (31)	2,938	4,243
West Oregon	Avg. '02-'06	957 (91)	98	1,055
	2007	951 (91)	92	1,043
	2008	608 (75)	205	813
	2009	646 (73)	234	880
NWOA Total	Avg. '02-'06	8,989 (60)	5,910	14,899
	2007	8,982 (69)	4,074	13,056
	2008	7,378 (61)	4,712	12,090
	2009	6,072 (53)	5,389	11,461

¹ 5-year average of 2002, '03, '04, '05, and '06

² Parenthetical values are percent of the total acres, only displayed for partial cuts

The volume however that is planned for the 2009 AOP remains unchanged from 2008, and is estimated will yield approximately 212.2 million board feet of timber, which is about 1.6 million more than the combined midpoint of the IP range (the 2009 AHO) for the entire NWOA. Table 3 provides a comparison of planned volume and estimated stumpage values in past years.

Even though the volume planned for the 2009 AOP is the same as 2008, the gross and net value is projected to be roughly 7 to 8 percent less. This is credited largely to current market conditions and the fall of stumpage values since the 2008 plans. It is possible that market conditions could fluctuate further between now and approval of the final AOP, so stumpage value projections may change appreciably.

Table 3. Comparison of 2009 AOP Volume/Value Estimates with Those of Previous AOP's.

District	FY AOP	Volume (MMBF) ²	Gross Value (millions of USD) ³	Net Value (millions of USD)
Astoria	Avg. '02-'06 ¹	71.3	21.06	18.42
	2007	61.4	19.66	18.02
	2008	64.5	22.28	18.88
	2009	64.7	18.89	16.76
Forest Grove	Avg. '02-'06	57.9	20.62	19.18
	2007	62.0	20.40	18.67
	2008	62.0	22.69	21.30
	2009	62.5	20.61	18.84
North Cascade	Avg. '02-'06	22.1	7.12	6.41
	2007	14.0	4.30	3.93
	2008	15.3	4.73	4.46
	2009	14.5	4.64	4.47
Tillamook	Avg. '02-'06	60.3	12.54	10.00
	2007	59.4	10.48	7.33
	2008	59.8	11.00	8.10
	2009	59.3	10.91	8.00
West Oregon	Avg. '02-'06	9.9	2.84	2.39
	2007	10.4	3.31	2.51
	2008	10.6	3.76	3.12
	2009	11.2	3.86	3.38
NWOA Total	Avg. '02-'06	221.5	64.18	56.39
	2007	198.5	58.14	50.46
	2008	212.2	64.46	55.85
	2009	212.2	58.90	51.45

¹ 5-year average of 2002, '03, '04, '05, and '06

² million board feet

³ Rounded to the nearest \$10,000

Hardwoods typically comprise an appreciable amount of the volume planned for harvest in many timber sales. Current stumpage values for hardwoods, namely red alder are roughly twice that of Douglas fir. Table 4 indicates that hardwoods are projected to make up about 10 percent of the planned volume in the NWOA for FY09. As is typical, the greatest proportion of hardwood volume is projected to come from the Astoria and Tillamook Districts (hardwoods are estimated to comprise roughly 11 and 28 percent respectively of their total standing volume). Most of the hardwood volume is retrieved from mixed stands. Stands on the Tillamook District however usually exhibit the greatest proportion of hardwoods, primarily due to post-burn stand re-initiation by red alder. The Tillamook District has planned two sales (Coast Ford and Peak Out) that are dominated by hardwoods and two others that are estimated to have at least 50 percent hardwoods.

Table 4. Estimated Volume (MMBF)¹ and Proportion (percent)² of Hardwoods Planned for Harvest in the 2009 AOP

Astoria	Forest Grove	North Cascade	Tillamook	West Oregon	NWOA
6.5 (10%)	0.0 (0%)	0.4 (3%)	13.8 (23%)	0.8 (7%)	21.5 (10%)

¹ million board feet

² Percent of District's total projected volume

The strong storm that occurred in December of 2007 generated a significant amount of blown-down timber on the Astoria and Tillamook districts. The volume to be salvaged from the Tillamook District will contribute to their 2008 AHO and should not affect the 2009 AOP. Astoria however, anticipates significant changes to its 2009 AOP as a result of planned salvage. Salvage sales on Astoria are being planned, and the District expects to drop at least three harvest operations from its 2009 AOP in order to balance the additional volume that will be generated. Salvage of wind damaged timber is expected to generate approximately 4 to 6 million board feet in addition to Astoria's 2009 AHO.

Table 5 displays a breakdown of the acres planned for treatment stratified by stand structure type, and predicts the post-harvest structure that is expected to result (see also Table B-2 in Appendix B). This indicates the pathway that treatments are intended to advance, moving stands to the desired objective for achieving economic and environmental (i.e., habitat) benefits directed by the FMP.

Table 5. Stand Structure Summary for the NWOA (acres)

Status	REG	CSC	UDS	LYR	OFS
Current		4,430	6,869	162	0
Post Harvest ¹	5,440	0	5,057	907	57

¹ The Post Harvest stand structure is an estimate of what the stands will be converted into (immediately after operations), or what they will develop into (in five to ten years after operations). The REG structure stage is too young and small for commercial timber harvest operations.

For the 2009 AOP, planned operations will convert an estimated 5,440 acres into the regeneration structural stage (REG). Treatments include primarily modified clearcuts (see Appendix C for definitions), but also include patch cuts within planned thinning. All of the closed single canopy (CSC) stands that are planned for treatment will be converted to either the REG stage via modified clearcuts or are expected to develop into an understory (UDS) structural stage via thinning. Both partial cuts (synonymous with thinning) and regeneration harvests (synonymous with modified or retention cuts) are planned for an estimated 6,869 acres of stands classified as UDS. About 162 acres of stands classified as layered (LYR) are planned to be thinned. There are no treatments planned for stands classified as old-forest structure (OFS).

Somewhat unique to this AOP are proposed partial cuts on the Astoria District that are intended to hasten the development of stands classified as UDS into LYR structure within 5 to 10 years after operations are completed. On most Districts, development of UDS stands into LYR after thinning is

not expected to occur until at least 10 to 20 years post-harvest. But much of the Astoria District and the Clatsop State Forest has not been subjected to widespread stand replacement disturbance such as the Tillamook burn, so components like the presence of large remnant trees, legacy structures (snags and large downed woody debris), shade-tolerant species, brush layers, and multi-storied canopies that contribute to structural diversity are present. Hence, foresters conclude that some stands have the potential to develop into complex structure within a relatively short time frame after entry. For the 2009 AOP, the Astoria District plans to thin 818 acres of stands that will develop into LYR structure and 57 acres that will develop into OFS within 5 to 10 years after harvest.

Planned harvest operations and their silvicultural prescriptions are intended to achieve landscape-level goals defined by the FMP. The 2009 AOP plans to treat an estimated 4,155 acres to hasten the development of complex forest structure in areas mapped where the Desired Future Condition (DFC) is to become older forest habitat. Table 6 displays the amount of 'DFC Complex' planned for treatment in 2009 as well as trends of past treatments (see also Table B-2 in Appendix B).

Table 6. Amount of Area Treated to Promote the Development of Complex Forest Structure *

District	FY AOP	Partial Cut Acres (%) ¹	Regen. Acres (%) ¹
Astoria	Avg. '02-'08	1,399 (2)	0 (0)
	Cumulative '02-'08	9,796 (15)	0 (0)
	2009	957 (1)	0 (0)
Forest Grove	Avg. '02-'08	1,400 (2)	7 (<1)
	Cumulative '02-'08	9,803 (15)	52 (<1)
	2009	1,370 (2)	20 (<1)
North Cascade	Avg. '02-'08	669 (<3)	54 (<1)
	Cumulative '02-'08	4,681 (19)	380 (<1)
	2009	318 (1)	0 (0)
Tillamook	Avg. '02-'08	918 (1)	939 (1)
	Cumulative '02-'08	6,427 (4)	6,575 (5)
	2009	219 (<1)	1,065 (1)
West Oregon	Avg. '02-'08	438 (<3)	12 (<1)
	Cumulative '02-'08	3,064 (18)	91 (<1)
	2009	202 (1)	4 (0)
NWOA Total	Avg. '02-'08	4,824 (<1)	1,013 (1)
	Cumulative '02-'08	33,771 (12)	7,098 (3)
	2009	3,066 (1)	1,089 (<1)

¹ Percent of Mapped DFC Complex Structure (LYR & OFS combined). * Estimate of *planned* acres.

Thinning entries remain the dominant prescription for promoting the development of complex forest structure in the 2009 AOP. With the exception of the Tillamook District, there are only 24 acres in DFC Complex planned for regeneration harvest. Some of the acreage is areas where there are minor discrepancies due to the contrasting resolution between the broad, landscape-scale DFC mapping and the stand-level delineation of harvest boundaries. Small patch cuts within stands planned for thinning also accounts for some this acreage.

But on the Tillamook District, there is a significant amount of DFC Complex proposed for regeneration harvest. This is due to the predominance of planned entry into overstocked, small-diameter, slow-growing, off-site Douglas-fir stands infected with Swiss Needle Cast (SNC). In such stands, regeneration harvests are believed to be the quickest pathway to developing complex structure because the inherent high site potential would contribute to the re-establishment of a stand with growth rates more rapid than the existing off-site infected trees.

In order to retain flexibility the Districts have included additional Alternate operations in the 2009 AOP. Alternate operations are useful for a variety of reasons. In recent years, Districts have been planning enough Alternates in case there is a need to respond to policy changes or management direction that may influence harvest levels on State Forest lands. Alternates are also useful in the event that a Primary operation needs to be replaced for some unforeseen reason such as marginal log markets, complications with logging systems, controversial circumstances, T&E survey requirements, or a lack of bidders for example. Most Districts typically have several potential sale areas that they intend to eventually develop into a primary operation eventually anyway, so Alternates serve not only as backup, but are precursors to a future AOP. By preparing Alternate sales, Districts can also determine early potential survey needs for T&E species, possibly facilitating early determination of any relevant issues or consultation that need to be addressed.

Overall, most of the harvest operations planned for the 2009 AOP are not considered to be associated with highly contentious or complex issues. Two sales however that are planned on the North Cascade District (Little Rock Monument and Lookout Mountain) have the potential to conflict with recreation users, particularly equestrian riders, so special precautions are planned in order to minimize conflicts and ensure public safety.

All proposed timber sales will be designed, engineered, and submitted for processing during the FY09 time period. However, the actual on-the-ground operations may not begin during the fiscal year due to several factors, including: 1) timber sale auctions occur quarterly, so some sales may not be sold until late in the year, 2) some sales may not sell the first time around and thus are not auctioned again until the next auction, 3) contract terms for timber sales are typically 2 to 3 years, 4) during sale layout and contract preparation a sale may need to be modified, which requires approval and review that can delay auction. Other forest operations and management activities however, such as reforestation, young stand management, recreation management, and planning activities will be carried out during the fiscal time period.

See Appendix A for brief descriptions of each of the planned primary sales on a District, and stratified by management basin.

Definitions of harvest types and stand structure types can be found in Appendix C. Additional detail, explanation, and definitions are in the FMP and can be viewed at the ODF web site at:

http://egov.oregon.gov/ODF/STATE_FORESTS/planning.shtml

Forest Roads Management

Road Construction and Improvement

Across the Area the FY09 AOP's propose approximately 63.1 miles of new road construction and 64.6 miles of road improvement. Additionally, 20.5 miles of road is planned to be vacated or closed. Table 7 displays proposed road activities that have defined objectives in the Districts IP's (see also Tables B-1 and B-4 in Appendix B). These objectives were initially developed for the 10-year planning horizon of the IP's. Annual objectives are inferred and determined by dividing the 10-year activity levels in the IP by ten. It is not necessarily the intent of the IP's however, to direct that these objectives be attained every year. Rather, it is intended that the 10-year objectives be achieved by the end of the planning horizon. Thus planned road-related activities are considered flexible so in any given year they may be higher or lower than the inferred annual objective depending upon the forest operations that are proposed, refined transportation planning, and the extent of build out that has been completed. The inferred annual IP range in Table 7 is useful for evaluating an AOP's advancement toward road-related objectives. Table 8 provides an indication of how the current AOP compares to the trend to date.

Table 7. Comparison of Proposed Road Activities for the 2009 AOP and the Range of Their Relative Annual IP Objectives

District	Construction		Improvement		Vacated/Closed	
	Miles	IP Range	Miles	IP Range	Miles	IP Range
Astoria	14.5	18.0 - 23.0	31.5	24.0 – 40.0	4.8	2.2 – 6.3
Forest Grove	16.8	9.0 - 13.0	12.7	14.0 – 17.0	1.0	7.0 – 9.0
North Cascade	2.9	4.2 – 5.9	0.6	8.9 – 24.7	2.4	4.6 – 6.8
Tillamook	26.5	4.5 – 7.0	15.8	45.0 – 75.0	12.4	5.0 – 10.0
West Oregon	2.4	4.4 – 6.9	4.0	8.1 – 12.0	0.0	4.2 – 6.5
NWOA	63.1	42.6 – 59.5	64.6	101.0 – 170.5	20.5	23.2 – 39.2

Table 8. Approximate 8-Year Average (miles) of Planned Road Activities from 2002 to 2009

Activity	Astoria	Forest Grove	North Cascade	Tillamook	West Oregon	NWOA
Construction	18	18	4	12	3	11
Improvement	32	19	11	52	10	25
Close/Vacate	10	10	3	6	<1	7

Ninety-eight percent of the new construction that is planned in FY09 involves spur roads (see Table B-4 in Appendix B). There are no new segments of mainline road planned for construction, and only 1.5 miles of collector roads are proposed (on Astoria). New spur road segments are needed to access specific harvest operations and landing sites to facilitate logging systems and log haul. They are primarily short dead-end roads with a native (dirt), or minor surfacing.

The Tillamook District has the greatest amount of new road construction planned for the 2009 AOP. Much of their District is void of useable roads, and the terrain in that portion of the Coast Range is extremely rugged, resulting in high construction costs. Much of their timber however, is small and of low relative value which is a hindrance to funding build out and improvements to their existing transportation system. Construction of new spurs is crucial to accessing untreated stands and the long-term management of the forest on their District.

Much of the roadwork planned in FY09 is road improvement. Road improvement typically consists of some level of re-surfacing, widening, side cast pullback, and improving drainage structures. Road improvement consists primarily of: 1) improvements to existing road segments, and 2) improvements to legacy road segments. Existing roads have been improved and routinely maintained via timber sale contracts or annual maintenance funding. Legacy roads on the other hand are those that were built and then abandoned prior to implementation of the Oregon Forest Practices Act. Legacy road segments have a defined roadbed but are often overgrown with trees and shrubs. They often require sidecast pullback, culvert installation, and resurfacing. In recent years, a focused effort is aimed at identifying road segments where there are chronic drainage and stability problems. These sites are priorities for improvements that would disconnect them from the stream network and enhance stability.

Other road related projects include the development and processing of rock sources, or in the case of some Districts that lack adequate rock sources purchasing, transporting, and stockpiling rock materials. The north coast Districts typically develop and utilize sources on their lands. They engage in a variety of related activities to ensure materials are available to manage their transportation systems, often incorporating costs into planned operations. Managing their quarry sites is a long-term capital investment. The West Oregon District however, does not have any rock sources on their lands, so they must import material. Their per-unit cost to acquire and stock pile material for improving and developing their road system is greater.

Table 9 displays the percent of the gross value of planned operations that account for road-related project costs. Data indicates that costs associated with the 2009 AOP are consistent with past and trends. Due to the extent of inaccessible areas on the Tillamook District, and their ongoing build-out, their project costs typically run the highest of the five Districts in the NWOA. The West Oregon District is also proportionately high, primarily due to the need for importing rock materials. In contrast, the proportion of costs on the North Cascade District has declined. With the exception of minor spurs, development of their transportation system is advancing toward completion.

Table 9. Project Cost as a Percent of Estimated Gross Value

District	FY AOP	Percent of Gross Value
Astoria	Avg. '02-'06 ¹	13
	2007	8
	2008	15
	2009	11
Forest Grove	Avg. '02-'06	7
	2007	8
	2008	6
	2009	9
North Cascade	Avg. '02-'06	10
	2007	9
	2008	6
	2009	4
Tillamook	Avg. '02-'06	20
	2007	30
	2008	26
	2009	27
West Oregon	Avg. '02-'06	16
	2007	24
	2008	17
	2009	13

In addition to operational road-related activities, efforts have been underway to secure funding from FEMA to repair storm damage to the transportation system. All three of the North Coast Districts (Astoria, Forest Grove and Tillamook) experienced significant damage from the winter storms in 2006 and 2007. Some damage from the 2006 storm has been repaired. Storm damaged segments that pose a threat to public safety and that are mainline, heavy use roads are the highest priorities.

