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ASTORIA DISTRICT

2009 ANNUAL OPERATIONS PLAN

INTRODUCTION

This Annual Operations Plan (AOP) for the Astoria District describes operations, activities and projects designed to achieve the goals, strategies, and objectives of the Astoria District Implementation Plan, Astoria District Recreation Plan, Northwest Oregon State Forests Management Plan, and portions of the (Draft) Western Oregon Habitat Conservation Plan. It covers the time period from July 1, 2008, through June 30, 2009.

All proposed operations are designed to conform to the Oregon Forest Practices Act and Forest Management Plan standards, strategies, and guidelines.

This plan is divided into five major categories: Integrated Forest Management, Planning Activities, Information Systems, Public Information and Education, Administration and Appendixes.

The management activities planned for FY09 are based on the range of objectives established in the Implementation Plan (Table 1), as well as the assumption that the fiscal budget level will support these planned activities. The objectives and specific plans for timber harvesting and the associated project work provide an accurate picture of what will be designed and prepared for contract in FY09. Due to the time lag associated with contract duration, most of the actual on-the-ground logging and project operations will not occur for a period of one to three years beyond the end of the fiscal year.

In contrast to the timber harvest and project plans, young stand management, recreation management, planning and information activities detailed in this plan will actually occur within the FY09 time period.

The planned amount and location of all management activities are based on the latest site-specific assessments and estimates of operational, growth, and seasonal variables. Management activity levels may be adjusted and modified to account for any significant changes to these variables.

Detailed summary tables are contained in Appendix A, and individual "Pre-Operations Reports" for individual operations are contained in Appendix B. A vicinity map showing the general location of planned operations is contained in Appendix C. A public involvement summary is contained in Appendix D.

Harvest Levels: In accordance with the guidance on the 2009 harvest levels¹ and the State Forest Bulletin, Salvage and Annual Harvest Objectives, the district is planning to harvest 70.3 MMBF of timber in fiscal year 2009; this includes approximately 34.6 MMBF from the AOP (Table A-1) and 35.7 MMBF from Salvage Harvest.

¹ Oregon State Forests 2009 Annual Operations Planning Guidance and 2009 Annual Harvest Objectives Table

During the preparation of this AOP, a strong windstorm occurred that resulted in significant windthrow across portions of the district. As a result, in addition to the previously planned primary operations, the district will be conducting salvage activities removing numerous wind thrown trees from damaged stand types and salvaging scattered trees along many miles of road during the 2009 fiscal year.

In order to adequately and timely respond to such a catastrophic event, the number of harvest acres (clearcut and partial cut acres) needed to be outside the annual harvest level ranges for an individual AOP. The change in harvest levels to deal with catastrophic events requires a minor I.P. Modification.

The I.P. minor modification language reads: “Additionally, unforeseen catastrophic events may initiate the need to conduct salvage harvest. The range of salvage harvest within a stand can vary from salvaging scattered windblown trees throughout a stand, to an entire stand being decimated and in need of salvage and replanting (conversion to REG). In the event that a catastrophic event requires salvage operations, harvest acres may be outside the annual harvest ranges for an individual Annual Operations Plan.”

All salvage activities will be prepared consistent with the Northwest Oregon Area Forest Management Plan, the District Implementation Plan (Modified 6/20/08), and the State Forest Bulletins regarding salvage (*Salvage Activities in Riparian Management Areas and Salvage and Threatened and Endangered Species*).

Consistent with the State Forest Bulletin, Salvage Activities and Annual Harvest Objectives, these salvage activities will be used to achieve a portion of the 2009 harvest objective.

The district has included eighteen Alternate Operations in this Annual Operations Plan. These alternate operations may be used to replace regular sales that cannot be completed as planned.

Note that the acres detailed throughout this report express net acres, unless otherwise stated.

Table 1. Annual Operations Plan objectives compared to annual objectives identified in the Astoria District Implementation Plan. All values are acres.

Silvicultural Activity	IP Annual Objective ¹		2009 AOP Objective
	Low	High	
Partial Cut (1010 ac. of scattered salvage)	875	1,800	1,602
Clearcut	1,000	1,600	2,485 ²
Reforestation (Initial Planting)	600	1,700	1,689
Pre-commercial Thinning	400	1,300	0
Fertilization	0	0	0
Pruning	200	700	0

¹ The annual harvest range for Partial Cuts and Clearcuts is documented in the I.P. Modification Memo dated, February 8, 2007.

² Harvest acres are allowed to exceed the Annual I.P. Objective when due to catastrophic events. I.P. Modification Memo dated, June 20, 2008.

INTEGRATED FOREST MANAGEMENT OPERATIONS

Timber Harvest Operations

Overview of Timber Harvest Operations

The following planned commercial forest management activities are within the guidelines and objectives outlined in the current Astoria District Implementation Plan (IP). Tabular summaries (Appendix A) and detailed pre-operations reports for each planned operation (Appendix B) are attached. In this AOP, the Astoria District plans to conduct harvest operations on approximately 3% of the district's total acres. Of this 3%, 0.9% is a result of primary operations within this AOP and 2.1% is a result of salvage harvest. Below are definitions of harvest types followed by more specific examples of the planned operations.

A more detailed explanation of harvest type definitions can be found on the ODF web site at http://egov.oregon.gov/ODF/STATE_FORESTS/planning.shtml

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. 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.

Stands designated for partial cut harvest in this operations plan fit into one or more of the following situations: stands that are currently Closed Single Canopy (CSC) or Understory (UDS) that are on a pathway to more complex structures; stands that need to be maintained as Layered (LYR); or to move stands on a pathway to Older Forest Structure (OFS); or to increase stands future volume/value while capturing mortality and promoting a second cohort of species. 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.

While partial cut prescriptions will increase tree growth, actual growth response in the understory will vary depending on several factors. Some of these factors include, but are not limited to: density of residual overstory trees, available seed source of shade tolerant tree species, existing ground cover,

and site preparation. With the right combination of these factors, initiation of a shade tolerant conifer understory is very likely. In other cases, shade tolerant trees may have to be planted if a complex structure is desired. Yet in some partial cut stands, where there is no complex desired future condition (DFC) assigned, the following active management entry may be a clearcut harvest. In which case, establishment of an understory stand is not a priority.

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.

Numerous green trees are retained on each acre of partial cut allowing for additional snag and down wood recruitment through natural processes over time.

Regeneration Harvest: The intent of a regeneration harvest is to develop a new stand. In general, residual trees left after a regeneration harvest are intended to remain on the site through the life of the new stand. There are two types of regeneration harvest- retention cut and modified clearcut:

Retention Cut (RT): These operations leave approximately 33 to 80 square feet of basal area on Site Class I, II, or III. The residual trees are well distributed across the harvest unit. These operations leave approximately 8 – 10 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): Generally, all regeneration harvest referenced in the Pre-Operations reports fall into this classification. These operations leave less than 33 square feet of basal area on Site Class I, II, or III. Harvest will leave an average of 8-10 trees and snags per acre. The leave trees may be scattered across the unit or clumped. Areas of green tree retention are included in harvest areas and are located along the riparian areas, on steep slopes above streams, inoperable areas, and/or in operationally strategic areas.