Guidance for transportation management, new construction, and road-related activities, will conform to the ODF *Forest Roads Manual*. No roads will be constructed on very steep or unstable slopes where risk analysis by the geotechnical specialists determines the probability of failure and the risk of resource damage or public safety is deemed an issue. Roads will be designed to the minimum width necessary to accommodate the planned management activity. Construction of new road segments that cross streams will be consistent with the Oregon Forest Practices Act and ODFW guidelines that limit the timing of in-stream disturbance. Since many noxious weed infestations start along roads where soil disturbance occurs during road improvement or construction, the Districts will actively strive to implement noxious weed control activities. Treatments will consist of chemical applications and manual removal.

Road Access Management

Most of the segments proposed for closure are spur roads. Closure is intended to block access temporarily until the road is needed again for future forest operations. Road segments that become candidates for closure are those where resource protection is an emphasis or the need for regular maintenance is considered unnecessary. In many instances closures are implemented to thwart illegal dumping, unwanted off-road use, vandalism, access to shared roads with private landowners, or to protect wildlife. Nearly all of the closures proposed in the 2009 AOP are spurs that will be opened for planned operations and then closed upon completion.

Road Maintenance

Road maintenance is conducted by either the District road crews or service contracts using allocated funding, or via timber sale contracts. Table 10 displays the road maintenance activities planned for the 2009 AOP. The majority of maintenance related activities is conducted routinely by the Districts every year. Most of the activities include roadside brushing, cleaning ditches and culvert, replacing or improving damaged or aging drainage structures, improving and grading road surfaces, replacing and hauling rock, and noxious weed control.

Table 10. Planned Miles of Road Maintenance Activities

Maintenance Type	Mainline (high use)	Collector (medium use)	Spur (low use)	Total
Annual District Maintenance	75	360	180	615
Harvest Operations	84	211	52	347

Land Surveying

Land surveys are required to establish property corners and mark the lines defining State ownership. The condition of corner monuments and accessories are checked, and new ones are established as necessary. Typically, survey needs are associated with planned operations that are adjacent to property boundaries. Survey tasks are completed using qualified ODF staff or contract surveyors depending on availability, and cost share agreements with adjacent land owners, particularly with private industrial owners. Listed below are individual survey needs for implementing 2009 AOP.

Astoria - Validate, re-witness, or restore approximately 20 survey monuments. Traverse, blaze, and post approximately 0.5 miles of property line.

Forest Grove - Nine miles of property line will be surveyed and marked for sales planned for FY08 and an additional one mile of property line will be surveyed and marked for sales planned for FY09.

Five miles of property line marked in prior surveys will be retraced and refreshed, if required, for sales planned for FY09 and beyond. Forty-five existing corners will be maintained or established.

Tillamook - Sale boundaries are adjacent to other ownership along 7.7 miles of property line along seven planned operations. Property lines which have been identified and marked in prior surveys will be retraced and refreshed. An additional 1.1 miles of property line have been established with a boundary line agreement adjacent to the Southern Gold alternate sale area. Twenty-five existing corners are either within or adjacent to sales and will be maintained in order to preserve their position.

North Cascade - About 2.75 miles of property line on 3 timber sales that will be surveyed, posted and blazed.

West Oregon - Approximately 5 miles of property line will need to be surveyed and marked for FY09.

Reforestation and Young Stand Management

This section describes the types and anticipated amounts of reforestation and stand management activities that will occur in FY09. The location and amount (acres) of these activities are estimates based on plans, information and conditions as known at this point in time. The type and amount of specific treatments and activities will be further adjusted based on the timing of harvest operations, updated field reconnaissance, and further evaluation.

Reforestation and young stand management (R&YSM) requires various combinations of site preparation, planting, animal damage control, vegetation management, and interplanting or replanting. These practices must be considered and prescribed for individual stands on a site-specific basis. Implementation of planned R&YSM projects is contingent on budget and funding availability. Table 11 provides a summary of the total acres of all planned activities and their combined cost (see also Table B-1 in Appendix B for more detail).

Table 11. Summary of Combined Planned Reforestation and Young Stand Management Activities and Estimated Total Cost.

	Astoria	Forest Grove	North Cascade	Tillamook	West Oregon	NWOA
Combined Acres	9,273	5,921	2,268	12,050	2,305	31,817
Total Cost	\$930,858	\$847,025	\$272,301	\$1,646,300	\$233,945	\$3,930,429

Rehabilitation

There are no rehabilitation projects planned for FY09.

Site Preparation

These activities prepare newly harvested sites for reforestation activities so new stands can be effectively established. Treatments are intended to create planting sites for reforestation efforts and to reduce the level of competing vegetation to facilitate establishment and growth of seedlings. Methods typically include broadcast burning, slash piling and burning, mechanical slash dispersal (slash busting), and chemical treatments using herbicides. Actual site preparation plans will be prepared in late spring or early summer when post-harvest slash and brush development can be better assessed. Prescribed broadcast burning is dependent on a variety of factors and in cases may not prove viable, at which time an alternative approach would be planned. Some site preparation activities such as broadcast burning may be associated with operations from previous AOP's.

Mechanical and Slash burning: Total estimates: 1,022 acres pile burning, 275 acres of broadcast burning, combined total estimated cost = \$187,323

Astoria – 194 acres of mechanical piling and burning, 194 acres of slash busting

Forest Grove – 192 acres of broadcast burning, 170 acres of mechanical piling and burning

Tillamook – none planned

North Cascade – 607 acres of mechanical piling and burning, 17 acres of mechanical slash busting

Western Oregon – 51 acres of mechanical piling and burning, 83 acres of broadcast or pile burning

Chemical Site Preparation: Total estimates: 3,567 acres of aerial application, 715 acres of hand application, combined total estimated cost = \$387,274

When using herbicides for site preparation on State Forest lands, only EPA approved herbicide products are used and Forest Practices Act requirements are strictly adhered to.

Astoria – 638 acres of aerial application, 332 acres of hand application

Forest Grove – 329 acres of aerial application

Tillamook – 2,520 acres of aerial application

North Cascade – 176 acres of hand application

Western Oregon – 127 acres of aerial application, 79 acres of hand application

Planting

Reforestation is the establishment of seedlings following regeneration harvests, patch cuts, root disease removal, severe blow down events, and, in certain cases, partial harvests. Planting helps meet the goals of reforestation through planting a variety of tree species. A mix of species helps achieve objectives as defined by the desired future condition. Activities typically include initial planting,

interplanting, and underplanting; each of which provides different outcomes to achieve the desired outcome. Planting levels in the IP's for the NWOA range from 2,535 to 6,945 acres. The extent of all planting activities in the Area planned for the 2009 AOP is estimated to be 5,507 acres. The combined total estimated planting cost for the NWOA = \$1,480,954

Astoria - 900 acres initial planting, 90 acres interplanting

Forest Grove - 657 acres initial planting, 50 acres interplanting

Tillamook - 2,600 acres initial planting, 400 acres interplanting

North Cascade - 176 acres initial planting, 397 acres interplanting

West Oregon - 158 acres initial planting, 20 acres interplanting, and 59 acres underplanting.

Natural Regeneration: Each district will monitor reforestation success by conducting stocking-level surveys, which will provide an indication of the level of contributing natural regeneration.

Vegetation Management

Synonymous with the term "release", these activities are conducted to reduce competition for growing space, light, water, and nutrients to improve the chances of survival for young trees and enhance their growth rate. Release can also reduce the amount of larger woody plant species, allowing longer retention of herbaceous species which serve as deer and elk forage. Vegetation management may be required to meet Forest practices reforestation stocking requirements, the FMP, and the IP's. Typical methods include aerial or hand chemical applications, and manual or hand scalping (mechanical).

Total estimates for the NWOA: 882 acres of aerial chemical treatment, 972 acres of manual chemical treatment, 904 acres of manual release, combined total estimated cost = \$282,437

Astoria - 328 acres of aerial chemical treatment, 557 acres of manual chemical treatment, and 534 acres of manual release

Forest Grove - 98 acres of aerial chemical treatment, 246 acres of manual chemical treatment, and 120 acres of manual release

Tillamook - 50 acres of manual chemical treatment, 350 acres of manual release

North Cascade - 406 acres of aerial chemical treatment, 79 acres of manual chemical treatment

West Oregon - 50 acres of aerial chemical treatment, 40 acres of manual chemical treatment, and 80 acres of manual release

Tree Protection

These activities are intended to protect seedlings and saplings from animal damage by reducing browse by elk, deer, and rodents; thereby providing trees the potential to attain full height growth. Tree protection also reduces cost of long-term vegetation management once plantations reach a free-to-grow stage. Methods may include installing protective covers such as various types of tubing, trapping (predominantly for mountain beaver), bud capping, and big game repellent.

Total estimates for the NWOA: 2,831 acres of tubing installation, 6,282 acres of trapping, combined total estimated cost = \$709,211

Astoria – 2,072 acres of tubing installation, 1,100 acres of mountain beaver trapping

Forest Grove – 210 acres of tubing installation

Tillamook – 240 acres of tubing installation, 5,000 acres of mountain beaver trapping

North Cascade – 60 acres of tubing installation

West Oregon - 249 acres of tubing installation, 182 acres of mountain beaver trapping

Pre-commercial Thinning (density management)

Pre-commercial thinning (PCT) is implemented to prevent young un-merchantable stands from becoming stagnant due to overstocking, which slows growth significantly, and minimizes forage quality. Thinning young un-merchantable stands or plantations promotes the development of understory vegetation for wildlife forage, induces rapid growth, and provides for a greater range of future management options. PCT promotes both economic and habitat benefits. In mixed stands where disease such as root rot or Swiss needle cast is prevalent, disease resistant species are favored for retention.

The combined estimate for the NWOA is 2,883 acres, which is within the IP range of 850-3,450 acres. Combined total estimated cost = \$299,592

Astoria – 938 acres

Forest Grove – 350 acres

Tillamook – 400 acres

North Cascade – 250 acres

West Oregon – 945 acres

Fertilization

Fertilization of forest stands is conducted to increase nutrient availability and hasten growth and productivity. Priority target stands to fertilize are typically fully stocked, disease free, 25- to 50-year old Douglas-fir stands on sites that exhibit moderate inherent site productivity (i.e., site index II & III). The combined acres of fertilization stated in the IP's range from 4,000 to 9,400 acres. For the 2009 AOP there are 3,356 acres of aerially applied fertilization projects that are planned for a total cost of \$460,760.

Astoria - 536 acres

Forest Grove - 3,000 acres.

Pruning

Pruning is practiced to improve wood quality, incite apical dominance in multiple topped trees (termed “single stemming”), reduce tree mortality from bear damage, prevent fungal infection in western white pine, or to increase light availability to understory plants. A total of 314 acres are planned for pruning. South Fork inmate crews would be used to prune select stands. Crews typically cost \$65 to \$75 per man day.

Forest Grove – 50 acres for treating white pine blister rust, 229 acres of single stemming in red alder plantations.

West Oregon - 35 acres for treating white pine blister rust

Noxious Weed Treatments

Efforts to control or eradication invasive species have become priority endeavors in recent years on State Forest lands. In 2007, ODF created a statewide committee to draft department policy for invasive and noxious weed species. The goals and objectives of this committee are to develop monitoring, prevention and control management strategies and practices, define terminology and document reporting methods, provide recommendations to the Program and Area Directors and to coordinate with the Private Forest Program and local weed boards and organizations. The program is currently developing a reporting and monitoring data base to track the progress of the plan.

In the NWOA all five Districts regularly implement control practices, which typically consist of hand applications of chemical treatments or manual removal. Efforts target heavily infested areas and applications are timed based on seed production of target species. Priorities will focus on high vehicle traffic and recreation areas, and sensitive protected sites. Principle target species include scotch broom, Himalayan blackberry, Japanese knotweed, Garlic mustard, false brome, Tansy ragwort, English ivy, St. Johnswort, and various thistle species, to name a few. The Tillamook District has developed a cooperative agreement with the Tillamook Estuary Partnership to conduct and mutually fund control efforts for target species, particularly Japanese knotweed along certain stream and river reaches.

Total combined acres planned for treatment: 1,186, for an estimated cost of \$102,987.

Astoria – 846 acres

Forest Grove – 200 acres

North Cascade – 100 acres

Tillamook – 20 acres

West Oregon – 20 acres

Recreation Management

Actions and activities are based on the goals, objectives, and action priorities established in the FMP, the Tillamook State Forest Recreation Action Plan Update, the Astoria District Recreation Plan, and the Santiam Recreation Management Plan.

Due to rising demand, uncertain funding, and minimal personnel the rate of developing new facilities was directed to ease temporarily in FY07 until issues can be resolved. Recreation management on State Forest Lands in the NWOA is currently undergoing renewed strategic planning as a result. Through this process the role and objectives for recreation within ODF will be re-evaluated. A Strategic Plan for recreation will be developed which will identify the role and vision for the recreation program and guide future development of the program. Priorities since are focusing on maintaining the facilities and infrastructure currently in place.

Recreation management activities planned for FY09 are based on the assumptions that fiscal budgets will remain at current levels and that most facility development will be accomplished with contract, district and South Fork resources, volunteers, and with grant dollars. Table 12 summarizes the estimated costs of planned recreation activities in the Area. Table 13 summarizes planned costs by District (see Summary Table B-1 in Appendix B). For detailed discussion specific to individual Districts, see their 2009 AOP Summary document, available on the web at:

http://egov.oregon.gov/ODF/STATE_FORESTS/2009_AOP_Draft.shtml

Table 12. Summary of Estimated Recreation Costs by Activity

Activity	Costs		
	Construction	Improvement	Total
Campgrounds	\$5,000	\$17,500	\$22,500
Day Use Areas	\$179,700	\$64,500	\$244,200
Interpretive Sites	\$4,200	\$300	\$4,500
Motorized	\$13,550	\$57,795	\$71,345
Non-Motorized	\$54,300	\$169,600	\$223,900
OHV Staging Areas	\$0	\$3,000	\$3,000
Trailheads	\$0	\$3,700	\$3,700
Total	\$256,750	\$316,395	\$573,145

Table 13. Summary of Planned Recreation Costs by District

District	Costs		
	Construction	Improvement	Total
Astoria	\$175,000	\$0	\$175,000
Forest Grove	\$8,800	\$210,000	\$218,800
North Cascade	\$49,250	\$49,500	\$98,750
Tillamook	\$23,700	\$39,895	\$63,595
West Oregon	\$0	\$6,000	\$6,000

In addition to the activities described below, the winter storms 2006 and 2007 caused considerable damage to recreational facilities such as campgrounds, trails, and picnic areas. There were a number of trail bridges that were washed away. Districts had secured FEMA funding and were in the process of repairing damage from the 2006 storm when the 2007 storm struck. The North Coast Districts were hit hardest and are in the process of submitting applications to secure FEMA funding to restore and repair damage to recreational facilities as a result of the 2007 storm.

Facilities Construction and Improvements

Astoria

- Lost Lake Day Use Area - Although the final plan has yet to be approved, construction will begin on a Day Use Area at Lost Lake. The site is heavily used in the summer and construction elements are limited to mitigating impacts associated with current use at the facility. Construction on the facility is anticipated to start in July and conclude in October.

Forest Grove

- Gales Creek Campground - Increase the size and capacity of the trash and recycling station.
- Gales Creek Overlook - Upgrade gravel pedestrian area, add plantings around the perimeter of the site
- Reehers Camp - Add Two Gates at the Day Use Area
- Stagecoach Horse Camp - Construct and install a mounting assist ramp

North Cascade

- Butte Campground - Redesign the campground to improve safety and deter vandalism, add 5-7 new sites, improve traffic flow, create a picnic area for families, redesign existing camp sites for group camping, and develop a host site. Only the design phase will take place in AOP 09.

- Butte Creek Falls Trailhead - Redesign and improve to meet growing demand and safety/sanitation requirements. Expand the parking lot with entrance and exit points that can be gated during the winter months to deter vandalism. A picnic area will be developed to accommodate groups. A double vault toilet will be installed with female and male designated restrooms.
- Crooked Finger 450 Road - Install gate at the trailhead
- Shellburg Falls Campground Improve 4 camp sites the interpretive shelter. A host site will also be designed and constructed at the campground.

Tillamook

- Hollywood, Jordan Creek and Diamond Mill OHV Staging Areas - Install permanent loading and off loading ramp for OHV use.
- Keenig Creek Day Use Area - Picnic tables will be installed and access to toilets improved. The parking area will be defined by boulder placement and signs improved on Highway 6 to direct the public to the site.

West Oregon

- There are no facilities construction or improvement projects proposed for FY 2009

Non-Motorized Trail Construction, Improvements, and Maintenance

Astoria

Planned trail maintenance (non-motorized):

- Gnat Creek Trail – Four miles
- Bloom Lake Trail – Two miles
- Soapstone Lake Trail – Two miles
- Demonstration Forest Trail – One mile
- Northrup Equestrian Trails – Seven miles
- Spruce Run Creek – Two miles

Forest Grove

Location and Design:

- Step Creek Trail (horse, hiker, mountain bike) (Wheeler Basin) – FY09 work will complete location and design work for 1.0 to 1.5 miles of trail.
- Wilson River Trail segment C-3 (horse, hiker, mountain bike) (Larch Mountain Basin). FY09 work will complete the location and design of 3 to 4 mile section of trail.

Construction, Improvements, and Maintenance:

- Step Creek Trail (horse, hiker, mountain bike) (Wheeler Basin) – FY09 work will begin construction of 1.0 to 1.5 miles of trail.

- Reehers Camp Loop Trails* (horse, hiker, mountain bike) (Wheeler Basin) – The Reehers Camp Trails project is being located and constructed in segments and phases. FY09 work will construct 1.0 to 1.5 miles of trail that was located and designed in FY08.
- Wilson River Trail segment C-2 (horse, hiker, mountain bike) (Larch Mountain Basin). FY09 work will include construction of a 2 to 4 mile section of Wilson River Trail segment C-2.
- Wilson River Trail Bridge - FY09 work will include the construction of an 80 to 85 foot trail bridge across Elk Creek.
- Summit Trailhead - Replace steps at the start of the Gales Creek Trail, install barriers around vegetation islands
- Four County Point Trailhead - Install single panel information board and improve trailhead signing

North Cascade

- Shellburg Falls Recreation Area – construct 0.5 miles of new trail
- Monument Peak Trail System - construct the final 3 mile trail loop called Iron Horse.
- Lower Butte Creek Fall - Improved access to the lower waterfall, provide an access rated at “moderate” in difficulty.
- Butte Lakes - Investigate the feasibility of a short 1 mile perimeter trail around Butte Lakes located in the High Lakes Recreation Area.
- 7 Mile Trail - The trail will be improved to provide safer access The current parking area will be improved and a kiosk erected providing information about the forest for visitors. In addition this trail will enhance visitor opportunities at the Santiam Horse Camp.
- Santiam Horse Camp and associated trails
- Rocky Top/Natural Arch Trail

Tillamook

A total of 14.3 miles of trail maintenance is planned. The storm event of December 2007 caused damage that requires more labor than the usual, annual trail maintenance. Work includes bridge maintenance, brushing, bridge replacement, slough removal, grade repair, and removal of wind throw.

- Wilson River Trail–Diamond Mill to Keenig Creek Trailhead section – 10.5 miles
- Cedar Butte Trail – 0.75 mile
- Peninsula Trail – 0.8 mile
- Nehalem Falls Trail – 0.5 mile
- Outback Trail 0.3 mile
- Coal Creek Trail 1.4 miles
- Coal Creek Trails – tie trail from ridge down to Coal Creek Trailhead (approximately ½ mile new trail construction)

- Section of Wilson River Trail from Keenig Day Use west to Muesial Creek (approximately 1.4 mile)

West Oregon

- The 4.3 mile mountain bike trail system in the Black Rock area will be maintained throughout the year by the Black Rock Mountain Bike Association.

Motorized Trail Construction, Improvement, and Maintenance

Astoria

- There are no motorized trail improvements proposed for FY 2009

Forest Grove

Construction Projects Motorized Trails

- #12 Gummyworm Trail* - FY09 work will complete construction of 1.0 to 1.5 miles of trail. (Volunteer Involvement).
- #43 Military Trail* - FY09 work will replace an existing temporary Military Bridge structure with a permanent 40 to 50 foot trail bridge.
- #25 Elliott Creek Trail – FY09 work will replace the existing gate on the old Elliott Creek Road. Consult with ODOT
- In FY09 ODF Equipment Operators and Volunteers will complete trail upgrade work, including grading, drainage, surface hardening and new trail segment construction on the following trails:

○ #21 Chute Trail	2.5 mi
○ #19 Tomans Knob Trail	1.5 mi
○ #20 Hoodraiser Trail	1.7 mi
○ #16d Airplane Trail	1.0 mi
○ #17 7-Up	0.5 mi
○ #3a Marks Trail	1.0 mi
Total Mileage	8.2 miles

North Cascade

- Crooked Finger ATV Area – Construct an estimated 2-3 miles of trail, install a gate at the staging and day-use Area.

Tillamook

- Ongoing survey of established OHV trails and inventory of undocumented district OHV trails with special emphasis on the Trask Basin. In addition, the process of signing designated trails within the Trask area will be ongoing through FY 2009. This will be done to protect

natural resources and enhance County Deputies' ability to enforce laws regarding OHV activities on state lands.

- Link Pothole Cr. Trail to Murphy Camp - project will facilitate access to stream monitoring site for Watershed Analysis Project on East Fork Trask River.
- Ginsberg Pt. Trail - 5.6 miles, 4WD Trail, Rock staging and Grading
- Kristie's Shuttle - 1.3 miles, Install 65' bridge, grade trail, construct additional 0.2 miles of trail to connect to Murphy Camp Rd.
- Leroy's Log Jam - 0.95 miles, grade top to bottom
- Poe Wade - 0.6 miles Grade top to bottom, haul rock as needed
- Helipad 5 - 1.5 miles, Grade top to bottom, haul rock as needed
- Spaur Creek - 1.5 miles, FEMA, project, install new 30' OHV bridge, reroute trail to new ridge site.
- Buzzards Point - 1.3 miles, FEMA project, install new engineered (approx.60' bridge. repair lower portion of trail, continue reinforcing existing drainage on upper trail, and install additional one way filters.
- Jordan Creek Trail - 1.9 miles, grade, rock dips as needed and clean out OHV dips, install additional dips as needed.
- Ben Smith Loop - 0.5 miles, Add on ½ mi. of new trail to avoid road riding and connect to Archers FB
- Morrel's Maze - 1.1 miles, dips, brushing, install culvert, minor reroutes
- Jordan Creek Road - washed out in flood 1.5, Re-shape abandoned road bed into OHV trail
- Mongo's Canyon - FEMA Project, 1 bridge, grade lower trail, rebuild rolling dips mini excavator from top) Widen trail to accommodate quad use.
- Elk Wallow - 0.6 miles, dips, grade, rock low lying sections
- Old Cedar Creek (lower end) - 2.7 miles, FEMA, Replace 6 culverts blown out by 06 storm

West Oregon

- There are no motorized trail improvements proposed for FY 2009 The 30.4 mile ATV trail loop on ODF and private forest land will be maintained throughout the year by the Mt. Baber ATV club members. About 4.2 miles of trail system is on state land.

Other General Recreation Operations and Maintenance

Typical activities associated with facility operations and maintenance includes:

- Campground host recruitment and supervision
- Coordination of daily facilities and campground maintenance activity by inmate work crews
- Scheduling of garbage and recycling services, vault toilet pumping, well maintenance
- Well water testing

- Sign and information board management
- Fee collection
- Public contacts/use management
- Public Use monitoring
- Assessment and coordination of facility repair and preventive maintenance
- Maintain access roads
- Conduct annual inspection and maintenance of motorized and non-motorized trail systems
- Administer service contracts to perform needed work
- Undeveloped and dispersed site inventory, assessment, and management
- Planning for restoration and improvement work
- Site closure and rehabilitation
- Resource enhancement
- Vegetation management.

Astoria

- The Astoria District is responsible for operations and maintenance of three fee campgrounds, one dispersed recreation area, and seven dispersed sites, two interpretive sites, and six designated trailheads.

Forest Grove Specific

- The Forest Grove District is responsible for operations and public use management at five fee campgrounds with day-use areas, seven developed and designated trailheads, and one interpretive site/overlook. These developed facilities and the public use that occurs at them requires a high level of management and maintenance presence in order to meet operations standards.
- The district has several undeveloped facilities and dozens of dispersed campsite areas that require a maintenance and operations presence. The dispersed sites are scattered throughout the forest. Most are used year round, with some of them receiving the heaviest use during hunting season.
- Wilson River Corridor dispersed site restoration and improvement
- Trail Condition Assessments - 51 miles of non-motorized trail, 60 miles of OHV trail
- Trail Maintenance - 35 to 40 miles of non-motorized trail, 10 to 15 miles of OHV trail

North Cascade Specific

- The North Cascade District manages and maintains four developed car campgrounds, one primitive hike in only campground, dispersed camping areas, one developed specialized campground for Equestrian enthusiasts and two unique vistas and natural attractions. Combined, there are currently 24 camp sites on the Forest. There are about 28 miles of non-motorized trails associated with the developed sites.
- Continue to administer a Personal Service Contract for the Butte Creek, Crooked Finger and High Lakes area to perform year round maintenance and visitor assistance.

Tillamook Specific

The following is a list of the facilities to be maintained during the FY 2009 operation period.

- Diamond Mill OHV Campground - Open year round.
- Jones Creek Campground - Open Memorial Day Weekend through September.
- Footbridge Trailhead – Day Use Area – Open year round
- Cedar Butte Trailhead - Open year round
- Keenig Creek Campground – Open year round.
- Sprague Wayside – Open year round
- Nehalem Falls Campground – Open Memorial Day Weekend through September.
- Jordan Creek Off Highway Vehicle Staging Area - Open April through October.
- Hollywood OHV Staging Area - Open year round
- Edwards Creek OHV Learners Area
- Peninsula Day Use Area & Boat Launch – Open year round
- Stones Road Boat Ramp – Open year round
- 53 designated dispersed campsites though-out forest
- Smith Homestead – Open year round (shared responsibility with Tillamook Forest Center)

West Oregon

- West Oregon District is responsible for managing and maintaining one free-use campground (2 camp sites), two OHV staging areas, a unique free-ride mountain bike facility, and various dispersed camp sites.

Other Recreation Management Activities and Planning

Astoria

- Interpretation and education (I&E) – Continue to coordinate with the NWOA I&E staff to inform and educate users about recreation opportunities, management of the forest, cultural and natural history, etc.
- Volunteer Efforts - Continue to develop a working relationship with local clubs and organizations, and promote volunteerism on the forest.
- Event Management - The Clatsop State Forest anticipates receiving an application to hold road rally event on the forest this year as in the past.
- Law Enforcement - Law enforcement for the district, particularly for the recreation program, is handled through a contract with the Clatsop County Sheriff's Office (CCSO). Funding for the contract for law enforcement with the CCSO has been requested and is planned for FY 2009.

- Development of an OHV Program for the Astoria District - Over the past three years the Astoria District has been working collaboratively with the district Recreation Advisory Committee and the recently convened local OHV Club to explore potential development of the Nicolai Mountain Area for an OHV riding area as identified in the current district Recreation Management Plan. Decisions related to development of this opportunity have been contingent upon available staffing resources and findings from the Recreation Second Party Assessment which was completed in 2007.
- Current Program and District planning efforts to address findings in the Recreation Assessment have identified decisions related to development of an OHV program on the Astoria District to be a high priority. A decision on the OHV issue on Astoria will be made during this fiscal year. Based upon that decision, the district recreation staff will continue to work with interest parties as appropriate.

Forest Grove

- Volunteer Program - Activities associated with the volunteer program will include the recruitment, hiring, and management of campground hosts; planning and management of trail maintenance, trail development, and special volunteer projects; management of the OHV Trail Equipment volunteer operator program; facilitation and management of trail planning efforts; implementation of the Adopt a Trail program; and management of the Tillamook State Forest Volunteer Trail Patrol program. The Recreation Unit anticipates facilitating over 6000 hours of volunteer contribution in FY2009. The volunteer program includes the following recreation oriented sub-programs.
 - Camp Host
 - Trail Maintenance and Construction
 - Trail System Planning
 - Trail Patrol
 - Adopt a Trail
 - OHV Trail Equipment Volunteer Operator
 - Forest Clean-up
- Event Management - The Forest Grove district permits organized trail club sponsored trail use events. Both motorized and non-motorized trail events are held on the district. The events consist of poker runs (fun runs), competitive timed motorcycle races, trials motorcycle competitions, four-wheel drive rallies, and Rally car races. Other events, such as equestrian poker rides, mountain bike races, running races, and archery events are scheduled less frequently. In FY 2009 the district expects to review, permit and administer 4 to 6 trail use events.

North Cascade

- Shellburg Area Free Ride Mountain Biking Trails - Continue to coordinate and develop a partnership and adopt-a-trail agreement with the Mountain Street Dirt Crew (MSDC) free ride mountain biking club to establish free ride trails near the Shellburg Falls Recreation

Area. Currently an estimated 2 miles of trail have been established including a variety of unique trail features.

- Monument Peak Trail System - Research and develop long range trail goals with the Santiam State Forest Citizen Advisory Committee. Focus on setting long range goals and determine the feasibility and resources needed to construct and maintain a larger trail system.
- Crooked Finger ATV Area - Continue to foster the partnership with the Crooked Finger Riders Association (CFRA) a group, a local ATV enthusiast user group and develop an adopt-a-trail agreement. Together ODF and CFRA will design, construct and steward these trails. In addition club members will educate others about sustainable ATV use in this area. CFRA members with guidance from ODF staff will continue to develop new trails and maintain existing trails
- Abiqua Falls - Continue as staff time allows investigating the feasibility of a land exchange to improve public access.
- Forest Education and Interpretation - Continue to develop and conduct Education and Interpretative Programs, including environmental education, summer programs for local community libraries, and interpretive nature hikes at Shellburg Falls and the Butte Creek Falls area.
- Title III Grant – Administer grant monies from the Clackamas County Board of Commissioners to develop and implement an After-School Forest Education and Interpretation Program.

Tillamook

- Wilson River Corridor Vehicle Access Management Plan - Develop Vehicle Access Plan addressing resource damage & access for public and utilities – Ongoing
- Non Designated dispersed camping sites - Continue GPS inventory of all non-designated dispersed sites in the district and evaluate their impact on resources.
- Coordinate removal of abandoned vehicles and property and clean up of dumpsites.
- Provide support for interpretive and educational programs at Tillamook Forest Center, local schools, and at other ODF districts.
- For the last seven years several Districts have participated in the Oregon Department of Fish and Wildlife (ODFW), North Coast Travel Management Area (TMA). TMA regulates vehicle travel during the general hunting seasons. Sign maintenance and public contact in the TMA is performed by a volunteer and recreation staff.
- Organized Event Administration - For FY 2009 Tillamook District will assist the OHV Coordinator administering motorized event permits on the Tillamook State Forest. Events include poker runs, races, 4WD runs, dual sport runs, a possible car rally, and observed motorcycle trials. There are 16 planned motorized events in the 2008/2009 season and at least one non-motorized event.
- Law Enforcement - ODF will contract with Tillamook County Sheriffs Office for 3 full-time deputies at an approximate cost of \$288,000. Tillamook County Sheriff's Office funds 45% of the program cost with grant funds from the Oregon ATV Fund. The remaining 55% is

provided by Oregon Dept. of Forestry. ODF will also bring on an additional forest deputy from May through September to enhance public safety during the high use season.

- Volunteer Activities - Camp Host, Non motorized trail workdays, Motorized Trail Work Days, Down by The Riverside Clean Up - SOLV

West Oregon

- The Mt. Baber ATV club will hold a number of organized riding events during the fiscal year. Riders use the staging area and trail throughout the year unless restrictions are in place that would temporarily curtail activities (i.e. fire season restrictions, etc.).
- District personnel are working with club officials and ODF's public use coordinator in the initial stages of planning for a campground at the staging area, which is on state land.
- The Black Rock Mountain Bike Association may have some organized riding events along with scheduled "work party" events. The trail system is used continuously throughout the year. The district is also anticipating one organized event in the area with the Oregon Bicycle Racing Association.

Recreation Partnerships and Coordination

The following resource specialists, providers of contract services, and public user groups are an essential part of District recreation programs.