Stands designated for regeneration harvest in this operations plan fit into one or more of the following situations: over-stocked and dense stands, under-stocked stands, diseased stands, stands that are surplus to the complex structure targets in the desired future condition landscape design, highly marketable stands in areas where regeneration harvest would result in minimal resources impacts, and stands in areas that would provide an opening in the landscape to temporarily serve as big game foraging habitat and increase landscape diversity. The 2,485 acres of regeneration harvest planned for FY09 represents 1.9% of the district. Entire stands that were decimated by the windstorm and need to be salvaged and replanted account for 75% (1,868 acres) of the regeneration harvest during FY09. The remaining 25% (617 acres) is regeneration harvest included in the FY09 Primary Operations. During FY09, approximately 473 acres will grow out of the Regeneration (REG) stand type. The combination of new regeneration acres after harvest and outgrowth from REG to CSC will result in an increase of the REG stand structure on the district.

Structural habitat components such as snags and down wood are considered for all harvest prescriptions. In the case of regeneration harvests, it is essential to incorporate structural habitat components into the management prescription to ensure they are retained.

In the Astoria District, laminated root rot disease is prevalent at endemic levels throughout much of the forest. Generally, stands infected with this disease retain the pathogen at moderate to low levels and cause tree mortality of individuals or in small groups. This endemic level of infection helps to create snags, provides additional sources of downed wood and small openings within denser stands, and is generally not treated. If higher levels of laminated root rot exist, other prescriptions for treatment of the disease may be implemented in conjunction with the desired future condition and the landscape plan. Prescriptive treatments to heavily infected stands may include modified clearcuts or limited patch cuts, and then replanting these sites with disease resistant species, such as red alder or western red cedar.

Tree protection measures are prescribed when planting western red cedar as this species is resistant to laminated root rot but susceptible to big game browse.

Structural components may be retained at higher levels in some units and at lower levels in other units, with the intent to achieve the targets outlined in the Forest Management Plan strategies in a given annual operations plan. The estimates used in the pre-operation reports for existing snags and down wood, and the estimates of post harvest expectations are based on ocular estimates, and past experience, which includes some survey work for both pre-harvest and post harvest conditions.

Stand Level Inventories (SLI) may be conducted on some FY09 timber sale areas prior to auctioning. Performing SLI on Partial Cut areas is no longer required prior to harvest. To determine whether a proposed regeneration harvest operation is in a complex stand (LYR or OFS), a simplified version of SLI will be employed; collecting enough data to determine stand condition. Where we have current SLI information, it is used in the pre-operation reports. SLI provides us with better data of snag and down wood amounts that presently exist in each stand.

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 forest towards the desired range of stand structures outlined in the IP (see Table 2).

The FY09 operations are estimated to generate gross revenues of approximately \$13,698,045 and net revenues of \$12,526,945 (see Appendix A). It is estimated that active management will result in producing approximately 64.7 million board feet of conifer volume, 5.6 million board feet of hardwood volume, for a total of 70.3 million board feet of volume. Refer to the attached Financial Summary table and/or pre-operation reports for more detail.

Table 2. Stand Structure Development – This table summarizes how the Timber Harvest Operations in this AOP will contribute to achieving the district’s desired future condition. All values are in acres & reflect Primary Operations only.

Stand Structure	REG	CSC	UDS	LYR	OFS	GEN¹
Current	0	145	1,007	57	0	
Post Harvest ²	665	0	0	487	57	
Desired Future				301	291	617

¹ General (GEN) is not a stand structure, but identifies those stands that are not targeted for Layered or Older Forest Structure in the district landscape design. These stands may develop into any of the five stand structures.

² The Post Harvest stand structure is an estimate of how the stands will develop in five to ten years after the operations is completed.

Summary of Planned (Excluding Salvage Harvest) Timber Harvest Operations by Basin

In the following section, the commercial forest management operations planned for FY09 will be summarized in the context of the 17 management basins on the Astoria District. ODF and ODFW resource specialists reviewed the FY09 operations plan and provided input. Individual pre-operation reports include information regarding riparian protection and structural components such as snags, down woody debris, and green tree retention. Since the Forest Management Plan strategies provide standards for these components, they are not directly addressed. Road concerns and standards are discussed in the Transportation Planning and Harvesting section.

Table 3. Summary of Timber Harvest Operations in each basin. All values are in acres & reflect Primary Operations only.

Basin	2009 AOP		Cumulative Operations ¹ (02 through 09)	
	Partial Cut	Clearcut	Partial Cut	Clearcut
Astoria	0	0	1,279	175
Beneke	0	0	1,213	706
Buster	0	208	3,090	840
Crawford	0	0	177	0
Davis	0	0	139	315
Fishhawk	0	0	1,812	44
Gnat	0	107	1,755	997
Hamilton	0	0	238	518
Klaskanine	0	0	554	256
Lousignot	52	123	675	369
N. Fork Nehalem	0	0	991	569
Northrup	0	0	1,633	454
Plympton	0	0	2,042	256
Quartz	0	0	1,964	591
Sager	359	24	1,667	167
Scattered	0	0	326	268
Sweethome	181	155	471	642

¹ The Cumulative Operations include all Timber Harvest Operations, prepared and proposed, under the current implementation plan period (July 1, 2001 through June 30, 2011). Operations or units that were proposed, but have been subsequently dropped, are not included in the total.

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). Swordfern 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, swordfern 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

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

Mombo Combo (alternate operation): 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

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

California Elk (alternate operation): 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 vinemaple, 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 are no harvest operations planned in this basin for FY09.

NORTHRUP BASIN

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

Fosters 40 (alternate operation): 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 bigleaf maple, Douglas-fir, western hemlock and western redcedar. 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

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

Haggis Hunt (alternate operation): 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 one modified clearcut unit totaling 24 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 downwood and snags to achieve the older forest structure condition. The modified clearcut unit, Area 7, is currently in the UDS and CSC stage and has 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 Roads Management

Overview

A variety of forest road and transportation system management and Land surveying activities are planned for this AOP. Primary objectives include providing forest access and meeting the goals, objectives and standards contained in the *Forest Roads Manual 2000*. As site specific information is gained during the preparation of planned management activities, emphasis will be given to refinement of Level III Transportation Plans in conformance with:

- The 12 Guiding Principles for Road Management
- Oregon Department of Forestry Road Standards

The District will be beginning to focus some time and effort on the removal of invasive species from roadside areas. This program entails cooperation from several of the management units on the District. See the Young Stand Management section of this report for more details on the Invasive Weed program.

A summary of estimated values for planned timber operation road and project work activities is shown in the Forest Roads Summary Table, in Appendix A. Estimated project values for alternate timber sales have not yet been fully determined.

Table 4. Summary of Road Management Activities. All values are in miles.

	Mainline		Collector		Spur	
	AOP	IP ¹	AOP	IP ¹	AOP	IP ¹
Road Construction	0	0.9-1.2	1	6.2-8.1	8.3	10.7-13.9
Road Improvement	9.5	9.6-15.8	4.5	7.2-11.9	6	7.2-11.9
Road Closure/Vacation	0	0.2-0.6	0	0.7-1.9	3.55	1.3-3.8

¹. These are annual estimates derived from Table 6, page 25, Potential Road Activities FY 2001-2011 of the 2001 District Implementation Plan. The values here were derived by dividing the values in the Potential Road Activities table by 10. The miles may be high one year and low another but are expected to be within the total IP ranges at the end of the IP period, in 2011.

Road Construction

One mile of Collector and 8.3 miles of Spur roads will be constructed with planned timber sale projects or other projects during the 2009 AOP. Collector type roads will be surfaced with hard rock to facilitate all weather hauling. Of the 8.3 miles of Spur roads identified in this plan, approximately 31% or 2.55 miles are planned to be native earth (dirt) roads. All of the dirt spurs will be closed or vacated upon completion of road use.

Therefore, this Operations Plan will increase the amount of active roads by an estimated 6.75 net miles.