- Recreation Citizen Advisory Committees
- Private companies that provide contract maintenance and repair service
- Public/user group clubs and organizations
- ODFW
- Forest Management, Engineering, Reforestation and Administration Staff for integration with other planned management activities and staff support
- Area Geotech, Silviculturalist, Area Biologist and Public Use Coordinator.
- Volunteer Trail Patrols, for clean-up and maintenance.
- The County's Sheriffs Offices and OSP
- Oregon Department of Corrections (DOC)
- South Fork Inmate Camp
- Santiam Correctional Institution
- Mill Creek Correctional Facility
- Marion County Inmate Work crews
- BLM
- County Parks
- Tillamook Bay Estuaries Partnership
- Stop Oregon Litter and Vandalism
- NW Steelheaders

Land Exchange

Astoria

The Draft Land Exchange and Acquisition Plan for the Astoria District will be submitted to the Board of Forestry for review this fiscal year. It is anticipated that the Board will approve the plan prior to the beginning of FY09. Although the Land Exchange and Acquisition Plan are expected to be in place during FY09, there are no land exchanges planned at this time.

Forest Grove

There are no active land exchange projects for this AOP.

North cascade

The District is developing a land exchange and requisition plan that is scheduled for implementation by January 1, 2009. The purpose of this acquisition and exchange plan is to identify parcels of forestland and other property that could either be acquired or exchanged for the Board of Forestry or, in the case of CSF land, recommended to the Oregon Department of State Lands (OSDL), by the North Cascade District to improve the management and administrative effectiveness and efficiency for ODF and adjacent landowners.

Tillamook

No land exchanges are planned during the FY09, however the district is beginning work on future exchange priorities. The overall goal is to develop exchange plans for the Common School Lands and any high priority parcels Tillamook District would like to acquire. High priority would be parcels that have implications for access to other lands.

West Oregon

The district's land acquisition and exchange plan was approved by the Board of Forestry in November of 2007. The district has entered into preliminary negotiations with an industrial forest landowner regarding exchanges of land in Benton, Lincoln, and Polk counties. District and Salem staff have met and discussed the status of this potential land exchange. Assessment and evaluation of the potential exchange will be on-going throughout FY09.

Other Integrated Forest Management Operations

Special Forest Products

The Districts routinely administer Special Forest Products programs which consist of issuing Commercial Use Permits to individuals who wish to collect larger quantities of various forest products with the intent to be re-sold. There is a fee charged which depends on the product type and amount desired by the permittee. Depending on the District, Special Forest Products typically permitted include mushrooms, seedlings, noble fir boughs, salal, bear grass, ferns, vine maple and alder saplings, cascara and yew bark, moss, and rock.

Habitat Improvement/Stream Enhancement Projects

The Districts work with ODFW to identify opportunities for stream enhancement and improvements to fish passage. ODFW has identified possible opportunities in areas adjacent to FY09 sales. If these projects prove to be feasible, they will be accomplished as timber sale project work. ODFW will be responsible for planning and designing the project, obtaining all necessary permits, and filling all pertinent reports. ODF will be responsible for incorporating the projects into the timber sale contracts. ODFW will administer the projects to ensure design compliance and ODF will administer the projects to ensure contract compliance. Project specifics are often not developed in advance of an AOP, but are designed as funding and implementation become more certain.

A list of potential project opportunities in the Upper Nehalem Watershed on the Astoria District can be found in Table 1 of the Action Plan. A total of three improvement projects are included in the FY09 AOP. The projects are included within the Fosters 40, Paradise East and Ridge 77 timber sales.

On the Forest Grove District ODFW has identified possible opportunities for stream enhancement projects in areas adjacent to two FY09 sales (Holey Oak, Moose and Squirrel). If these projects prove to be feasible, they will be accomplished as timber sale project work. ODFW will be responsible for planning and designing the project, obtaining all necessary permits, and filling all pertinent reports. ODF will be responsible for incorporating the projects into the timber sale contracts. ODFW will administer the projects to ensure design compliance and ODF will administer the projects to ensure contract compliance.

On Tillamook ODFW has identified possible opportunities for stream enhancement projects in areas adjacent to three FY09 sales (Peak Out, Downtown, and Hansen Falls). If these projects prove to be feasible, they will be accomplished as timber sale project work.

On the West Oregon District, approximately 0.5 miles of known fish habitat will be made available by the replacement of a deteriorated road crossing structure.

Wood Cutting

All five Districts set up and administer commercial and individual wood cutting permits. These areas are used to daylight roads, clean up landings, and salvage windthrow adjacent to roads. Commercial permits will also be issued for moss, bear grass, salal, ferns, vine maple, and alder saplings on Districts with abundant resources. The Special Forest Products program is currently being reviewed and evaluated in order to increase State wide consistency in items such as accountability, enforcement, economic value and sustainability of the special products.

PLANNING AND INFORMATION

Stand Level Inventory (SLI) and Other Vegetation Inventories

Astoria - Since 2001, the Astoria District has conducted a rigorous Stand Level Inventory (SLI) regime yielding 56% of the Districts stands and 74% of the District acres inventoried to date. The Districts are in the process of prioritizing SLI needs for the FY09 time frame. Additionally, the State Forests Program is beginning re-measurement of permanent plots established in late 1999. A total of 430 permanent sample plots were established on a grid pattern across the State Forests ownership in Oregon with the intention of re-sampling every 8-10 years. This will be the first re-sampling since the plots were established.

Stocking surveys will be conducted on young conifer stands to determine stocking levels in the one-year-old and three-year-old stands. Approximately 900 acres of stocking surveys will be conducted on these types of stands in FY 2009.

Forest Grove - Stand Level Inventory (SLI) will be completed on approximately 88 stands in the Forest Grove District during FY09. The total acreage of these stands is approximately 7,848 acres (7% of the District). FY09 clearcuts and FY10 proposed timber sale areas will be a top priority, and this work will be completed under the statewide SLI contract. Currently, 68% of the District has updated SLI data. The stand level inventory will be used for prescription development, AOP implementation, monitoring, and other planning purposes.

The District will also be conducting stocking and survival surveys in young stands and plantations. The surveys are used to determine stocking levels, needs for tree planting, release, or pre-commercial thinning.

Tillamook - Tillamook District continues to be inventoried using the Stand Level Inventory (SLI) protocol and is administered by Salem staff. It is currently estimated that by the end of FY09, approximately 1,200 stands will be complete resulting in 20-25% of the District (stands) being measured. There are currently 5,759 SLI stands in Tillamook, amounting to 252,337 acres. About 5,150 stands and 242,057 acres are suited for SLI cruising.

Permanent plot re-measurement will begin in FY08 and continue into FY09 on the District as well. There are a total of 133 plots in Tillamook District and the re-measurements will be completed by service contract. Like the SLI, this contract is administered by Salem staff. A timber cruise contract will be let in FY08 and continue into FY09 for the District. This contract will focus on cruising timber stands planned for the FY10 and 11. Cruisers will collect data to assist in planning and sale prep decisions such as tree height, diameters, defects, segment grading, snags, and growth analysis.

The District will also conduct stocking and survival surveys in young stands and plantations. The surveys are used to determine stocking levels, needs for tree planting, release or precommercial thinning.

North Cascade - Some stands within the District will be inventoried during the FY 2009 using the Stand Level Inventory procedures. This information is well suited to structure based management planning and decision making. Approximately 3 stands totaling approximately 1,000 acres may be inventoried using contractors.

West Oregon - Stand Level Inventory will take place in the following timber stands: 1) stands proposed for clearcutting in the next two fiscal years, 2) stands necessary to populate all stand types, and 3) a sufficient number of stands to bring the District total up to 50% of all stands inventoried. Accomplishing this will result in SLI of 39 stands.

Stocking surveys of two, six, and fourteen/fifteen year old plantations will also be conducted.

Fish and Wildlife Surveys

Fish Surveys

Where unconfirmed, all of the Districts schedule fish presence/absence surveys on stream reaches adjacent to the planned harvest operations in their AOP. Requests will be submitted to ODFW for stream surveys to determine fish presence annually, prior to sale layout. Stream surveys are conducted between March and June of each year. If the surveys are not completed by the time of sale preparation, streams will be treated as fish bearing (Type F). Streams of “unknown status” or “assumed fish status” will be treated as Type F streams until their status is determined. All attempts will be made to verify fish use by time of auction or when sale activities begin. Surveys are typically conducted by either an ODF/ODF&W co-op crew or contractor during the survey season prior to sale auction.

To schedule surveys, each District has a list of sales and streams where surveys need to be planned. For example the Forest Grove District lists six FY09 sales: Chicken Combo, Grindstone Cowboy, Van Salmon, Steelhead Falls, Polecat, and Holey Oak. In some cases, such as on the West Oregon District for FY09 all of their sales might require fish surveys on specified streams.

Marbled Murrelet (MM) Surveys

Districts will continue their marbled murrelet survey programs, in order to comply with federal and state Endangered Species Acts. To date, the USFWS has not issued formal guidelines regarding what constitutes a “take” for murrelets. In the absence of such guidance, ODF will follow *the State Forest Operational Policy, Marbled Murrelet Operational Policies* (January 1, 2005). This plan was developed through consultation with USFWS and will be utilized by ODF as the compliance mechanism for the federal and state Endangered Species Acts. All marbled murrelet surveys will be conducted in accordance with the Pacific Seabird Group (PSG) most current survey protocol.

ODF completes surveys of potential suitable habitat within ¼ mile of any planned timber sale. Additional monitoring surveys are planned in designated Marbled Murrelet Management Areas (MMMA). See Table 14 for a summary of survey needs for the FY09 AOP.

Northern Spotted Owl (NSO) Surveys

In FY09 the Districts will continue their northern spotted owl survey programs, in order to effectively comply with the *Agreement for the Conservation of Northern Spotted Owls* (September 2001) and to comply with ODF's responsibilities under the state Endangered Species Act. The survey method utilized by ODF is the *Protocol for Surveying Proposed Management Activities That May Impact Northern Spotted Owls*. This protocol was originally dated March 1991, was revised March 1992, and is endorsed by the USFWS. The Districts determine survey requirements for planned timber sales with potential habitat according to the November, 2002 ODF Policy Guidance: *Northern Spotted Owl Surveying on State Forest Lands*.

Private contractors complete all surveys and develop final reports for ODF. For both marbled murrelets and northern spotted owls, end of year (survey season) reviews will be done to discuss survey results. This end of season meeting is an opportunity to meet with surveyors to discuss findings and determine future survey needs and/or needed modifications to proposed operations.

Surveys are being carried out for planned and alternate operations according to the procedures listed above. Some sales are surveyed for both NSO and MM, while some may have potential for one species or not require any surveys.

See Table 14 for a summary of survey needs for the FY09 AOP. For specific survey details relevant to individual sales that are planned in the 2009 AOP's, see Table B-5 in Appendix B of this document, or the individual District summary and pre-operation reports at:

http://egov.oregon.gov/ODF/STATE_FORESTS/Annual_Operations_Plans.shtml

Table 14. Summary of the Number of Sales where NSO and MM Surveys are expected to be Conducted for the 2009 AOP (primary sales only).

Species	Astoria	Forest Grove	North Cascade	Tillamook	West Oregon	NWOA
NSO	9 of 9	11 of 12	5 of 5	7 of 15	4 of 6	36 of 47
MM	2 of 9	4 of 12	0 of 5	7 – 8 of 15	5 of 6	18-19 of 47

Plants

ODF protects listed plant species in accordance with the state and federal Endangered Species Acts (ESA), Oregon Revised Statutes (ORS), and Oregon Administrative Rules (OAR). The overall policy context and procedures for ODF's management of plants is described in the August 1, 1995 document *Procedures for Complying With Federal and State ESA's for Plants*. This policy framework is supplemented by specific strategies for plants in the Forest Management Plan. The proposed harvest operations were screened against the Oregon Natural Heritage Database and known locations on the Districts to identify potential conflicts with listed plant species. To-date, there are no sales identified in the 2009 AOP needing plant surveys.

Watershed Analysis

Astoria - In 2005 the State Forest Watershed Analysis Program initiated a watershed analysis that was done on the Upper Nehalem Watershed on the Clatsop State Forest. The analysis was completed in the spring of 2006. The Department put together a Watershed Implementation Team (WIT) to come up with an action plan that would address the concerns of the analysis. The action plan clearly lists an ODF response (management activity) to the issues of concern that were documented in the Watershed Analysis.

A Lower Nehalem Watershed Analysis is planned; however, it is not anticipated to be done during the FY09 AOP. The watershed analysis began for the Wilson Basin during FY06 and will continue into FY08. Final assessment and analysis should be completed during summer of FY07.

Tillamook – The Wilson River Watershed Assessment is in its final stages and nearly complete. The WIT in coordination with the District will be using the document to begin developing a watershed action plan during the last quarter of FY08 and in FY09. Potential projects that entail recommendations in the assessment will be considered for the 2010 AOP.

Research and Monitoring

Astoria - The District continues to actively participate with Oregon State University's investigation of the creation and maintenance of gaps or small openings in young Douglas-fir plantations. This long-term study will measure the effects gaps have on wildlife habitat. During 2009, work will begin to monitor gap usage by songbirds, bats, and other small mammals.

The Riparian Stream Temperature (“RipStream”) monitoring Project has been active on the Astoria District since 2003, and will continue through this Annual Operations Plan period. The objective of this study is to provide a coordinated monitoring effort with which to evaluate effectiveness of Forest Management Plan riparian strategies in protecting stream temperature, and promoting riparian structure that provides necessary functions for the protection of fish and wildlife habitat.

Forest Grove – Depending on budget considerations the District will be involved in a variety of research and monitoring projects in FY09. Examples include:

- Red alder research areas.
- White Pine Blister Rust resistance studies.
- CFER research areas (commercial thinning and wildlife studies).
- Commercial thinning and *Phellinus weirii* research areas.
- Commercial thinning and Swiss Needle Cast study areas.
- Riparian zone functions study areas.
- Green tree retention and seedling growth demonstration areas.
- Headwater amphibian research project.

Tillamook - The Tillamook District is planning to be involved in a variety of research and monitoring projects in FY09. Study sites and plots will be established and/or maintained on the

district. District employees may participate in these projects. The following sections provide brief summaries of current research as well as planned research.

- **Swiss Needle Cast Cooperative Studies: (ODF Districts and SNCC):** Pre-commercial thinning plot measurements and disease assessments, Sulfur plot measurements, nutrient sampling, and Bravo plot disease assessments
- **Swiss Needle Cast and Commercial Thinning: (OSU, ODF Districts):** Proposed research will address 1) growth trends following thinning of older stands with varying levels of Swiss needle cast damage, 2) interactive effects of Swiss needle cast with intensity of thinning, and 3) possible interactions between thinning, disease severity, and seed source (where data is available). The approach includes a combination of a retrospective study of stand growth since thinning with permanent monitoring plots to track future growth. The study will require a minimum of 10-year duration to establish trends in stand development after thinning.
- **Stand Structure Development/Coarse Filter Monitoring:** The objective of this study is to examine how stand structure conditions are changing as a result of management prescriptions and to determine whether post-harvest stand structure conditions are developing as anticipated. The stand structure pathways we will be monitoring are stands in the Northwest Oregon Area districts projected to become Understory (UDS), Layered (LYR) and Older Forest Structures (OFS). Currently, only stands in the 2002 to 2004 Annual Operations Plans will be measured. Each stand that will be measured must have a completed harvest. The resulting residual stand characteristics will be the baseline for all future stand development that we will be monitoring. This study will be accomplished for the 10-year review in the year 2011 as required by the FMP and OAR 629-035-0030. It will also continue as a long-term study beyond this 10-year review for decades afterward in order to better describe the process of stand structure development. Information from this study will also be used as part of the Coarse Filter Monitoring project aimed at defining relationships between stand structure characteristics and native wildlife habitat. The Coarse Filter Monitoring project assesses whether the biological needs of structure dependent species are being met in relation to habitat structure elements recorded during a stand structure survey.
- **Evaluation of Crown Length: Sapwood Area: (ODF):** Studies thus far have focused on correlating recent tree volume growth with relatively easy-to-obtain field measurements such as foliage retention, discoloration and crown length to sapwood area ratios (CL:SA). Recent work on commercial thinning plots shows CL:SA is a reasonable predictor of volume growth, and the combination of CL:SA and foliage retention is even better (Mainwaring and Maguire). The objective of this evaluation is to estimate recent periodic volume increment, which when adjusted for site index and correlated with SNC damage indices, should provide a reasonable indicator of how well the stand is growing compared to a stand without SNC damage.
- **Stream Temperature and Riparian Function: (ODF Forest Practices Monitoring Program (FPMP), ODF State Forests Monitoring Program (SFMP), ODF Districts, Forest Industry):** ODF SFMP and FPMP are coordinating a study to evaluate stream

temperature and riparian condition before and after harvesting. Sites are located on both privately-owned and state-owned forestland. The objective of the study is to provide a coordinated monitoring effort with which to evaluate effectiveness of forest practices rules, and standards on private lands as well as the effectiveness of the aquatic and riparian strategies described in the FMP on state-owned forestland.

- **Influence of Mineral Nutrition on Susceptibility and Recovery of Planted Seedlings to Animal Browse: (ODF and Purdue University):** The purpose of this study is to assess the response of Douglas-fir, western hemlock, and western red cedar to manipulation of plant nutrient content. Seedlings will be consistently monitored over a five-year period for growth, foliar nutrient and monoterpene levels, and susceptibility and recovery from animal browse. Relationships between browse susceptibility, recovery, and fertilization treatments will be thoroughly quantified.
- **Animal Damage in Plantations: (ODF):** The formal study compares various stocks as they relate to controlling/preventing animal damage. The study will look at various stock types and sizes for economic investments and returns (tree survival and growth) in plantations.
- **East Fork Trask Fish Traps: (ODF and ODFW):** A Salmonid Life Cycle Monitoring site was established in cooperation with ODFW during fall 2004 at East Fork Trask hatchery facility (no longer in use). Life Cycle Monitoring collects information on returning adults and out-migrating smolts to provide information on basin productivity and population dynamics. This site augments ODFW's larger Life Cycle Monitoring project covering the Oregon coast. ODF refurbished the facilities and conducts all trapping and stream survey activities. ODFW provides technical oversight and processes, analyzes and interprets data. This project will continue in FY09 and future years.
- **Intensive Watershed Monitoring: (ODF, Weyco, OSU, BLM):** ODF State Forests Monitoring Program is working on a project in the Trask River to evaluate if upland, riparian, and aquatic management strategies are effectively achieving goals for riparian and aquatic resources. The goal of the Trask River Watershed Study is to understand how aquatic systems, particularly small headwater stream, respond to harvest and if harvest effects are transferred to downstream fish bearing reaches. The overall objectives are to determine: 1) the effects forest harvest have on the physical, chemical and biological characteristics of small headwater streams; 2) the extent to which alterations in stream conditions caused by harvest along headwater channels influence the physical, chemical and biological characteristics of downstream fish bearing streams.
- **Implementation Monitoring (ODF):** Implementation monitoring tests the consistency between Forest Management Plan (FMP) management strategies and district operational activities. Further, it seeks to answer if resource objectives, such as green tree and snag retention, are achieved on a district-by-district basis. Currently, 20% of all partial cuts and 20% of all regeneration harvests will be sampled using a combination of field-based sampling and document review methods.

- **Northern Spotted Owls and Marbled Murrelet On-going Monitoring (ODF, Contractors):** On-going monitoring is occurring of known sites of Northern spotted owls and marbled murrelets. The objective of these surveys is to determine continued occupancy of the site and movement within designated owl circles or marbled murrelet management areas (MMMA) over time.
- **Northern Spotted Owl Surveys of the Tillamook Burn:** Approximately 157,000 acres of the Tillamook State Forest was burned in multiple fires ending in the 1950s. This area has been determined by ODF to constitute a very large expanse of unsuitable and marginal quality habitat for northern spotted owls. ODF has been conducting monitoring surveys for northern spotted owls in order to determine if any resident spotted owl activity centers exist within this area. ODF has partitioned this landscape into 15 discrete sampling units that will be surveyed in a random order over the next 10 years. Three units will be surveyed for 2 years each, until all 15 of the units have been surveyed. The first year of surveys for the project were implemented 2003. (November, 2002 ODF Policy Guidance: *Northern Spotted Owl Surveying on State Forest Lands, Attachment "B": Monitoring Surveys for Northern Spotted Owls in the Tillamook Burn*)
- **Marbled Murrelet Effectiveness Monitoring (ODF State Forests Program):** Both known and potential nesting habitat occurs within state forests managed by ODF. ODF currently has no Habitat Conservation Plan (HCP) for lands in northwest Oregon and thus manages these lands under a take avoidance strategy. Management activities consistent with this strategy are described in the State Forest Program Marbled Murrelet Operational Policies (ODF, 2005) and Marbled Murrelet Guidance Document (ODF, 2004). These documents describe surveying requirements, the establishment of Marbled Murrelet Management Areas (MMMA) in areas in which murrelets have been detected, and allowable operational practices within MMMA's once established. Some MMMA's have potential murrelet nesting habitat within them that is not yet suitable because further growth of potential nest trees is necessary. ODF has undertaken selective thinning regimes to encourage this growth to occur more rapidly than would be expected if the stands remained un-thinned. The effectiveness of strategies to maintain currently occupied habitat and improve unoccupied habitat have not definitively been measured. The goal of this project is to do so.

North Cascade - OSU is continuing a study on Swiss Needle Cast. The study is looking into growth trends following thinning in stands with varying levels of Swiss Needle Cast damage, the interactive effect of Swiss Needle Cast with the intensity of thinning and the interaction between thinning, Swiss Needle Cast and the seed source for the stand involved. Four of the study and control plots are located on the Santiam State Forest. The study is scheduled to last until 2011.

The State Forests are actively monitoring past timber sales to check compliance with the Forest Management Plan, the Implementation Plan, and the North Cascade District's AOP's. The monitoring has begun in the past year and several past sales are currently being surveyed. The North Cascade District will use the information as needed to obtain the proper desired future condition for each stand.

West Oregon – The District will continue to monitor the following research projects this fiscal year:

- Vegetation and wildlife response to gaps in young stands (Peuttman/OSU)
- Growing stock study of thinned stands at Black Rock (McGuire/OSU)
- Effects of sulfur applications on Swiss needle cast infected Douglas-fir (Kanaskie/OSU)
- Effects of thinning in Swiss needle cast infected Douglas-fir stands (Mainwaring/OSU)
- Effects of fertilization in Swiss needle cast infected Douglas-fir stands (Mainwaring/OSU)

Other Planning Operations:

FY 2006 and 2007 Annual Operations Plans – These plans direct the operations on State Forest lands that are currently being implemented. Each District is administering the timber sale contracts of the ongoing harvest operations that are underway that were planned in the 2007 AOP.

FY 2008 Annual Operations Plan - Harvest operations that were planned in the FY08 AOP are in the process of, or have been auctioned. Timber sale contracts planned for the fourth quarter of this fiscal year, or that did not sell in previous quarters are being readied for auction. Contracts for those that have sold have been or are in the process of being signed, and plans to start individual harvest operations are being coordinated by the Districts.

The District engineering units have been conducting, to varying intensity road condition inventories, collecting additional data to enhance road inventory information. As a result of the winter storms of 2006 and 2007, road condition information has become critical to the success of implementing AOP's and forest operations and activities. Road damage at many locations, particularly on the Forest Grove and Tillamook Districts needs to be repaired so that current contracts, operations, activities, and planning can resume. District road crews have been taxed in their attempt to perform their annual activities while supporting repair efforts.

Astoria, Forest Grove and Tillamook Districts are implementing Salmon Anchor Habitat (SAH) Strategies as described in the Implementation Plan. A number of these basins are nearing their designated limits for harvest in the planning decade (IP). See the Summary Table B-6 in the Appendix for a status of SAH basins and the extent of allowable harvest that has occurred since the strategies were adopted in 2003. The status of each basin plays heavily in planning efforts, and is an important factor affecting where potential harvest operations are being considered and the availability of finding operable acres required to achieve the AHO directed by the State Forester every year.

In addition, the Districts also track of the extent of harvest in ODF defined management basins. See Table B-3 in Appendix B for a list of the basins and the cumulative acres that have been planned for treatment since adoption of the FMP in 2002.

PUBLIC INFORMATION AND EDUCATION

Public information and involvement will include public review and comments on the 2009 AOP. In addition, informal public review and comment on all district State Forests management activities on an ongoing basis is expected and welcomed.

Astoria - A number of district employees annually participate in the local school Career Day, Sixth Grade Forestry Tour and Field Day, demonstration forest tours, Clatsop County Fair booth, State Fair booth, and many public school presentations. The district also has representatives who attend local watershed council meetings, including the Upper Nehalem Watershed, and the Nicolai-Wickiup Watershed.

Forest Grove - Public information and involvement activities will include review and input regarding the FY09 Annual Operations Plan. In addition, public involvement activities concerning the Recreation program will include planning and facilitating monthly OHV trail planning meetings, quarterly Non-motorized trail planning meetings, quarterly Tillamook Recreation Advisory Committee (TRAC) meetings, Volunteer Trail Patrol meetings, user group club meetings, and involving individuals or clubs in various district projects.

The district is involved in a variety of projects focused on informing and educating the public and interpreting the natural and cultural history of the Tillamook State Forest. Activities will include:

- Maintenance of the Tillamook State Forest web page and recreation information phone line.
- Development of information board messages.
- Modifications to and reprints of the OHV and Non-motorized trail guides.
- Writing articles for user group newsletters and the Tillamook Times newsletter.
- Further development of traveling field displays used to inform and educate OHV users about responsible use and to recruit volunteers for specific projects and programs.
- Support for local OHV user group education programs.
- Support and participation in NWOA Forestry education and interpretive programs.

Tillamook - The district will maintain supporting information for the Implementation Plan, Land Management Classification System, and Annual Operations Plans for public review. Public involvement will include public review and input on the FY09 Annual Operations Plan. District personnel will participate in public education opportunities such as assisting the Tillamook Forest Education and Interpretation program, watershed council meetings, recreation planning meetings, school field trips and other public events as the opportunity arises. The district will continue to meet with concerned citizens or groups when they have specific questions.

The Tillamook Forest Center is in operation at its location on Cedar Creek Flat, near mile post 22 on the Wilson River Highway. Typical activities on-site during this time will include: routine maintenance of the building and grounds; guided and self-guided public use of the trails including many school groups; access to the river by interpretive trails; continued but minor management activities in the demonstration forest. The Center is expected to host more than 50,000 people per year, generating a large amount of automobile traffic at the site. The Smith

Homestead Day Use Area, located ½ mile east of the Center, will also host many school groups, family activities, and other visitors.

North Cascade - The District often receives requests for job shadowing opportunities. Job shadowing usually involves a high school student or occasionally a college student who is interested in natural resources. The District arranges for these students to spend a work day with a Santiam State Forester, Stewardship Forester, Road Specialist or other job position they may be interested in. The initial contact is made by the student, so it is impossible to pin down when this activity will occur. The District has also conducted school to work tours in cooperation with the Human Resources section of ODF. Additional tours may possibly occur on the Santiam State Forest during the 2009 fiscal year.

Forest Education and Interpretation: The Santiam State Forest Recreation Coordinator has developed a growing Forest Education and Interpretative Program. ODF offers educational programs to local school children both in the classroom and in the forest. Students learn about forest environment, management and ethics with educational hands-on activities. During the past year over 2,000 students have participated in education/interpretive programs.

Several summer programs are conducted for local community libraries within close proximity to the Forest. In addition several interpretive nature hikes are presented each summer. The most often used site for these programs is Shellburg Falls. In addition interpretive hikes are held in the Butte Creek Falls area.

The goal of the education and interpretation program is two-fold. First, these programs aim to increase both students and adults understanding of forest resources, public land stewardship and the importance of careful management of state forestland. This knowledge is presented in hands-on, experiential programs both in the field and classroom. The programs provide safe, healthy and fun learning opportunities in an outdoors environment. Students not only learn about the forest but can discover opportunities which may impact their future whether it is passing their knowledge on to others, participating in more outdoor recreation or following a career path in natural resource management.

The second goal of the program is to instill within local communities a sense of ownership and responsibility towards state and other public land. It has been proven that participation in these programs increase awareness of the Oregon Department of Forestry and positively changes both attitude and behavior towards forest resources. Students and their families are more likely to practice good stewardship practices while visiting the forest. In areas where these education programs have taken place over the last several years' instances of vandalism and other resource degradations have been dramatically reduced.

Upcoming Programs: The recreation staff has been successful in obtaining a Title III Grant from the Clackamas County Board of Commissioners, for an After-School Forest Education and Interpretation Program. This program has been developed by the recreation staff with the cooperation of the Oregon State University Extension Service in Clackamas County. It consists of several classroom and field sessions for elementary-age students from First through Fifth-grades. Subjects include Forest Ecology, Forest Management, Forest–User ethics and fire

prevention and safety. The District has also taken the experience gained from developing these curriculums and programs to teach similar programs and lead field trips during the school year in Marion and Linn County. This has been a popular program and will continue to grow with the cooperation of local schools and county agencies.

The District will continue to strengthen its education program. When possible the District will use funding from Title III grants and from grants through Oregon Forest Resource Institute to subsidize this program. In addition to programming for students during the academic year, North Cascade will continue to offer interpretive programming in the form of summer reading program partnerships with local libraries and guided hikes within the Santiam State Forest.

ADMINISTRATION

Depending on the actual size of the land base of a District Each District, there is a limited amount of staff responsible for implementing Annual Operations Plans. These positions are responsible for: Forest Management, Engineering, Reforestation, Recreation, and Administration. See the organizational charts attached to each Districts Summary document for additional detail.

Each of these units is responsible for ensuring the management approaches, activities, and projects are designed to meet the goals, strategies, and objectives of the FMP, district IP's, AOP, and Recreation Plans. The operations, activities, and projects are coordinated across the Districts from inception of development of each AOP to final implementation for consistency within and between units to meet common goals.

The State Forest Program for each District is similarly organized but may vary somewhat depending on their size into five or six separate functional work units. They are headed by a Unit Forester or Unit Supervisor/Manager, and directly supervised by the Assistant District Forester (Operations Manager). The five work units include:

Administration includes the District Forester, Assistant District Forester, Office Manager and clerical staff. The administrative function provides policy and planning direction, budgeting, coordination between units and programs, oversight to the field units, public contact and clerical support. The office manager and clerical staff are split funded with funds from all of the programs they are involved in.

The **Engineering Unit** is responsible for the road and project engineering support, establishment and maintenance of property line surveys, and supervision of the district road maintenance crew.

The **Forest Management or Marketing Unit**, which on some Districts may be divided into geographic sections. The unit is responsible for the planning, preparation and administration of all State Forest timber sales.

The **Reforestation Unit** is responsible for all the planning, prescription determination and administration of all reforestation and young stand management activities on State Forest land, including all the associated monitoring and record keeping.

The **Support Unit** contains the recreation program, may have cooperative law enforcement such as a County deputy sheriff, district computer network administration, GIS coordination, threatened and endangered (T&E) species tracking and coordination, and general planning coordination/support.

The **Recreation Unit** is responsible for the planning and development of new trails and facilities, management of existing trails and facilities (campgrounds, trailheads) development and management of volunteer programs, education and interpretation programs, and monitoring and assessment of overall recreational use patterns.

APPENDIX A

Summary of Proposed Operations by District and Basin

In this section, the commercial forest management operations planned for FY09 will be summarized in the context of the management basins on the Districts. ODF and ODFW resource specialists reviewed the FY09 operations plan and provided input. This section is a summary of the operations by basin and is not meant to completely describe the planned operation. Refer to the individual Districts Summary Document and AOP's for more detail of each operation (see also the Summary Tables in Appendix B)

ASTORIA DISTRICT

ASTORIA BASIN

There is no harvest planned in this basin for FY09.

BENEKE BASIN

The only harvest planned in this basin for FY09 is an alternate operation.

Lion's Lair (alternate operation): This operation is comprised of three modified clearcuts totaling 129 acres. The three areas combined are currently 87% CSC and 13% UDS (within Area 1). Sword fern is the primary understory species within the sale areas. The DFC for all the areas is General.

BUSTER BASIN

Operations will reduce UDS stands by 1.0% and increase REG by 1.0% within this basin.

Green Lantern: This operation is comprised of three modified clearcut units totaling 208 acres. All the sale areas are categorized as UDS, consisting primarily of Douglas-fir of varying size. Secondary species are red alder, cedar and other conifer species. The understory for all areas is composed of salal, Oregon grape, sword fern and huckleberry. The DFC is General for all the Areas.

Alderberry (alternate operation): This operation is comprised of two modified clearcuts units, totaling 75 acres. All stands are composed mostly of red alder with small patches of Douglas-fir, hemlock, cedar, spruce and big leaf maple. Areas 1 and 2 are currently in UDS stage and have a DFC of General.