Road Improvement

Road improvement projects will use ODF road inventory protocols to assess existing road drainage, stability, surfacing and vegetation conditions and to aid in the development of transportation system improvement plans.

With this plan, approximately 9.5 miles of Mainline, 4.5 miles of Collector, and 6.0 miles of Spur roads are identified for improvement with planned operations. This plan includes special projects, such as:

- Outland: Replacement of a Type F stream crossing on the West Big Noise Road and evaluation and possible replacement of a Type F stream crossing on the Rock Creek Crossover Road.
- Paradise East: Evaluation and possible replacement of a Type F Stream Crossing on the Deep Creek Road.

Road Access Management

With this plan, approximately 3.55 miles of roads are identified for closure and/or permanent vacating with these operations, as follows:

- Outland: Planned road closures include approximately 0.25 miles of dirt road constructed for timber sale access.
- Paradise East: Planned road closures include approximately 1.5 miles of dirt road constructed for timber sale access.
- Buzzard Ridge Combination: Planned road closures include approximately 1.0 miles of rocked spur roads.
- Ridge 77: Planned road closures include approximately 0.8 miles of dirt road constructed for timber sale access.

Other old abandoned or legacy type roads that are found during sale layout will be evaluated for vacating.

Other Road Management Activities

Rock quarry development and/or rock crushing is necessary to provide sufficient quantities of road rock for planned road construction, road improvement and road maintenance activities. Quarry developments are planned for the following operations:

- Green Lantern
- Buzzard Ridge Combination

Rock source testing is also planned for to determine rock source potential and/or suitability:

- Ridge 77: Testing drilling at the Northrup Ridge Quarry.

Road Maintenance

Planned road maintenance activities will be accomplished by timber sale contracts and by the district road crew. A breakdown of planned road maintenance activities follows:

- Timber Sale Contracts: Approximately 34.8 miles of active road maintenance (associated with hauling operations and road use) is planned for under timber sale contracts.

- Green Lantern: Mechanical road brushing is planned for the haul route and sale access roads.

District Road Crew: The district road crew will perform routine road maintenance activities on approximately 50 miles of inactive and active forest roads located throughout the district.

Land Surveying

All required survey work for the proposed FY09 Primary Operations is complete.

To accomplish the proposed alternate operations and efficiently conduct property line and corner maintenance throughout the district, the following property line activities will need to be completed through a contract surveyor:

- Validate, rewitness, or restore approximately 40 corners.
- Traverse, blaze and post approximately 2.5 miles of property line.

Work on alternate operations will be prioritized by need and budget considerations. At this time the following is planned to be completed:

- Validate, rewitness, or restore approximately 40 corners.

Young Stand Management

The young stand management program involves the application of various silvicultural treatments intended to create diverse management options for future stand and forest development under the objectives of the Northwest Forest Management Plan. These applications include site preparation, fertilization, planting, inter planting, under planting, rehabilitation, vegetation management, invasive species control, tree protection, precommercial thinning and pruning. To meet the objectives of the Northwest Oregon Forest Management Plan, specific prescriptions of the above applications must be developed for each set of forest and environmental conditions.

Forest health strategies within this program focus on a diverse composition of tree species to provide stability and resiliency to the forest, especially with regard to pests. Implementation of a diversity of tree species at the time of reforestation can minimize the levels and severity of pest outbreaks while diversifying the forest both structurally and compositionally. Enhancing the diversity of native species contributes to habitats and conditions suitable for the many natural dynamics that keep pest populations and damage within acceptable levels. The program incorporates improved and locally collected seed with a greater resistance to native and non-native pests. This integration process reduces the susceptibility to forest health issues of Northwest Oregon such as Swiss Needle Cast.

See the Young Stand Management Table in the Appendix A for a more detailed description for what is planned in FY 2009.

The following specific activities will be conducted throughout the fiscal year:

Rehabilitation

There are currently no areas scheduled for rehabilitation in FY 2009.

Site Preparation

These activities prepare the planting sites to enable new conifer stands to meet stocking guidelines and become free to grow. The site preparation activities consist of primarily two site specific prescriptions:

(1) Herbicides applied by helicopter or by ground methods target site specific vegetation species that will aggressively compete with the newly planted trees. In FY 2009, 299 acres are proposed for aerial site preparation and 289 acres allocated for ground based site preparation.

(2) Dense slash concentrations created during timber harvest will be mechanically piled and burned during the fall season to improve and open up planting areas. 194 acres are proposed for mechanical site preparation and pile burning.

Planting

Planting is comprised of matching the appropriate species and stock type to the planting site. Forest health strategies are addressed on a site-specific basis when the planting plan is developed. Site specific prescriptions consider target species, Swiss Needle Cast risk, *Phellinus weirii* (laminated root rot) presence, protection of water quality, required stocking guidelines, natural advanced regeneration, and the desired future condition of the stand. To accomplish this, a mixture of species are planted to provide for a healthy, productive, and sustainable forest ecosystem over time. This strategy provides for diverse habitats for wildlife and biodiversity while offering a full range of social, economic, and environmental benefits for future generations.

The planting plan anticipates 1,689 acres of initial planting in regeneration harvest units. This number is higher than most years, due to the replanting of some of the stands that were devastated during the windstorm in December of 2007. A salvage plan is being created that will put into place a plan to replant the decimated stands over the next several years. Seedling availability and the ordering of the seedling stock is a factor that weighs heavily on the ability to quickly react to a catastrophic event that requires replanting areas of the forest. A mixture of the following species will be planted based upon the site characteristics: western hemlock, Douglas-fir, western red cedar, grand fir, noble fir and red alder. Stocking densities are site specific and natural regeneration is considered when establishing a new stand.

Vegetation Management

Vegetation management activities focus on releasing existing conifer or hardwood stands which have been overtopped by competing vegetation, or controlling roadside brush encroachment. Various prescriptions focus on ensuring that newly established stands are kept in a healthy condition so the forest stand will continue to grow to its biological and economical potential. In young stand management, the plan includes 505 acres of manual release in conifer plantations.

Roadside vegetation management is intended to maintain visibility for public and employee safety when driving the forest road network and to protect the economic investment made in our entire road system. Due to budget reductions, the District will not be conducting roadside herbicide treatments or mechanical roadside brushing during the FY09 AOP. If funding becomes available, this management activity will be prioritized and some or all of the originally planned miles of roadside herbicide treatments and/or mechanical roadside brushing may be conducted.

Tree Protection

This activity is designed to protect young stands from being foraged by big game species or Mountain Beaver. Site specific prescriptions are utilized to protect trees from damage so the forest stands can develop into their desired future condition. Protection measures include budcapping Douglas-fir, tubing of western red cedar seedlings and/or removing the offending animals through trapping and control hunts.

The district plans to bud cap Douglas-fir trees on 1,444 acres and trap mountain beavers on 1,100 acres.

Precommercial Thinning (density management)

Precommercial thinning (PCT) is a silvicultural technique that provides growing space by removing less vigorous trees from the stand during this stage of competition. These thinnings are made as an investment for the future growth and development of the stand. PCT is conducted in stands when high stand densities first develop, generally from 7 to 18 years of age. This practice accelerates the development of both conifer and hardwood stands toward the selected silvicultural pathway. Generally, all minor species, such as western red cedar and true firs, are retained. The practice of precommercial thinning allows for increased individual tree growth until significant competition between trees develops again, 15 to 20 years later. At this point other management prescriptions can be evaluated.

Western hemlock stands provide unique challenges for density management, as this species generates a prolific amount of seed that will germinate in the understory of existing stands. Pre-commercial thinning of western hemlock stands regenerated from natural seeding or advanced regeneration is required at a relatively early age (7 to 8 years). Pre-commercial thinning of these extremely dense young stands provides flexibility in future density management activities.