Winslow (alternate operation): This operation is comprised of three modified clearcut units totaling 157 acres. All stands are composed of Douglas-fir with scattered alder and mixed conifer species. Areas 1 & 2 are currently in UDS structure while Area 3 is currently CSC. All areas have a DFC of General.

CRAWFORD BASIN

There is no harvest planned in this basin for FY09.

DAVIS BASIN

The only harvest planned in this basin for FY09 is an alternate operation.

Wallhanger (alternate operation): This operation is comprised of one partial cut unit totaling 241 acres and one modified clearcut totaling 42 acres. Area 1 is currently a CSC stand that will be thinned to a SDI of 30-35%. Hemlock is the primary species with some other conifers and red alder occurring in small clumps. This thinning will begin moving the stand to its DFC of LYR. Area 2 is currently a UDS stand with hemlock and alder as the primary species. After harvest the stand will be replanted with a mixture of species. The stand has a DFC of General, however, after planting could be a candidate for a complex stand in the future.

FISHHAWK BASIN

Operations will reduce UDS stands by 2.6% and increase REG by 2.6% within this basin.

Mombo Combo: This operation is comprised of three modified clearcut units (Areas 1 -3), totaling 134 acres and two partial cut units (Areas 4 & 5), totaling 93 acres. Areas 1-3 consist of Douglas-fir with some scattered hemlock and cedar. There are some hardwoods within Areas 1-3, although they are mostly located within riparian areas. The current condition of Areas 1-3 is UDS and the DFC is General. Area 4 has the same species composition as Areas 1-3, however, the DFC is LYR and the stand will be thinned to an SDI of 35-40. Area 5 consists of moderate sized mixed conifer with a small alder component. Thinning will take the stand from an SDI of 70 down to an SDI of 35-40. The DFC for the majority of Area 5 is LYR, with 7 acres having a DFC of General.

GNAT BASIN

Operations will decrease CSC and UDS by less than 1%; and increase REG by less than 1% within this basin.

Outland: This operation is composed of three modified clearcut units totaling 107 acres. Western hemlock dominates the three units with some presence of alder, Douglas-fir and true fir. The current condition of Areas 1 & 2 is CSC. The current condition of Area 3 is 89% CSC and 11% UDS. All areas have a DFC of general.

Ice Box Thinning (alternate operation): This operation is comprised of five partial cut units totaling 630 acres. The harvest will be a first entry thinning for all five areas, allowing for increased structural growth within the stands. Areas 1-4 are currently in the UDS condition and all have a mixed DFC of either OFS, LYR or General. Species composition is mixed conifer, including hemlock, Douglas-fir, true fir and spruce. The thinning will be done to promote achieving the complex structure in the OFS and LYR stands, while increasing diversity in the General stands. Area 5 is currently a CSC stand consisting mainly of spruce. The objective is to thin the stand stimulating tree and understory growth. The DFC for Area 5 is General.

White Noise (alternate operation): This operation is comprised of four partial cut units, totaling 472 acres and one modified clearcut unit, totaling 29 acres. Areas 1, 3 & 5 are 34-36 year old plantations that have been pre-commercially thinned once. The stands are currently in a CSC stage and need to thinning in order to promote understory growth and allow the tree crowns growing space. The DFC for Area 1 is LYR, while for Areas 3 & 5 it is General. Area 2 consists

of a 77 year old conifer stand that was commercially thinned once; this second thinning will reopen the canopy to allow more layering of understory vegetation to occur. The DFC of Area 2 is LYR. Area 4 is the modified clearcut within this sale. The stand consists of 82 year old mixed conifer. The DFC for Area 4 is General.

HAMILTON BASIN

The only harvest planned in this basin for FY09 is an alternate operation.

Summit Combo (alternate operation): This operation is comprised of two modified clearcut units (Areas 1 & 3) totaling 93 acres and one partial cut unit containing 61 acres. The modified clearcut units are composed primarily of western hemlock and Douglas-fir with some scattered red alder. Area 1 is a dense, overstocked stand, and is categorized as CSC, while Area 3 is categorized as UDS. These stands have a DFC of general. The partial cut area is composed primarily of western hemlock with some Douglas-fir and red alder and is currently classified as UDS. The DFC of this area is OFS.

KLASKANINE BASIN

Operations will decrease UDS by 4.4% and CSC by 1.3%; and increase LYR by 1.8% and REG by 3.9% within this basin.

California Elk: This operation is comprised of five modified clearcut units (Areas 2, 4, 5, 6 & 7) totaling 246 acres and two partial cut units totaling 114 acres. Modified clearcut Areas 2, 4, and 7 are classified as UDS comprised of mostly western hemlock with scattered Douglas-fir, Sitka spruce, western red cedar and red alder. Areas 5 and 6 are classified as CSC and consist mostly of western hemlock with Douglas-fir, spruce and western red cedar scattered throughout. The DFC for the modified clearcuts is general. The partial cut units (Areas 1 & 3) are currently in UDS and are dominated by western hemlock with Area 1 having secondary species of spruce and red alder, and Area 3 having a secondary species of Douglas-fir. The DFC for Area 1 is OFS and for Area 3 is 59% LYR and 41% General.

LOUSIGNOT BASIN

Operations will reduce UDS by 4.1%; and increase LYR by 1.2% and REG by 2.9% within this basin.

Ridge 77: This operation is comprised of two modified clearcuts and one partial cut. The modified clearcuts (Areas 1 & 3), totaling 123 acres, are composed of moderate sized Douglas-fir. Area 1 has secondary species red alder and maple and is categorized as 53% CSC and 47% UDS. Area 3 has a more prevalent understory composed of vine maple, sword fern and red huckleberry. This stand is currently 50% CSC and 50% UDS. The DFC for both these areas is General. Area 2, a 52 acre partial cut, is composed of moderate sized Douglas-fir, red alder and maple. A moderate thinning will be done to open the canopy to enable light to reach the forest floor, allowing the stand to move towards its DFC of LYR.

NORTH FORK NEHALEM BASIN

There is no harvest operations planned in this basin for FY09.

NORTHRUP BASIN

Operations will reduce UDS by 4.5% and CSC by less than 1.0%; and increase REG by 1.5% and LYR by 3.0% within this basin.

Fosters 40: This operation is comprised of two modified clearcuts, totaling 112 acres and one partial cut, totaling 217 acres. The modified clearcut units consist of 60 year old Douglas-fir with some hardwoods interspersed. The stands currently are in a condition of UDS and have a DFC of General. Area 2 is also a 60 year old mixed conifer stand, however, it has a DFC of OFS. The stand will be thinned from below to an SDI of 25-30 and minor species will be reserved. It is anticipated that the thinning will open the stand to provide more development of tree crowns and understory. The stand in time will need another thinning to achieve OFS.

Greasy Alder (alternate operation): This operation is comprised of two retention cut units, totaling 67 acres. Both areas consist primarily of red alder with scattered big leaf maple, Douglas-fir, western hemlock and western red cedar. The stands are currently in a condition of UDS and need to have a more diverse understory in order to achieve the DFC of OFS. The retention cut will focus on leaving a new cohort of young trees in the stand and eliminating the bigger, dominate hardwoods.

Mulak Thin (alternate operation): This operation is comprised of two partial cuts, totaling 51 acres and one group selection cut, totaling 3.5 acres. Areas 1 and 2 have a DFC of LYR and OFS and will be thinned to create more stand structure components needed to achieve the complex DFC. Snag and down wood creation will be done in areas that are lacking these components as noted during sale layout. Area 1A is a small 3.5 acre patch where stagnant trees will be removed to create a dynamic gap within the OFS landscape.

Sprague's Stump (alternate operation): This operation is comprised of two modified clearcuts, totaling 143 acres and one partial cut, totaling 305 acres. The modified clearcut units are currently in a UDS condition and have a DFC of General. They are composed of mostly 46-70 year old Douglas-fir with mixed conifer and hardwood interspersed. The partial cut unit is approximately 60 years old and is also composed of Douglas-fir with scattered mixed conifer and hardwoods. The stand is currently in a UDS condition and has a DFC of LYR. Thinning will be done from below, retaining minor species in order to work towards a more layered stand.

PLYMPTON BASIN

Operations will reduce UDS stands by 0.5%; and increase REG by 0.5% within this basin.

Haggis Hunt: This operation consists of two modified clearcuts totaling 53 acres. The two areas are composed of Douglas-fir and western hemlock with some smaller cedar. The stands have gaps throughout due to previous windfall and salvage. The stands are categorized as UDS and have a DFC of General.

QUARTZ BASIN

The only harvest planned in this basin for FY09 is an alternate operation.

Courtside (alternate operation): This operation is comprised of two modified clearcuts totaling 55 acres. Both areas consist of Douglas-fir, western hemlock, scattered noble fir and some red alder. Currently the stands are classified as UDS and are not planned to have a complex desired future condition.

SAGER BASIN

Operations will reduce UDS stands by 2.9% and CSC stands by 0.2%; and increase LYR by 2.3%, OFS by 0.5% and REG by 0.3% within this basin.

Paradise East: This operation is comprised of six partial cut units totaling 359 acres and two modified clearcut units totaling 35 acres. The partial cut units contain Douglas-fir stands, with current conditions consisting of 26% UDS, 21% CSC and 53% LYR. Areas 3, 4 and 5 will be thinned to promote and/or maintain layering in the UDS and LYR stands and understory development in the CSC stands. The DFC for these three areas is LYR. Areas 1, 2 and 6 have a DFC of OFS and will be thinned leaving the biggest trees as well as down wood and snags to achieve the older forest structure condition. The modified clearcut units, Areas 7 & 8, are currently in the UDS and CSC stage and both have a DFC of General.

SCATTERED BASIN

The only harvest planned in this basin for FY09 is two alternate operations.

Ivy League Thin (alternate operation): One, 176 acre partial cut, makes up this operation on an isolated parcel of ODF ownership. The area is a mixed conifer stand, planted in the early 1970's. The current condition of the stand is CSC with limited understory development. The sale area does not have a complex desired future condition but will be thinned to promote tree growth and understory development.

Modified Green (alternate operation): This operation is comprised of four modified clearcuts totaling 132 acres and one partial cut unit totaling 45 acres. The modified clearcut units are approximately 54 to 72 years old, and are primarily western hemlock stands with very minor components of Sitka spruce, true fir, Douglas-fir, and alder. The current condition of these stands is CSC with a DFC of General. The Partial cut is a first entry partial cut, with the objective of increasing tree growth by increasing growing space for the residual trees and capturing anticipated tree mortality from high stand densities. This stand is also currently in a CSC condition and has a DFC of General.

SWEETHOME BASIN

Operations will reduce UDS stands by 2.8% and CSC stands by 0.2%; and increase REG by 1.8% and LYR by 1.2% within this basin.

Buzzard Ridge Combination: This operation is comprised of two modified clearcuts (Areas 1 & 4) totaling 155 acres and five partial cuts totaling 181 acres. Area 1 is composed of

approximately 61 year old dense hemlock with some other scattered species intermixed. The stand has a DFC of General and will be harvested and replanted with a mixture of conifer species. Area 4 is also approximately 60 years old but consists of mostly hardwoods with some conifer intermixed. There are several brushy patches and low stocked gaps within this stand. It will be harvested and replanted to begin a new stand of trees that will allow more management options. Area 3 is a partial cut unit that will have four different prescriptions (3A, 3B, 3C, 3D) intending to yield a layered stand. The stand is quite diverse, thus the different prescriptions will take advantage of the diversity in order to create a pathway to the DFC of LYR. Area 2 will be partial cut with a moderate thinning prescription. The “biggest and best” conifer trees and a component of larger diameter hardwood trees will remain after harvest.. The DFC for Area 2 is OFS.

Puma Punch (alternate operation): The operation is comprised of one modified clearcut (Area 1) totaling 73 acres, and two partial cuts (Areas 2 & 3) totaling 63 acres. The modified clearcut is composed of 71 year old mixed conifer. The DFC of this stand is General, although, an effort will be made to leave trees that will promote layering in the future stand. Area 2 has a DFC of OFS and will be thinned lightly to increase tree growth within the stand and promote structural diversity. Area 3 will have a first entry thinning prescribed to revitalize the stand. The DFC of Area 3 is General.

FOREST GROVE DISTRICT

BELL MOUNTAIN BASIN

There are no harvest operations planned in this basin for FY09.

EAST DISTRICT ISOLATED TRACTS

There are no harvest operations planned in this basin for FY09

GALES CREEK BASIN

There are two harvest operations planned in this basin for FY09. In addition, one alternate sale is partially within this basin.

Pole Cat: This is a 312 acre moderate partial cut. It is located in an isolated 2,600 acre tract, which was occupied by a pair of spotted owls from 1996 to 2000. The presence of spotted owls has not been detected in the Wildcat Mountain tract during the last seven years of survey. Therefore, the occupancy status of the owl site is considered “historic” and no additional protective measures are required. Access to the sale area is controlled by ODF gates to the west and east, and a private gate (with ODF lock) to the south.

South Gale: This is a combination sale consisting of 107 acres of modified clearcut and 63 acres of heavy partial cut. The sale is located adjacent to the Wilson River Highway. Sale design will incorporate the required scenic buffer and some additional green tree retention beyond the scenic buffer to further reduce the visual impacts from the highway. Access to the sale area is controlled by a Stimson Lumber Company gate located just off the highway.

Big Bell (alternate): This sale is a 250 acre moderate partial cut which will include scattered gaps ¼ to 2 acres in size. Approximately one third of the sale is located within the Gales Creek basin and two thirds is within the Wheeler basin. Approximately 88 acres of this sale are within the Lousignont Creek Salmon Anchor Habitat Area. The sale is essentially a ridge top sale with all new spur construction planned for ridge tops only.

LARCH MOUNTAIN BASIN

There are no harvest operations planned in the Larch Mountain basin for FY09.

MCGREGOR BASIN

There is one alternate harvest operation planned in this basin for FY09.

Moose and Squirrel: This is a 106 acre modified clearcut with 10 acres of moderate partial cut planned for the inner and outer zones of the riparian management area along the Medium Type F stream located on the west border of the sale. This sale is located in Columbia County. An access agreement will need to be obtained from Longview Timber.

ROGERS BASIN

There are two harvest operations planned in this basin for FY09. In addition there is one alternate sale within this basin.

Chicken Combo: This is a combination sale with 222 acres of moderate partial cut and 69 acres of modified clearcut. Of special concern are the OHV trails within or adjacent to the operation area. Temporary trail closures and post harvest trail cleaning will be part of this operation.

Still Coping: This is a 302 acre modified clearcut. This stand was initially commercially thinned in 1994 as part of a COPE study on the effects of thinning on birds and small mammals. During on-site consultation with OSU researchers and ODF biologist it was determined that a second entry partial put would not compromise the integrity of the study. The original “control” area will not be included within this proposed sale. There is one short OHV trail within the sale. Trail blocking during logging, trail protection, and trail cleaning after logging will be address in the contract. Marketing unit personnel have been involved with Recreation unit personnel to develop measures to minimize impacts to this resource.

Wood Row Wilson (alternate): This is a 63 acre modified clearcut.

SCOGGINS CREEK BASIN

There are no harvest operations planned in the Scoggins Creek basin for FY09.

SUNDAY CREEK BASIN

There are four harvest operations planned in this basin for FY09.

Blind Faith: This is a 113 acre modified clearcut. The sale is within the Tualatin River watershed, a municipal water source. However the sale is located 1,000 to 2,000 feet upland from the river and there are no high risk slopes within the unit. In addition, spur construction is minimal and will not cross any streams.

Grindstone Cowboy: This is a combination sale consisting of 273 acres of moderate partial cut and 148 acres of modified clearcut. All spur road construction is located on ridge tops. Sale access is via the Stimson Mainline. An access agreement will need to be obtained from Stimson.

Month O' Sundays: This is a 266 acre moderate partial cut. An old legacy road leading down to Sunday Creek will be vacated with this sale.

Sunday Addition: This is a 496 acre moderate partial cut. Access is via the Stimson Mainline. A license agreement will need to be obtained from the BLM to access the SW corner of the sale.

UPPER SALMONBERRY BASIN

There are three harvest operations planned in the Upper Salmonberry basin for FY09. In addition a portion of an alternate sale is within this basin.

Rolling Rocks: This is a combination sale consisting of a 105 acre modified clearcut and a 91 acre moderate partial cut. The sale is within the South Salmonberry Salmon Anchor Habitat Area. All sale spurs are located on ridge tops and do not cross any streams.