Due to budget reductions, the District will not be conducting pre-commercial thinning during the FY09 AOP. If funding becomes available, this management activity will be prioritized and some or all of the originally planned 475 acres of precommercial thinning may be conducted.

Invasive Weed Management

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 Director 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.

Due to budget reductions, the District will not be conducting invasive weed treatment during the FY09 AOP. If funding becomes available, this management activity will be prioritized and some or all of the originally planned treatment may be conducted.

Pruning

There are currently no areas planned or identified for pruning for FY 2009.

Recreation Management

Overview of Recreation Management

Recreation is diverse on the Clatsop State Forest, with dispersed use throughout the forest. Activities include horseback riding, hiking, mountain biking, all terrain vehicle (ATV), camping, hunting, target shooting, fishing, nature study, and sight seeing.

The Astoria District Recreation Plan was finalized in 2000 and is currently being implemented by the recreation staff. The District Recreation Coordinator directs the work of the activities to be accomplished. The recreation plan includes an action plan based on priorities and funding.

The current recreation plan manages recreation on the district to minimize impacts on natural resources, compliment forest management objectives, and improve the quantity and quality of recreation on the Clatsop State Forest. As the action plan has been implemented, goals in the recreation plan are being realized and more diverse and user specific activities on the forest are now available.

The Astoria District recreation program is composed of a Support Unit Forester, Recreation Coordinator, County Deputy Sheriff, two permanent and three seasonal recreation staff. The District Administration Unit and Office Manager also provide administrative support and services to the recreation program. Other District units such as the Forest Management, Engineering and Reforestation units integrate with the recreation program combining planned management activities with the recreation program plans and goals. A significant portion of the responsibilities of the recreation staff is devoted to maintenance and administration of existing recreation facilities.

Utilizing the South Fork Inmate Camp for maintenance and construction of recreation facilities is also an important component of the recreation program. Completion of recreation projects for FY 2009 will require the continued efforts of South Fork.

Planning

An assessment of the department recreation program was completed in 2007. The independent Second Party Recreation Assessment reviewed all aspects of the department recreation program and developed 15 general findings.

Development of an action plan to address these findings is currently in process. Program level staff and district recreation staff are working together in formulating responses and action items related to each of the general findings. 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.

Additionally, high priority recreation issues that need immediate action were identified. Decisions regarding potential development of an OHV program were identified as high priority for the Astoria District.

Facilities (Campgrounds, View Points, Trail Heads, etc)

New Facilities Development/Construction

The following site is identified for development through the FY 2009 AOP.

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; consequently the development of an OHV recreation area at Nicoali Mountain will be initiated during this planning period.

The acquisition of an additional Recreation Specialist in the recreation program will provide the opportunity to continue with planning for an OHV area and coordinate with the local user groups to begin development and designation of motorized trails.

Initial efforts will be restricted to volunteer work with limited assistance from South Fork Inmate Crews.

Facilities Operations/Maintenance (campgrounds, view points, trail heads, etc.)

Facilities

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.

- Gnat Creek Campground
- Henry Rierson Spruce Run Campground
- Northrup Creek Horse Camp
- Lost Lake dispersed recreation area (proposed day use area)
- Lower Nehalem dispersed sites (four)
- North Fork Nehalem dispersed sites (three)
- Astoria District Demonstration Forest
- Chet Reed Arboretum
- Gnat Creek Trailhead
- Bloom Lake Trailhead
- Soapstone Lake Trailhead
- Northrup Creek Equestrian Trailhead
- Spruce Run Creek Trailhead
- Demonstration Forest Trailhead

Activities associated with facility operations and maintenance includes:

- Campground host recruitment and supervision
- Coordination of daily maintenance activity by South Fork Inmate Camp
- 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 repairs

Trails

Trail construction and associated maintenance has been steadily increasing on the district. Currently there are approximately 18 miles of designated non-motorized trails on the district.

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

Resource Specialists or Contract Service Providers:

The following resource specialists, providers of contract services, and public user group clubs and organizations are an essential part of the Astoria District recreation program.

- Private companies that provide contract maintenance and repair service.
- Public/user group clubs and organizations.
- South Fork Inmate Camp provides grounds/facilities construction and maintenance support.
- ODF&W: Consulted on wildlife and fisheries issues.
- Forest Management, Engineering, Reforestation and Administration Staff for integration with other planned management activities and staff support.

Other Recreation Management Activities

General Projects

Recreation staff will continue to update and refine existing technical tools used to manage the recreation program. These efforts will include: updating the GIS trails layer for the district, finalizing a trails and bridge inventory process and protocols for bridge inspections, identifying and GPS locating dispersed recreation sites across the forest, and refining the conceptual “district vision” for recreation on the Clatsop State Forest.

Forest Interpretation and Education

Staff will work on developing education and interpretative programs in cooperation with the local OSU Extension program, local school, and the Tillamook Forest Interpretative Center.

Volunteer Efforts

In FY 2007 the Clatsop State Forest had 1,900 hours of volunteer work consisting of trail volunteers, camp-host programs, and various recreational committee member participants. The District Recreation Staff will 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. All permits will be processed according to district policy.

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.

Land Exchange

The Draft Land Exchange and Acquisition Plan for the Astoria District will be submitted to the Board of Forestry for review in FY2009. Although the Land Exchange and Acquisition Plan is expected to be in place during FY09, there are no land exchanges planned at this time.

Other Integrated Forest Management Operations

Public Woodcutting

The woodcutting program provides opportunities for the public to cut firewood in the Clatsop State Forest. This operation is under the direction of the State Forests Unit Foresters. Wood cutting permits are issued once the commercial harvesting operations have been completed. Each permit costs ten dollars and is issued for two cords of wood. During the FY 2009, it is estimated that the Astoria District will issue approximately 500 woodcutting permits.

Special Forest Products

The Astoria District currently administers a Special Forest Products program which consists 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 to persons getting a Commercial Use Permit which depends on the product type and amount desired by the permittee. Special Forest Products include mushrooms, seedlings, boughs, salal and moss. Additionally, the public has the ability to gather smaller quantities of these forest products, free of charge, for personal use.

Planning (and Information Systems)

The following on-going planning, monitoring, and information gathering activities will be conducted throughout the next fiscal year:

Stand Level Inventory and Other Vegetation Inventories

Since 2001, the Astoria District has conducted a rigorous Stand Level Inventory (SLI) regime yielding 56% of the District's 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.

Fish and Wildlife Surveys

All of the proposed sales in this AOP have been reviewed by ODF and ODFW biologists. Survey requirements are based on current policy, protocol and biologist recommendations.

An Oregon Department of Fish and Wildlife (ODFW) contract crew and/or private contractor will complete stream surveys to determine fish presence in streams currently unknown.

The Astoria District will continue its northern spotted owl survey program, in order to effectively comply with federal and state Endangered Species Acts and to contribute to the Forest Management Plan (FMP) goals. Survey requirements for each sale are determined in accordance with November, 2002 ODF Policy Guidance: *Northern Spotted Owl Surveying on State Forest Lands*. The survey methodology utilized by ODF is the *Protocol for Surveying Proposed Management Activities That May Impact Northern Spotted Owls*. This protocol, originally dated March 1991 and revised March 1992, is endorsed by the USFWS.

A private contractor will continue the annual surveying for northern spotted owls near planned operations and to monitor the status of occupied sites. It is estimated that this will entail approximately 495 survey stations, 1,485 individual nighttime surveys conducted, and 15 daytime follow-up surveys.