Steelhead Falls: This is a three area Partial cut. Two of the areas, totaling 224 acres, are a moderate partial cut and one area is a 63 acre heavy partial cut. The sale is located a minimum of 1,500 feet upslope of the North Fork Salmonberry River. New spur road construction will not cross any streams.

Van Salmon: This is a 179 acre modified clearcut made up of two separate areas. All new spur roads will be located on ridge tops and no streams will be crossed.

Cochran The Third (alternate): This is a 218 acre moderate partial cut made up of two areas. The 179 acre Area 1 is located in both the Upper Salmonberry basin and the Wheeler basin. The portion in the Wheeler basin is also within the Lousignont Creek Salmon Anchor Habitat Area. Area 1 will include numerous small skips (areas to remain unthinned) for greater stand diversity. The 39 acre Area 2 is located entirely within the Upper Salmonberry basin and will not include skips although it does have two significant alder stringers adding to the stand's diversity.

WHEELER BASIN

There are portions of two alternate harvest operations planned in the Wheeler basin for FY09.

Big Bell: (See the Gales Creek Basin above).

Cochran The Third: (See the Upper Salmonberry Basin above).

WILARK BASIN

There is one harvest operation planned in this basin for FY09.

Holey Oak: This is a combination sale consisting of 53 acres of modified clearcut and 116 acres of moderate partial cut. New spur road construction will not cross any streams.

TILLAMOOK DISTRICT

NORTH FORK NEHALEM BASIN

Four Aces: The sale consists of one area encompassing 104 acres. The stand is comprised of dense mixed species dominated by western hemlock. Scattered throughout the stand are large diameter conifer left from the previous stand.

The sale is a planned partial cut by removing merchantable hemlock and spruce to a basal area range of 140-160 square feet. All other conifer and hardwoods will be reserved.

Special Concerns: None

Hansen Falls: The sale encompasses two areas of partial cutting and totals 45 acres. Two of the areas are located in older large diameter conifer stands within a Marbled Murrelet Management Area (MMMA). The other areas of the sale are located in younger Douglas-fir plantation.

Areas 1 and 2 are 95 year old stands that will partial cut dense pockets Douglas-fir, hemlock, and spruce. The target basal area is 200-220 square feet. Minor conifer species and hardwoods will be reserved in the sale areas. There will be lower and upper end diameter limits to retain two cohorts in the stand. Trees with limbs 5" and greater diameter will be marked and reserved from harvest to protect murrelet habitat.

Special Concerns: Areas 1 and 2 are occurring within a MMMA and a Biological Assessment has been completed. The sale layout and administration will occur with input and assistance from the Northwest Area Biologist to assure protection of habitat in the stand.

LOWER NEHALEM BASIN

Big 3 Jct: The sale has five areas and totals 312 acres of partial cut, group selections, and modified clearcuts. Areas 1 and 3 are conifer stands with some alder mixed throughout stands and in riparian areas. Areas 2 and 4 are predominantly alder stands that have small poorly stocked pockets of Douglas-fir. There are also pockets of large remnant hemlock, cedar and Douglas-fir (less than 1 per acre) in draws and lower portion of the slopes.

Areas 1 and 3 will be partial cut hemlock, Douglas-fir and alder. The thinning target is 120- 40 square feet. In Area 1, merchantable alder will be harvested in 4 small modified clearcut areas (4-6 acres). All other species (conifer and hardwood) will be reserved. Area 2 and 4 will both be a modified clearcuts. Area 2 will remove merchantable alder and Douglas-fir. Area 4 will harvest

merchantable alder, Douglas-fir, and hemlock. In both areas minor species will be reserved in the stand and an upper diameter limit will reserve legacy trees in the stand.

Area 5 is designated as a down wood and snag creation area only. Due to logging constraints and stand conditions the area will be maintained as Green Tree Retention Area to the adjacent modified clearcuts.

Special Concerns: Adjacent private ownership that will require an access agreement.

Lost Buck: The sale consists of 7 areas and totals 778 acres. Areas 1, 2, 3 and 7 are partial cut. Areas 4, 5 and 6 are modified clearcuts. All sale areas are between 40 and 55 years old.

Area 1 is a conifer dense conifer stand with poor live crown ratios and slowed diameter growth. There some small pockets (1 to 2 acres) of alder throughout the sale area.

Area 2, 3 and 4 are dense Douglas-fir stands with stringers and small pockets of alder (less than 1 acre). Alder in Area 2 was aerially sprayed in the 1970's resulting in short boles with many tops.

Area 4 is a Douglas-fir and alder mixed stand with the pockets of alder are larger than 10 acres in size. Some spruce and hemlock are found in younger cohort in small areas of the stand.

Areas 5 and 6 are dominated by alder with large pockets of hemlock, Douglas-fir, and scattered spruce throughout the sale area. The alder is high quality in these areas and conifer pockets are dense.

Areas 1, 2 and 7 will be partial cut. The prescription will thin Douglas-fir, hemlock, and alder to a basal area range of 120 to 140 square feet. All other conifer and hardwood species will be reserved.

Area 3 will be partial cut and remove merchantable alder and thin the Douglas-fir and hemlock to a basal area range of 100 to 120 square feet. All other species (conifer and hardwood) will be reserved.

Areas 4, 5 and 6 will harvest merchantable alder. A diameter limit will be used to harvest the Douglas-fir and hemlock. All other conifer and hardwood species will be reserved.

Special Concerns: None

McKenney Flats: The sale totals 378 acres in 3 areas of 50 year old stands. Areas 1 and 2 are Douglas-fir and alder stands. The red alder was sprayed in the 1970's resulting in short boles and many tops. Area 3 is a partial cut of mixed species stand.

Area 1 will be modified clearcut with small pockets of conifer within the boundaries being thinned. The clearcut will harvest merchantable alder and thin 2 to 5 acres pockets of conifer to a basal area of 120 to 140 square feet. All other hardwood and conifer species will be reserved.

Area 2 will be a modified clearcut by harvesting all merchantable alder, Douglas-fir and hemlock. All other conifer and hardwood species will be reserved. Area 3 will partial cut Douglas-fir, hemlock, and alder to a basal area range of 120 to 140 square feet. All other conifer and hardwood species will be reserved.

Special Concerns: None

SHORT SANDS BASIN

There are no harvest operations planned in this basin for FY09.

MIAMI BASIN

Sharp Ridge: The sale consists of partial cutting one area totaling 63 acres. The stand is approximately 100 years old located on Common School Land. The stand is mixed conifer species (red cedar, hemlock, Douglas-fir, spruce) and small clumps of alder. There has been no previous management within the stand. The planned operation will partial cut across all species and diameter class. The residual target basal area is 200-220 square feet and 60 trees per acre. In addition down wood and snags will be created in the sale area during harvest.

Special Concerns: Residual stand wind firmness.

KILCHIS BASIN

Fitch Creek: This sale is comprised of 7 areas totaling 534 acres. Each of the sale areas are planned for modified clearcut prescriptions. All sale areas are comprised of Douglas-fir and alder in various arrangements and densities. Minor conifer species of hemlock and spruce are scattered in the stands totaling 5 trees per acre. All merchantable Douglas-fir and alder will be harvested. All other species will be reserved within the sale areas. Green tree retention will also be designated outside the timber sale boundaries adjacent to the sale due to inaccessible areas and High Landslide Hazard Locations.

Special Concerns: None

Peak Out: The sale consists of one area of 119 acres that will be modified clearcut. The sale area has patchy pockets of conifer species but overall is an alder dominated stand. The primary conifer species is hemlock with minor species of spruce and Douglas-fir. The average age of the stand is 37 years old.

The prescription is a modified clearcut that will remove merchantable alder. The dense pockets of conifer will be thinned to 60-80 square feet with Douglas-fir being reserved.

Special Concerns: None

TILLAMOOK BAY BASIN

There are no harvest operations planned in this basin for FY09.

WILSON BASIN

Coast Ford: The sale is comprised of 4 areas totaling 306 net acres. Area 1 is partial cut, Areas 2 and 3 are modified clearcuts and Area 4 is a partial cut.

Areas 1, 2 and 3 are mixed species stand dominated by Douglas-fir and alder. There are hemlock and spruce found in clumps in the stand. The areas have various density and arrangements throughout.

Area 4 is predominantly Douglas-fir with symptoms of Swiss needle cast. Areas 1 and 4 have good live crown ratios in the dominant and co-dominant trees.

Area 1 is planned for a retention cut by removing all merchantable alder and thinning clumps of conifer to a basal area of 120 to 140 square feet.

Areas 2 and 3 will have a modified clearcut applied to the stand by removing merchantable alder and Douglas-fir. Approximately 5-7 of the largest diameter Douglas-fir and minor conifer species will be retained in the stand.

Area 4 will be partial cut to a basal area range of 100 to 120 square feet. Where the opportunity exists hemlock will be selected over Douglas-fir to create more species diversity in the stand. Hardwoods and other conifer will be reserved.

Special Concerns: Obtaining access from private landowner and downstream water rights holders.

Jones Flat: The sale consists of 6 sale areas and totals 34 acres. Area 1 and 4 focused on retention cut prescriptions with Area 2 planned for modified clearcut and Areas 3, 5, 6 planned for partial cut.

Areas 1 and 4 are comprised primarily of densely stocked Douglas-fir, alder and scattered hemlock and maple.

Area 2 is compromised of primarily dense mature alder and scattered Douglas-fir, maple and hemlock.

Areas 3, 5, and 6 are comprised of dense Douglas-fir.

Areas 1 and 4 will harvest merchantable Douglas-fir and alder. Diameter limit will be used to leave the largest Douglas-fir trees averaging 30 trees per acre.

Area 2 is planned for modified clearcut by harvesting merchantable alder and Douglas-fir. Areas 3, 5, and 6 are all planned partial cuts. The Douglas-fir will be thinned to a basal area of 80-100 square feet. On all sale areas, minor species other than Douglas-fir and alder will be reserved.

Special Concerns: This sale is planned as an interpretive and education opportunity in conjunction with the Tillamook Forest Center. The sale was developed and reviewed by the Forest Center in partnership with sale planning.

Lehman Heights: The sale consists of modified clearcuts in two areas with a third area for snag and down wood creation. The total sale is 240 acres.

Areas 1 and 2 are Douglas-fir stands 50 years old with alder dominated draws and small pockets of alder scattered throughout. The Douglas-fir shows signs of Swiss needle cast and small live crown ratio.

Area 3 is a mix of alder and Douglas-fir in various densities and arrangements.

Area 1 and 2 will harvest all merchantable Douglas-fir and alder. All other species will be reserved.

Area 3 will not harvest any trees. Instead the Area 3 will girdle two conifer trees greater than 15" DBH and fell two conifer trees per acre 18" DBH and larger.

Area 3 has deed restrictions that limit harvest opportunities but stand density can still be done to meet long term structure goals.

Special Concerns: Management for snags and down wood along Wilson River Hiking Trail.

NW Combo: The sale is comprised of 7 areas and totals 504 acres. All areas except Area 6 are regeneration harvests. All areas average 47 years old with Areas 1-6 dominated by Douglas-fir with hemlock and noble fir in higher elevations. Area 7 is an alder dominated stand. The stands are overstocked with small live crown ratios resulting in slowed growth. Bear damage is also found throughout the stands.

Area 1 prescription is a retention cut. Merchantable Douglas-fir and alder will be removed and all other species reserved. The largest diameter Douglas-fir will be left and average 13 trees per acre of 21" DBH.

Areas 1-5 and 7 are planned for modified clearcut prescription. Merchantable Douglas-fir and alder will be removed. All other species (hardwood and conifer) will be reserved.

Area 6 prescription calls for partial cutting. The conifer will be thinned to a basal area of 110 to 130 square feet. Alder and other hardwoods will be reserved.

Special Concerns: None

Steam Donkey: The sale has two areas of modified clearcut prescription totaling 240 acres. The average age of the stands is 53 years old dominated by Douglas-fir on ridges with alder scattered or found in pockets of 5 – 10 acres in size. There are scattered spruce and hemlock throughout the sale.

Area 1 and 2 will be modified clearcut prescriptions. The merchantable Douglas-fir and alder will be removed. All other species will be reserved.

Special Concerns: None

Tillison Ridge: The sale is comprised of 3 partial cut areas and one area for down wood creation. Areas 1 and 2 are stands with mixed conifer (Douglas-fir, spruce, hemlock) and large pockets of alder. Area 3 is an older conifer stand of Douglas-fir, hemlock and spruce.

Area 1 is planned for a partial cut prescription. The hemlock and spruce will be thinned to a basal area of 120 to 140 square feet. Douglas-fir will be reserved from harvesting since much of it originated from natural seed source. Alder will be thinned in the stand through a diameter limit of greater than 14" DBH and less than 18" DBH. The prescription for alder will result in 8 alder trees per acre being left.

Area 2 will harvest merchantable alder creating gaps 1-2 acres in size and partial cutting conifer to a basal area of 80-100 square feet. The majority of the harvested conifer will be hemlock.

Area 3 will partial cut conifer 140 to 160 square feet of basal area. The small amount of alder in the stand will be reserved from harvest. Again, hemlock will be the majority of trees removed from the stand.

Area 4 will not remove any trees for harvest. The area will only fell 24 trees over the 12 acres to create down wood in decay class 1 and 2 and move the stand into OFS structure.

Special Concerns: Downstream water rights holders.

TILLAMOOK RIVER BASIN

There are no harvest operations planned in this basin for FY09.

TRASK BASIN

Sheridan Butte: The sale is comprised of four areas of modified clearcut totaling 426 acres. There is a Green Tree Retention of 71 acres. The sale areas are primarily Douglas fir with several large pockets of alder (5-20 acres) scattered throughout the area. The Douglas-fir in this area has moderate to severe symptoms of Swiss needle cast and poor live crown ratios. The alder was aerially sprayed in the 1970's to release the planted conifer resulting in short boles and many tops. All sale areas will harvest alder and Douglas-fir. All other species will be reserved within the sale area boundary.

Special Concerns: None

Tillison Ridge: see Wilson Basin

NESTUCCA BASIN

There are no harvest operations planned in this basin for FY09.

LITTLE NESTUCCA BASIN

There are no harvest operations planned in this basin for FY09.

NORTH CASCADE DISTRICT

BUTTE CREEK BASIN

There is one proposed and two alternate operations planned within this basin. The proposed operation will move 114 acres from a Closed Single Canopy stand condition to a Regeneration stand.

South Gawley: this is a 114 acre modified clearcut. This is a 68 to 85 year old Closed Single Canopy stand currently underproductive. The objective of the operation is to rehabilitate this stand by establishing an intensively managed new stand while maintaining or developing the structural components important to habitat diversity. The sale area will be reforested with a mixture of Douglas-fir and noble fir seedlings.

Lookout Mountain (alternate): this is a 186 acre partial cut. The 50 year-old stand is currently classified as Understory with a small area of Closed Single Canopy. The light partial cut will improve stand vigor initially, and help to move it into the Desired Future Conditions of Layered and Older Forest Structure.

Special Concerns: this sale borders the High Lakes Recreation Area, a popular spot for camping, hiking, day-use, fishing and site seeing. The light thinning should not impact the scenic areas of Rhody and Butte Lakes. Special provisions will be placed within the timber sale contract to minimize conflicts between the operation and recreation on the weekends.

Taylor Creek (alternate): this is a 99 acre modified clearcut. The overstory is Douglas-fir and western hemlock averaging 73 years in age. The understory includes numerous suppressed western hemlock trees - 22 years old but only one inch in diameter. The harvest objective is to establish a vigorous new stand while maintaining or developing structural components important to habitat diversity. A mix of Douglas-fir, noble fir, and western red cedar will be planted. Fourteen green trees per acre will be recruited and two snags per acre will be created.

CREEK BASIN

There is one alternate operation proposed in this basin.

Air Abiqua (alternate): this is a 55 acre light partial cut in stands currently classified as Layered and Closed Single Canopy with an age range from 70 to 100 years. The proposed thinning will remove a portion of the midstory trees to stimulate both the remaining trees and the understory vegetation. The overall objective is to move the stands to their Desired Future Condition of Older Forest Structure.

CRABTREE BASIN

There are no planned harvest operations within this basin for FY 2009.

GREEN BASIN

There is one proposed and one alternate operation located within this basin. The proposed moderate partial cuts will not change the current stands' classifications of Understory but will move 74 acres along the pathway to a Layered stand structure.

Green Tweener: there are two areas within this operation. Area I is 64 acres while Area II contains 143 acres. Both are 50 year old stands. Area I will be thinned in order to maintain and enhance the layered nature of the stand. The primary objective in Area II operation is to enhance stand volume production and value.