This district will also continue its marbled murrelet survey program, in order to comply with federal and state Endangered Species Acts and to contribute to the Forest Management Plan (FMP) goals. Survey requirements for each sale are determined in accordance with January, 2005 ODF Policy Guidance: *Marbled Murrelet Operational Policy, 2004 Revision*. The survey methodology and standards utilized by ODF are based on the protocol developed by the Pacific Seabird Group (2003 revision).

A private contractor will continue the annual surveying for marbled murrelets near planned operations and to monitor the status of occupied sites. It is estimated that this will entail approximately 45 sites, 160 stations, and 365 surveys.

Table 5. Summary of status of T&E surveys.

Operation	Species (NSO/MM)	Status
Buzzard Ridge Comb.	NSO	Surveyed in 2007 with no detections. Will survey in 2008.
Buzzard Ridge Comb.	MM	Surveyed in 2007 with no detections. Will survey in 2008.
California Elk	NSO	Surveyed in 2004, 2005, 2006 & 2007 with no detections. Will survey in 2008.
California Elk	MM	Surveyed in 2004, 2005, 2006 & 2007 with no detections. Will survey in 2008.
Fosters 40	NSO	Surveyed in 2007 with no detections. Will survey in 2008.
Fosters 40	MM	Non-Suitable Habitat; No surveys required.
Green Lantern	NSO	Surveyed in 2007 with no detections. Will survey in 2008.
Green Lantern	MM	Non-Suitable Habitat; No surveys required.
Haggis Hunt	NSO	Surveyed in 2006 & 2007 with no detections. Will survey in 2008.
Haggis Hunt	MM	Non-Suitable Habitat; No surveys required.
Mombo Combo	NSO	Surveyed in 2007 with no detections. Will survey in 2008.
Mombo Combo	MM	Non-Suitable Habitat; No surveys required.
Outland	NSO	Surveyed in 2006 & 2007 with no detections. Will survey in 2008.
Outland	MM	Non-Suitable Habitat; No surveys required.
Paradise East	NSO	Surveyed in 2007 with no detections. Will survey in 2008.
Paradise East	MM	Non-Suitable Habitat; No surveys required.
Ridge 77	NSO	Surveyed in 2005, 2006, 2007 with no detections. Will survey in

		2008.
Ridge 77	MM	Non-Suitable Habitat; No surveys required.
Alderberry	NSO	Surveyed in 2007 with no detections. Will survey in 2008.
Alderberry	MM	Surveyed in 2007 with no detections. Will survey in 2008.
Courtside	NSO	Surveyed in 2006 & 2007 with no detections. Will survey in 2008.
Courtside	MM	Non-Suitable Habitat; No surveys required.
Greasy Alder	NSO	Surveyed in 2007 with no detections. Will survey in 2008.
Greasy Alder	MM	Surveyed in 2007 with no detections. Will survey in 2008.
Ice Box Thinning	NSO	Surveyed in 2007 with no detections. Will survey in 2008.
Ice Box Thinning	MM	Non-Suitable Habitat; No surveys required.
Ivy League	NSO	Surveyed in 2007 with no detections. Will survey in 2008.
Ivy League	MM	Non-Suitable Habitat; No surveys required.
Lion's Liar	NSO	Surveyed in 2006 & 2007 with one detection attributed to the Deliverance owl site. Will survey in 2008.
Lion's Lair	MM	Non-Suitable Habitat; No surveys required.
Modified Green	NSO	Surveyed in 2007 with no detections. Will survey in 2008.
Modified Green	MM	Surveyed in 2007 with no detections. Will survey in 2008.
Mulak Thin	NSO	Surveyed in 2007 with no detections. Will survey in 2008.
Mulak Thin	MM	Surveyed in 2007 with no detections. Will survey in 2008.
Puma Punch	NSO	Surveyed in 2007 with no detections. Will survey in 2008.
Puma Punch	MM	Surveyed in 2007 with detections. Will survey in 2008.
Sprague's Stump	NSO	Surveyed in 2007 with no detections. Will survey in 2008.
Sprague's Stump	MM	Non-Suitable Habitat; No surveys required.
Summit Combo	NSO	Surveyed in 2004, 2005, 2006 & 2007 with no detections. Will survey in 2008.
Summit Combo	MM	Surveyed in 2004, 2005, 2006 & 2007 with no detections. Will survey in 2008.
Wallhanger	NSO	Surveyed in 2006, 2007 with no detections. Will survey in 2008.
Wallhanger	MM	Surveyed in 2006 and 2007 with no detections.
White Noise	NSO	Surveyed in 2007 with detections. Will survey in 2008.
White Noise	MM	Surveyed in 2007 with detections. Will survey in 2008.
Winslow	NSO	Surveyed in 2006, 2007 with no detections. Will survey in 2008.
Winslow	MM	Non-Suitable Habitat; No surveys required.

Watershed Assessments

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.

During the FY09 AOP, the District will address several areas of concern listed in the WIT Action Plan. The list of management activities to be completed by the Department can be found in Table 1 of the Upper Nehalem Watershed WIT Action Plan. A total of two improvement projects are included in this AOP. The projects are included within the Paradise East and Ridge 77 timber sales.

A Lower Nehalem Watershed Analysis is planned; however, it is not anticipated to be done during the FY09 AOP.

Research and Monitoring

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 District since 2003, and will continue through this Annual Operations Plan period. The project consists of five sites on State Forest land and 4 sites on Private Ownership where pre and post harvest data was, and still is, being collected. 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.

Public Information and Education

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.

Administration

The State Forest Program in the Astoria District is organized into five 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.

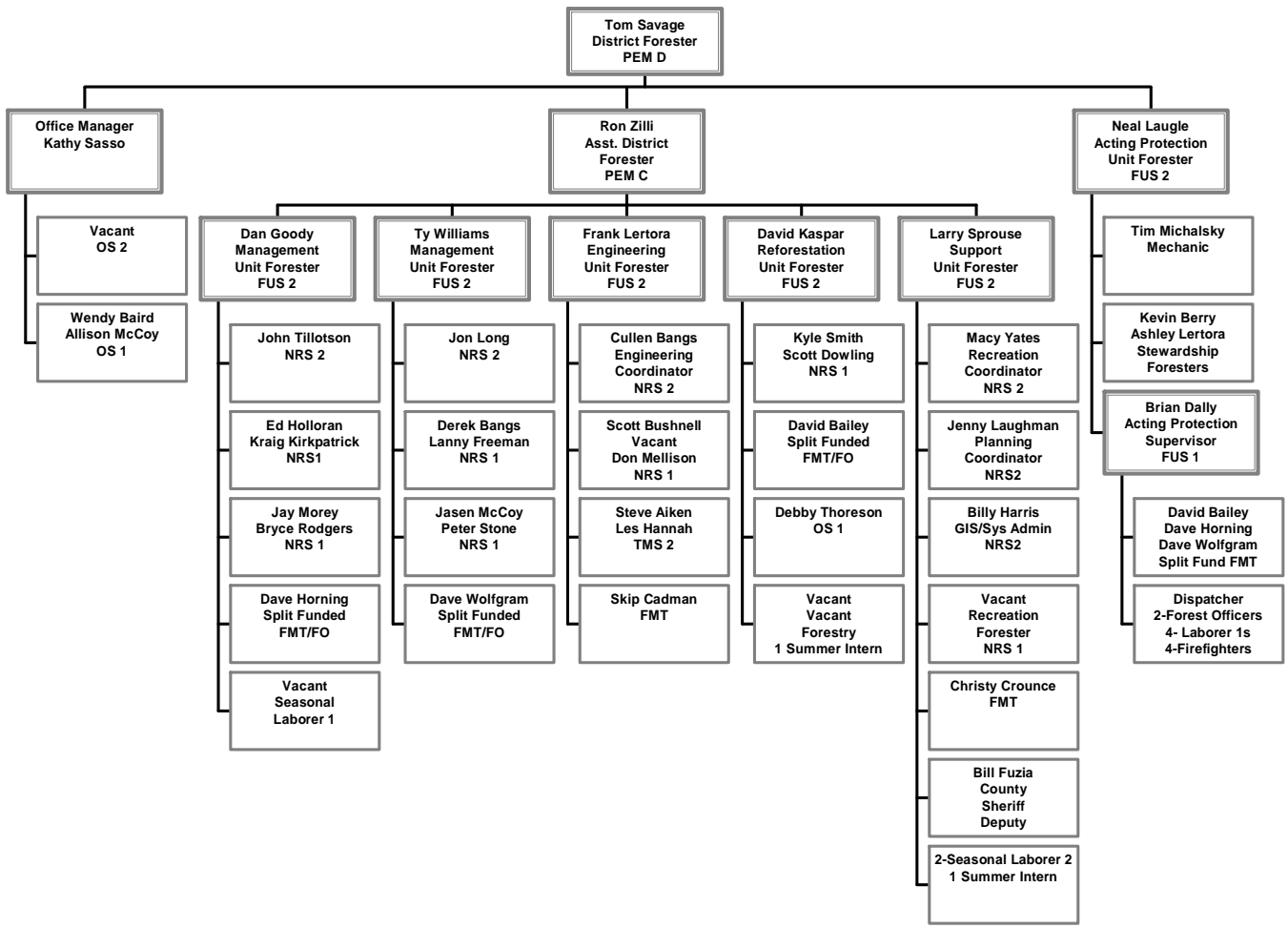
The **Engineering Unit** is responsible for the road and project engineering support, establishment and maintenance of property line surveys, and supervision of the district road maintenance crew.

The **Forest Management Units**, which include the Jewell Unit (central Clatsop County) and the Sunset Unit (remaining state forest lands along the western and northern portions of Clatsop County), are 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, the Clatsop 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.

ASTORIA DISTRICT ORGANIZATION June, 2008



APPENDIXES

- A. Summary Tables
- B. Pre-Operations Reports
- C. Vicinity Map of 2009 Sales
- D. Public Involvement (include in the approved AOP)

TABLE A-1: COMMERCIAL FOREST MANAGEMENT OPERATIONS - FINANCIAL SUMMARY

District: Astoria

Fiscal Year: 2009

Date:

6/16/08

Operations	Payment Type	Fund %		County	Sale Quarter	Net Acres		Volume (MMBF)			Value		
		BOF	CSL			Partial Cut	Regen	Con-ifer	Hard-woods	Total	Gross	Projects	Net
Primary Operations													
Buzzard Ridge Comb.	Recovery	100%	0%	Clatsop	3	181	155	4.8	3.0	7.8	\$2,520,000	\$335,000	\$2,185,000
Green Lantern	Recovery	100%	0%	Clatsop	2	0	208	9.5	0.0	9.5	\$2,612,500	\$286,000	\$2,326,500
Outland	Recovery	100%	0%	Clatsop	1	0	107	5.2	0.3	5.5	\$1,390,000	\$260,000	\$1,130,000
Paradise East	Recovery	100%	0%	Clatsop	1	359	24	5.8	0.0	5.8	\$1,886,625	\$204,500	\$1,682,125
Ridge 77	Recovery	100%	0%	Clatsop	4	52	123	5.3	0.7	6.0	\$2,002,500	\$85,600	\$1,916,900
AOP Total:						592	617	30.6	4	34.6	\$10,411,625	\$1,171,100	\$9,240,525
Salvage Total:						Scattered	1,868	34.1	2	35.7	\$3,286,420	\$0	\$3,286,420
Total FY09 Harvest:							2,485	64.7	5.6	70.3	\$13,698,045	\$1,171,100	\$12,526,945
Alternate Operations													
Alderberry	Recovery	100%	0%	Clatsop		0	75	0.2	0.9	1.1	\$505,000	\$96,500	\$408,500
California Elk	Recovery	100%	0%	Clatsop		114	246	11.0	1.3	12.3	\$3,205,000	\$415,000	\$2,790,000
Courtside	Recovery	100%	0%	Clatsop		0	55	2.2	0	2.2	\$605,000	\$130,500	\$474,500
Fosters 40	Recovery	100%	0%	Clatsop		217	112	7.5	0.9	8.4	\$2,422,500	\$259,100	\$2,163,400
Greasy Alder	Recovery	100%	0%	Clatsop		0	67	0.1	1.0	1.1	\$635,000	\$50,000	\$585,000
Haggis Hunt	Recovery	100%	0%	Clatsop		0	53	1.5	0.0	1.5	\$450,000	\$32,000	\$418,000
Ice Box Thinning	Recovery	100%	0%	Clatsop		630	0	4.7	0.0	4.7	\$940,000	\$235,000	\$705,000
Ivy League	Recovery	100%	0%	Clatsop		176	0	1.3	0.0	1.3	\$325,000	\$50,000	\$275,000
Lion's Liar	Recovery	100%	0%	Clatsop		0	129	2.8	0.2	3.0	\$860,000	\$71,000	\$789,000
Modified Green	Recovery	100%	0%	Clatsop		45	132	7.0	0.1	7.1	\$1,780,000	\$205,000	\$1,575,000
Mombo Combo	Recovery	100%	0%	Clatsop		93	134	7.1	0.3	7.4	\$2,235,000	\$250,000	\$1,985,000
Mulak Thin	Recovery	100%	0%	Clatsop		51	3.5	0.5	0.1	0.5	\$132,500	\$6,000	\$126,500
Puma Punch	Recovery	86%	14%	Clatsop		63	73	2.9	0.8	3.7	\$1,150,000	\$35,000	\$1,115,000
Sprague's Stump	Recovery	100%	0%	Clatsop		305	143	10.0	0.9	10.9	\$3,110,000	\$281,700	\$2,828,300
Summit Combo	Recovery	100%	0%	Clatsop		61	93	2.5	0.5	3.0	\$887,500	\$58,600	\$828,900
Wallhanger	Recovery	100%	0%	Clatsop		241	42	3.9	0.4	4.3	\$1,170,000	232000	\$1,098,000
White Noise	Recovery	100%	0%	Clatsop		472	29	3.5	0	3.5	\$1,050,000	182000	\$868,000
Winslow	Recovery	100%	0%	Clatsop		0	157	8.5	0	8.5	\$2,335,020	\$147,700	\$2,187,320
Total:						2,468.0	1,543.5	77.2	7.4	84.5	\$23,797,520	\$2,737,100	\$21,220,420

SALVAGE SALE SUMMARY TABLE*

District: Astoria

Fiscal Year: 2009

Date: 06/16/2008

Operations	Payment Type	Fund %		County	Sale Quarter	Net Acres		Volume (MMBF)			Value		
		BOF	CSL			Salvage**	Regen***	Conifer	Hard-woods	Total	Gross	Projects	Net
Simmons/West Green Mt. Salvage #2	R	100%	0%	Clatsop	1st	113	714	14.6	0.5	15.1	\$1,278,599	\$0	\$1,278,599
John Day/Walluski Salvage #2	R	100%	0%	Clatsop	1st	87	260	3.7	0.0	3.7	\$492,191	\$0	\$492,191
Blastoria Salvage	R	100%	0%	Clatsop	1st	744	765	12.6	1.1	13.7	\$1,159,174	\$0	\$1,159,174
Shorn Sheep Salvage	R	100%	0%	Clatsop	1st	66	129	3.2	0.0	3.2	\$356,456	\$0	\$356,456
Salvage Total						1,010	1,868	34.1	2	35.7	3,286,420	0	\$3,286,420

* These salvage sales are the result of the windstorm that occurred in December of 2007.