Special Concerns: Area II is located within a Northern Spotted Owl site. A biological assessment (BA) has been drafted by an ODF biologist. The BA will be reviewed by both the Oregon Department of Fish and Wildlife and the US Department of Fish and Wildlife. Harvest procedures in Area II will be determined after the BA and the input from both agencies have been analyzed by district and area staff.

Ruby Slipper (alternate): this is a 100 acre moderate partial cut located in a stand currently classified as Closed Single Canopy. The stand has a mix of 60 and 80 year old Douglas-fir. The older trees are fire survivors with obvious fire scars on the trunks. Other overstory species include western hemlock, red alder, and big leaf maple. The proposed harvest will move the stand along the pathway to Older Forest Structure by removing the smaller, damaged, and unproductive conifer while preserving the larger conifer and all hardwood trees.

Special Concerns: Two domestic water use intakes are within or adjacent to the operation boundary. These water use intakes will be protected during harvesting activities. A Bonneville Power Administration (BPA) powerline right of way is close to the proposed southern timber sale boundary. The BPA will be notified of our proposed activity and their guidelines for logging activities on or near BPA rights-of-way will be followed.

MAD CREEK BASIN

One sale is planned for this basin. The proposed harvest will reduce the Understory stands and increase the Regeneration stands within the basin by 91 acres.

Little Rock Monument: there are three areas within this operation. Area I is 170 acres (with the remaining 58 acres of Area I in the Rock Creek Basin) while Area II is 31 acres. Both Areas I and II are proposed as moderate partial cuts in stands of 75 to 80 year old Douglas-fir. Area I will be pushed along the path to a Layered stand structure by creating openings to encourage understory growth. The proposed operation in Area II will enhance stand volume production and value. Area III contains 80 year old Douglas-fir trees that have slowed substantially in growth because of overstocking and wind damaged crowns. Because of an anticipated poor response to thinning, Area III is proposed as a modified clearcut

ROCK CREEK BASIN

Two operations are planned within this basin. Overall 103 Closed Single Canopy acres will be changed to Understory.

Translator Hill: there are three areas within this operation. Area I is proposed for a 99 acre light partial cut in a 38 year old planted Douglas-fir stand. Area II is a proposed 26 acre light partial cut in a 79 year old naturally regenerated stand. Area III is a 70 year old naturally planted stand proposed for an 86 acre partial cut. The primary objectives for Areas I and III are enhancing stand volume production and value. The proposed activities in Area II will maintain and enhance the current Layered classification and move the stand toward the goal of Older Forest Structure.

Special Concerns: The Camp 26 Progeny Site is adjacent to the southeast boundary of Area II and will be protected during harvest activities.

Little Rock Monument (Area I): see Mad Creek Basin for sale information.

SCATTERED BASIN

There is one proposed operation located within this basin. The proposed retention cut will reduce the Understory stands and increase the Regeneration stands within the basin by 65 acres.

Polly Power: the operation is located in a low volume 50 to 80 year old Douglas-fir stand with dense vine maple openings. The area is proposed for a modified clearcut that will remove the poorly stocked, underproductive trees and establish an intensively managed new stand of planted Douglas-fir and western red cedar.

Special Concerns: The streams within the sale area have very defined “gorge” areas and buffers will be posted on the slope-break to minimize damage to the stream channels. The buffer width will vary but will be no less than 25 feet horizontal distance from the channel. A Bonneville Power Administration (BPA) powerline right of way is immediately adjacent to the proposed north timber sale boundary. The BPA will be notified of our proposed activity and their guidelines for logging activities on or near BPA rights-of-way will be followed.

WEST OREGON DISTRICT

BURNT WOODS RIDGE BASIN

Biker Baber: This operation consists of one modified clearcut unit totaling 65 acres in 77 year old Douglas-fir and red alder. There is an older Douglas-fir cohort present in the operation area mostly in the south. The stand type is UDS. There are no natural tree species present that could provide the layering component necessary to build more complex stands so clearcutting is the proposed management prescription. The anticipated pathway is to move from UDS to REG through clearcutting and replanting a variety of conifer seedlings, then to CSC and finally to UDS, utilizing future commercial thinning entries. Approximately 8-10 trees per acre will be retained which will provide for the future snags, legacy trees, and down wood requirements.

Strombo Combo: This operation consists of a 48 acre modified clearcut unit in 57 year old Douglas-fir, one 97 acre partial cut unit in 57 year old Douglas-fir, and one 4 acre retention cut unit in 36 year old Douglas-fir timber. All three units were commercially thinned about 10 years ago and the stand types are UDS.

In Area I, there are no natural tree species present that could provide the layering component necessary to build more complex stands so clearcutting is the proposed management prescription. The anticipated pathway is to move from UDS to REG through clearcutting and replanting a variety of conifer seedlings, then to CSC and finally to UDS, utilizing future commercial thinning entries. Approximately 8-10 trees per acre will be retained which will provide for the future snags, legacy trees, and down wood requirements.

In Area II, patch cuts areas will be created on about 20% of the stand acreage. These patch cuts will be replanted with conifer seedlings and will provide a future layering component. The areas not included in patch cuts will be commercially thinned. The anticipated pathway for this unit is to eventually move from UDS to LYR or OFS.

In Area III, about 42 trees per acre will remain after a retention cut. Underplanting with shade tolerant conifer species will provide a future layering component. The anticipated pathway is to eventually move from REG to LYR.

These two operations will reduce UDS stand acreage by 1% and increase REG by 1% in this basin during the post harvest period, which is the next 5-10 years.

GREEN MOUNTAIN BASIN

All A Board: This operation consists of three modified clearcut units totaling 61 acres. Area I and II support Douglas-fir and red alder trees that are 51 to 72 years old. Douglas-fir trees in Area III are 72 to 114 years old. The stand type is UDS for Areas I-III with a small portion of LYR in Area III.

There are no natural tree species present that could provide the layering component necessary to build more complex stands so clearcutting is the proposed management prescription. The anticipated pathway for these stands is to move from UDS to REG through clearcutting and replanting with a variety of conifer seedlings, then to CSC and finally UDS utilizing future commercial thinnings.

Approximately 8-10 trees per acre will be retained which will provide for the future snags, legacy trees, and down wood requirements.

During the post harvest period, which is 5-10 years, this operation will not result in a reportable (1% or greater) net loss or gain for any stand structure type in this basin.

Green Tangle: This operation consists of eight partial cut units totaling 259 acres in 26 to 35 year old Douglas-fir plantations. All of the operation areas were PCT'd 11 to 13 years ago. All operation areas are currently classified as UDS stand type.

All areas will be commercially thinned which should keep them in the UDS stand type until final harvest.

During the post harvest period, which is 5-10 years, this operation will not result in a reportable (1% or greater) net loss or gain for any stand structure type in this basin.

BLODGETT BASIN

Chinquapin Ridge: This operation consists of four modified clear cut units totaling 56 acres which support 51-64 year old Douglas-fir and one 33 acres partial cut that contains 41 year old Douglas-fir. Area I, a portion of Area IV, and all of Area V were commercially thinned in 1996. The stand type is UDS for Areas I-V with a small portion of LYR in Area III.

In Areas I-IV, there are no natural tree species present that could provide the layering component necessary to build more complex stands so clearcutting is the proposed management prescription. The anticipated pathway for these stands is to move from UDS to REG through clearcutting and replanting with a variety of conifer

Area V will be commercially thinned which should keep it in the UDS stand type until final harvest.

During the post harvest period, which is 5-10 years, this operation will not result in a reportable (1% or greater) net loss or gain for any stand structure type in this basin.

SCATTERED COASTAL BASIN

There are no harvest operations planned in this basin for FY09.

BLACK ROCK BASIN

There are no harvest operations planned in this basin for FY09.

BONNER RIDGE BASIN

Easter Bonner: This operation consists of six partial cut units totaling 257 acres in 26 - 36 year old Douglas-fir. Areas I, II and IV - VI were PCT'd about 11 - 13 years ago. Area III was PCT'd about 21 years ago and a small portion of it was commercially thinned 6 years ago. The stand type is CSC for Areas I and III and UDS in the other units

Areas I, II and III will be put on a pathway towards LYR stands using patch cuts or low relative density (LRD) areas. The patch cuts and LRD areas will be planted with conifer seedlings that will

provide a future layering component. The portions of the stands not in patch cuts or LRD areas will be commercially thinned. The anticipated pathway is to eventually move from UDS to LYR.

Areas IV, V and VI will be commercially thinned which should keep them in the UDS stand type until final harvest.

During the post harvest period, which is 5-10 years, this operation will not result in a reportable (1% or greater) net loss or gain for any stand structure type in this basin.

APPENDIX B

Draft Summary Tables

Table B-1 Timber Harvest Operations – Overview of Draft FY09 AOP's

Table B-2 Timber Harvest Operations – Stand Structure

Table B-3 Timber Harvest Operations – Operations by Basin

Table B-4 Roads

Table B-5 T&E Surveys

Table B-6 SAH

APPENDIX C

Definitions

Partial Cut Harvest (PC): The intent of a partial cut harvest is to manage the growth and density of an existing stand. A prescription for partial cut may be designed to increase the structural complexity of a stand, maximize volume growth, or capture tree mortality. A stand may be partial cut many times throughout its life. Partial cuts leave 80 or more square feet of basal area per acre on Site Class I, II, or III. The partial cuts in this plan will reduce stand density to a Stand Density Index range of 20 to 45 percent of maximum stand density.

Partial cutting operations are planned to move stands from Closed Single Canopy (CSC) or Understory (UDS) to more complex structures; or to maintain Layered (LYR) stands in a long term complex condition; or move stands on a pathway to Older Forest Structure (OFS). These operations thin conifers and hardwoods to maintain vigorous tree growth, retain deeper crowns and allow light onto the forest floor to initiate understory vegetation establishment and growth. There are three types of partial cutting:

Heavy Partial Cut (PC-H): These partial cuts approach the harvest intensity of a Retention Cut, and the management focus may be on the existing cohort, new cohort, or both. A heavy partial cut results in the growth of individual trees, but reduces the total volume growth of the stand. Heavy partial cuts retain at least 80 square feet of basal area per acre and an SDI of less than or equal to 25 percent of maximum stand density.

Moderate Partial Cut (PC-M): These partial cuts provide for optimal stand growth and allow vigorous growth of the individual trees. Stand structure will continue to develop with a moderate partial cut, and depending on species composition and site index, a new cohort of trees may be initiated. Moderate partial cuts retain an SDI range of between 25-35 percent of maximum stand density.

Light Partial Cut (PC-L): These partial cuts focus on maintaining stand growth and health. However, in order to achieve these goals, it must occur more frequently than a Heavy or Moderate partial cut in the same stand. More complex stand structure will not be developed with a light partial cut, and a new cohort of trees will not be initiated. Light partial cuts retain an SDI range of between 35-45 percent of maximum stand density.

The “non-thinnable” areas that often exist within partial cuts are made up of hardwoods, brushy areas, adequately stocked conifer, a mix of both adequately stocked conifer and hardwoods, or non-merchantable trees. These areas usually range in size from 1 acre to 20 acres. Leaving these areas unthinned contributes to biological diversity across the landscape.

Regeneration Harvest: Two types of regeneration harvest will be referred to in this AOP:

Retention Cut (RC): These operations leave 33 to 80 square feet of basal area/acre on Site Class I, II, or III. The residual trees are well distributed across the harvest unit. These operations leave at least 15 trees and snags per acre with preference given to the biggest and best green trees in addition to the trees in riparian areas.

Modified Clearcut (MC): These operations leave less than 33 square feet of basal area on Site Class I, II, or III. Modified clearcut harvest will leave an average of 5 to 7 green trees per acre and an additional 3 to 8 trees or snags per acre to provide a future source for snags and down wood. The leave trees may be scattered across the unit (0-15 on any acre) or clumped (>15 on any acre).

Hardwood regeneration harvests are planned in closed single canopy stands (CSC) or understory stands (UDS) stands dominated by alder. These operations create predominately regeneration (REG) structure and remove hardwoods. A component of hardwoods will be retained in a variety of locations (on high landslide hazard locations, in riparian areas, and/or throughout the unit).

The IP of several Districts emphasizes harvest operations to address the severe impacts of Swiss needle cast (SNC) on Douglas-fir. Most of the conifer regeneration harvest operations in those Districts are focused on CSC or UDS impacted by SNC. SNC harvest consists of regeneration harvesting of Douglas-fir stands and creating REG structure or partial cutting stands by removing Douglas-fir and thinning or retaining other conifer to create UDS stands.

In 2004 a report was written titled *Oregon Department of Forestry State Forests Program Swiss Needle Cast and Commercial Thinning, Review of recent research results and potential application to ODF Management*. The conclusions of this report are addressed through the AOP in the selection of timber sales included as well as prescription planned at this time. These decisions are being made while addressing the budget note on harvest levels and through Habitat and Harvest Modeling process. The prescriptions planned for SNC stands discussed in this plan are based on most recent information available.

Regeneration harvest operations are also planned in conifer stands with poor height to diameter ratios. These stands tend to be densely stocked and have tall trees with small diameters causing the trees to be unstable and poor candidates for partial cutting. These stands may be harvested using a diameter limit prescription leaving the largest diameter trees scattered across the unit or in clumps. These types of stands are CSC or UDS and will create REG or UDS structure after harvest.

Green Tree, Snag and Down Wood Strategies

Structural habitat components such as snags and down wood will be considered for all harvest prescriptions. These structural components will vary from unit to unit. The intent of this AOP is to achieve the green tree retention targets outlined in the Forest Management Plan strategies and to either meet or provide future opportunity to achieve the snag and down wood landscape targets outlined in the FMP.

Green trees are retained in or adjacent to regeneration harvest units in a variety of ways. These trees (hardwood and conifer) may be clumped or scattered across the unit depending on species and/or size distribution (reserve trees specified in contract) or through residual basal area targets. Some green tree retention (GTR) areas are designated outside of harvest unit boundaries, adjacent to the harvest areas.

These GTR areas may be located on high landslide hazard locations or other inoperable terrain. Mortality of some of these green trees is expected due to disease, wind, or snow damage. Overall, the goal of green tree retention is to have multiple species, in multiple arrangements to act as a source of future snags, down wood and large diameter trees in future stands.

Snags will be retained on all sales where they are not determined to be a safety hazard during the operations. If existing snags are cut, they are required to be left in the unit for down wood. There is an expectation that green tree retention will add to snag levels due to natural mortality. Snags will also be created in some harvest units by a variety of methods (topping trees, girdling trees or by contract requirements). Additional snags are planned to be created in several sales in this sale plan.

Existing down wood on all sales will be retained and added to during harvest. Felled snags will be left as down wood and other trees determined during sale layout will be left in the unit. Similar to the strategy to create snags over time, green tree retention is expected to add down wood due to natural mortality. Additional down wood is planned to be created in several sales in this sale plan.

The stand conditions, including snag and down wood information, will be collected through the Stand Level Inventory (SLI) over time (see the Planning and Information Systems section for more information on SLI measurement cycle). If goals for snags and down wood are not being met on a stand, strategies will be reviewed and appropriate actions taken to create these stand components.

Stand Structure

The process of producing an array of forest stand structures across the landscape is a gradual one. A variety of silvicultural practices will be used to actively move the forests towards the desired structural pathway.

Regeneration harvest operations will be reforested with mixed species. A component of hardwoods will be reserved and will provide a seed source for the future stands.

Regeneration (REG) — This stand type occurs when a disturbance such as timber harvest, fire, or wind has killed or removed most or all of the larger trees, or when brush fields are cleared for planting.

Closed single canopy (CSC) — This stand type occurs when new trees, shrubs, and herbs no longer appear in the stand, and some existing ones begin to die from shading and competition, in a process called stem exclusion.

Understory (UDS) — This stand type occurs after the stem exclusion process has created small openings in the canopy, when enough light and nutrients become available to allow herbs, shrubs, and new trees to grow again in the understory.

Layered (LYR) — This stand type occurs as the process of understory re-initiation progresses where openings in the canopy persist. Shrub and herb communities are more diverse and vigorous, and two or more distinct layers of tree canopy appear.

Older forest structure (OFS) — This stand type occurs when forest stands attain structural characteristics such as numerous large trees, multi-layered canopy, substantial number of large, down logs, and large snags. It is not the same as old growth, although some of its structures are similar to old growth.

VICINITY MAPS

Astoria District

Forest Grove District

Tillamook District

North Cascade District

Western Oregon District