** These salvage acres are not classified as partial cut acres because a constant volume per acre will not be removed.

*** These units were severely effected by windthrow and no longer have the silvicultural capability of a structured stand.

TABLE A-2: TIMBER HARVEST OPERATIONS - FOREST STRUCTURE SUMMARY									
District: ASTORIA		Fiscal Year 2009			Date: 06/16/2008				
Primary Operations	Area	Net Acres			Stand Structure Development Pathway			Structural Components Green Trees/Acre	Comments
		Clearcut	Partial Cut	Total	Current	Post-Harvest	Desired		
Buster Basin									
Green Lantern	1	67	0	67	UDS	REG	GEN	5	
	2	48	0	48	UDS	REG	GEN	5	
	3	93	0	93	UDS	REG	GEN	5	
Gnat Basin									
Outland	1	5	0	5	CSC	REG	GEN	5	
	2	10	0	10	CSC	REG	GEN	5	
	3	92	0	92	CSC/UDS	REG	GEN	5	
Louisignot Basin									
Ridge 77	1	45	0	45	UDS	REG	GEN	5	
	2	0	52	52	UDS	LYR	LYR		
	3	78	0	78	UDS	REG	GEN	5	
Sager Basin									
Paradise East	1	0	57	57	LYR	OFS	OFS		
	2	0	126	126	UDS	LYR	OFS		
	3	0	48	48	UDS	LYR	LYR		
	4	0	25	25	UDS	LYR	LYR		
	5	0	43	43	UDS	LYR	LYR		
	6	0	60	60	UDS	LYR	OFS		
	7	24	0	24	CSC	REG	GEN	5	
Sweethome Basin									
Buzzard Ridge Combination	1	56	0	56	UDS	REG	GEN	5	
	2	0	48	48	UDS	REG	OFS		
	3A	0	54	54	UDS	LYR	LYR		
	3B	0	27	27	UDS	LYR	LYR		
	3C	0	13	13	UDS	LYR	LYR		
	3D	0	39	39	UDS/CSC	LYR	LYR		
	4	99	0	99	UDS	REG	GEN	5	

Total	617	592	1209
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Alternate Operations

Beneke Basin									
Lion's Lair	1	34	0	34	UDS	REG	GEN		5
	2	65	0	65	CSC/UDS	REG	GEN		5
	3	30	0	30	CSC	REG	GEN		5
Buster Basin									
Alderberry	1	45	0	45	UDS	REG	GEN		5
	2	30	0	30	UDS	REG	GEN		5
Winslow	1	67	0	67	UDS	REG	GEN		5
	2	35	0	35	UDS	REG	GEN		5
	3	55	0	55	CSC	REG	GEN		5
Davis Basin									
Wallhanger	1	0	241	241	CSC/UDS	LYR	LYR		
	2	42	0	42	UDS	REG	GEN		5
Fishhawk Basin									
Mombo Combo	1	35	0	35	UDS	REG	GEN		5
	2	41	0	41	UDS	REG	GEN		5
	3	58	0	58	UDS	REG	GEN		5
	4	0	17	17	UDS	UDS	LYR		
	5	0	76	76	UDS	UDS	LYR/GEN		
Gnat Basin									
Ice Box Thinning	1	0	113	113	UDS/CSC	LYR/UDS	OFS/LYR		
	2	0	252	252	UDS	LYR	GEN/OFS		
	3	0	117	117	UDS	LYR	OFS/LYR		
	4	0	107	107	UDS	LYR	GEN/LYR		
	5	0	41	41	CSC	UDS	GEN		
White Noise	1	0	56	56	CSC	UDS	LYR		
	2	0	144	144	UDS/CSC	LYR	LYR		
	3	0	104	104	CSC	UDS	GEN		
	4	29	0	29	CSC	REG	GEN		5
	5	0	168	168	CSC	UDS	GEN		
Hamilton Basin									
Summit Combo	1	71	0	71	CSC/UDS	REG	GEN		5
	2	0	61	61	CSC	UDS	OFS		
	3	22	0	22	UDS	REG	GEN		5
Klaskanine Basin									
California Elk	1	0	29	29	UDS	LYR	OFS		
	2	49	0	49	UDS	REG	GEN		5
	3	0	85	85	UDS	LYR	LYR/GEN		
	4	47	0	47	UDS	REG	GEN		5
	5	23	0	23	CSC	REG	GEN		5
	6	60	0	60	CSC	REG	GEN		5
	7	67	0	67	UDS	REG	GEN		5
Northrup Basin									
Greasy Alder	1	19	0	19	UDS	REG	OFS		5
	2	48	0	48	CSC/UDS	UDS	OFS		5
Mulak Thin	1	0	15	15	CSC	UDS	OFS		
	1A	3.5	0	3.5	CSC	UDS	OFS		5
	2	0	36	36	CSC	UDS	LYR		
Sprague's Stump	1	0	305	305	UDS	UDS	LYR/GEN		
	2	97	0	97	UDS	REG	GEN		5
	3	46	0	46	UDS	REG	GEN		5
Fosters 40	1	48	0	48	UDS/CSC	REG	GEN		5
	2	0	217	217	UDS	LYR	OFS		
	3	64	0	64	UDS	REG	GEN		5

Plympton Basin									
Haggis Hunt	1	24	0	24	UDS	REG	GEN	5	
	2	29	0	29	UDS	REG	GEN	5	
Quartz Basin									
Courtside	1	43	0	43	UDS	REG	GEN	5	
	2	12	0	12	UDS	REG	GEN	5	
Scattered Basin									
Ivy League Thin	1	0	176	176	CSC/UDS	UDS	GEN		
Modified Green	1	7	0	7	CSC	REG	GEN	5	
	2	21	0	21	CSC	REG	GEN	5	
	3	44	0	44	CSC	REG	GEN	5	
	4	60	0	60	CSC	UDS	GEN	5	
	5	0	45	45	CSC	REG	GEN	5	
Sweethome Basin									
Puma Punch	1	73	0	73	CSC /UDS	REG	GEN	5	
	2	0	20	20	LVR	OFS	OFS		
	3	0	43	43	CSC	UDS	GEN		
Total		1543.5	2468	3807.5					

TABLE A3: FOREST ROADS SUMMARY

District: Astoria

Fiscal Year: 2009

Date: 06/16/2008

Primary Operations	Construction		Improvement		Other Projects	Total Project Costs	Gross Value of Operation	Total Cost as a percent of Gross Value	Comments
	Miles	Cost	Miles	Cost					
Buzzard Ridge Combination	3.00	\$156,000	4.0	\$80,000	\$99,000	\$335,000	\$2,520,000	13.3%	
Green Lantern	1.80	\$72,000	5.0	\$85,000	\$129,000	\$286,000	\$2,612,500	10.9%	
Outland	2.00	\$120,000	1.5	\$30,000	\$110,000	\$260,000	\$1,390,000	18.7%	
Paradise East	1.50	\$27,000	7.5	\$127,500	\$50,000	\$204,500	\$1,886,625	10.8%	
Ridge 77	1.00	\$22,400	2.0	\$34,000	\$29,200	\$85,600	\$2,002,500	4.3%	
Total:						\$1,171,100	\$10,411,625	11.25%	

Alternate Operations

Alderberry	0.7	\$20,000	3.5	\$76,500	\$0	\$96,500	\$505,000	19.1%	
California Elk	2.00	\$100,000	3.0	\$60,000	\$255,000	\$415,000	\$3,205,000	12.9%	
Courtside	0.0	\$0	1.0	\$24,000	\$106,500	\$130,500	\$605,000	21.6%	
Fosters 40	1.70	\$52,600	2.0	\$34,000	\$172,500	\$259,100	\$2,422,500	10.7%	
Greasy Alder	0.8	\$50,000	0.0	\$0	\$0	\$50,000	\$635,000	7.9%	
Haggis Hunt	0.00	\$0	2.0	\$32,000	\$0	\$32,000	\$450,000	7.1%	
Ice Box Thinning	2.5	\$100,000	0.0	\$0	\$135,000	\$235,000	\$940,000	25.0%	
Ivy league Thin	0.0	\$0	2.0	\$50,000	\$0	\$50,000	\$325,000	15.4%	
Lions Lair	1.0	\$29,000	0.0	\$0	\$42,000	\$71,000	\$860,000	8.3%	
Modified Green	1.8	\$75,000	2.0	\$40,000	\$90,000	\$205,000	\$1,780,000	11.5%	
Mombo Combo	1.50	\$106,000	4.5	\$54,000	\$90,000	\$250,000	\$2,235,000	11.2%	
Mulak Thin	0.2	\$6,000	0.0	\$0	\$0	\$6,000	\$132,500	4.5%	
Puma Punch	0.5	\$20,000	1.0	\$15,000	\$0	\$35,000	\$1,150,000	3.0%	
Sprague's Stump	3.1	\$113,000	1.1	\$18,700	\$150,000	\$281,700	\$3,110,000	9.1%	
Summit Conbo	0.7	\$28,000	1.8	\$30,600	\$0	\$58,600	\$887,500	6.6%	
Wallhanger	3.0	\$133,000	3.0	\$15,000	\$48,000	\$232,000	\$1,170,000	19.8%	
White Noise	2.0	\$100,000	3.0	\$42,000	\$40,000	\$182,000	\$1,050,000	17.3%	
Winslow	1.3	\$41,000	3.1	\$52,700	\$54,000	\$147,700	\$2,337,500	6.3%	
Total:						\$2,737,100	\$23,800,000	11.50%	

Road Projects Not Associated with Commercial Forest Management Operations

						\$0		
						\$0		
						\$0		

Table A4: REFORESTATION AND YOUNG STAND MANAGEMENT REPORT

District: Astoria

Fiscal Year: 2009

Date: 06/18/2008

Management Activity	Board of Forestry			Common School Forest Lands			District	
	Acres Planned ³	Average Cost*/Acre	BOF Cost	Acres Planned	Average Cost*/Acre	CSL Cost	Total Acres	Total Cost
Initial Planting	1,689	\$249.30	\$421,067.70			\$0.00	1,689	\$421,067.70
Interplanting	0	\$137.08	\$0.00			\$0.00	0	\$0.00
Underplanting			\$0.00			\$0.00	0	\$0.00
Tree Protection-Barriers ¹	1,444	\$37.09	\$53,557.96			\$0.00	1,444	\$53,557.96
Tree Protection-Direct Control ²	1,100	\$83.66	\$92,026.00			\$0.00	1,100	\$92,026.00
Site Prep-Chemical- Aerial	299	\$85.55	\$25,579.45			\$0.00	299	\$25,579.45
Site Prep-Chemical- Hand	289	\$192.54	\$55,644.06			\$0.00	289	\$55,644.06
Site Prep -Slash Burning	194	\$31.44	\$6,099.36			\$0.00	194	\$6,099.36
Site Prep -Mechanical	194	\$182.94	\$35,490.36			\$0.00	194	\$35,490.36
Fertilization**	0	\$160.00	\$0.00			\$0.00	0	\$0.00
Noxious weeds	0	\$84.50	\$0.00			\$0.00	0	\$0.00
Release-Chemical- Aerial	0	\$37.45	\$0.00			\$0.00	0	\$0.00
Release,-Chemical-Hand	0	\$139.61	\$0.00			\$0.00	0	\$0.00
Release-Mechanical-Hand	505	\$50.83	\$25,669.15			\$0.00	505	\$25,669.15
Precommercial Thinning	0	\$95.70	\$0.00			\$0.00	0	\$0.00
Pruning	0	\$0.00	\$0.00			\$0.00	0	\$0.00
Other - Roadside Vegetation Control	0	\$84.12	\$0.00			\$0.00	0	\$0.00
Totals	5,714		\$715,134.04			\$0.00	5,714	\$715,134.04

*Planting costs include all costs including seedlings.

** This project in contingent on funding availability.

¹ Barriers for this AOP include tubing and bud capping.

²Direct Control for this AOP consists of Mountain Beaver trapping.

³Due to budget reductions some of the planned management activities listed will be conducted by South Fork Inmate crews in order to reduce costs.

Table A-5: RECREATION PROJECT MANAGEMENT SUMMARY

District: ASTORIA

Fiscal Year: 2009

Date: 06/16/2008

Operation	Unit of Measure	Current	Construction/Project Design	Construction/Project Design Cost (Funding)* ODF	Improvement Projects	Improvement Cost (Funding)* ODF	Facility Maintenance	Facility Maintenance (Funding)* ODF	Other	Total Cost	Comments
Facilities											
Campsites	Sites	59					3	\$25,500		\$25,500	Facility Maintenance of H.R. Spruce Run, Gnat Creek, Northrup Creek, and Dispersed Sites.
Day Use Areas		4	1				4	\$4,500		\$4,500	Facility Maintenance of H.R. Spruce Run, Gnat Creek, Northrup Creek.
Trailheads		5					5	\$1,250		\$1,250	Facility Maintenance of Gnat Creek, Bloom Lake, Soapstone Lake, and Northrup Creek and H.R. Spruce Run.
Interpretive Sites		1					1	\$2,500		\$2,500	Facility aintenance for the Demo Forest and C.J. Reed Arboretum.
Miscellaneous							1	\$8,000		\$8,000	Garbage cleanup for district, sign maintenance.
Trails											
Non-Motorized	Miles	18.0						\$10,000		\$10,000	Trail maintenance.
Motorized	Miles	0.0								\$0	
Contracts											

Total: **\$51,750**

* There is no anticipated grant funding in FY2009.

Table A-6: SALMON ANCHOR HABITAT HARVEST SUMMARY

District: Astoria

Fiscal Year: 2009

Date: June-08

SAH Basin Name	Total Acres in Basin	Total Harvest (Partial Cut & Regeneration)				Regeneration			
		Allowable Precent ¹	Allowable Acres	Acres in AOP 09	Acres to Date ²	Allowable Precent ¹	Allowable Acres	Acres in AOP 09	Acres to Date ²
Buster Creek	10,885	25%	2,721	0	2,143	5%	544	0	206
Fishhawk Lake Creek	5,984	100%	5,984	0	1,893	7%	419	0	227
Upper North Fork Nehalem	9,920	100%	9,920	0	515	7%	694	0	176
Upper Rock Creek	3,502	100%	3,502	0	1,336	7%	245	0	172
Coal Creek	175	30%	52.5	0	0	25%	43.75	0	0

1. These columns list the regeneration and partial cut limits identified in the Salmon Anchor Habitat Strategy; not all basins have limits identified for partial cuts.

2. These columns summarize the operations planned and conducted during the period beginning July 1, 2001. This period includes the 2002 through 2009 Fiscal Years.

Only includes acres for Primary Operations . Alternate Operations are not included.