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# ASTORIA DISTRICT

## 2007 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 (March, 2003), Astoria District Recreation Plan (October, 2000), Northwest Oregon State Forests Management Plan, and portions of the (Draft) Western Oregon Habitat Conservation Plan. It covers the time period from July 1, 2006, through June 30, 2007.

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 FY07 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 FY07. 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 FY07 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 2007 harvest levels<sup>1</sup>, the district has included 61.4 MMBF of timber harvest in this Annual Operations Plan (Table A-1). This harvest level is consistent with the district's intensive review<sup>2</sup> of the outputs from the Department's recently completed Harvest and Habitat Model Project. The district is transitioning to the mix of clearcut and partial cut acres identified in its review of the model outputs. However, the acre mix identified during the model review could not be fully implemented in this plan because of operational considerations, such as the completion of surveys for threatened and endangered species.

<sup>1</sup> *Establishing harvest levels in FY07 on State Forests covered by the NW and SW Oregon State Forest Management Plan*

<sup>2</sup> *Astoria District Model Solution Review Report* of the "Forest Management Plan with Habitat Conservation Plan" Alternative

In order to retain flexibility to respond to policy changes by the Board of Forestry or State Forester that may influence management direction on state forestlands and directly or indirectly influence harvest levels during the FY07 fiscal year, the district has included additional Alternate Operations in this operations plan. The four Alternate Operations also provide additional harvest options if unforeseen market, or operational circumstances occur.

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, March 2003 (Table A-1). All values are acres.

Silvicultural Activity	IP Annual Objective		2007 AOP Objective
	Low	High	
Conifer Partial Cut	2,100	3,200	2,102
Conifer Clearcut	400	800 <sup>1</sup>	624
Hardwood Partial Cut	0	200	0
Hardwood Clearcut	0	500	313
Rehabilitation	0	0	0
Reforestation (Initial Planting)	600	1,700	730
Precommercial Thinning	400	1,300	1,300
Fertilization	0	0	0
Pruning	200	700	0

<sup>1</sup> The annual harvest range for clearcuts in Chapter 2, Table A-1, Annual Objectives/Estimates, page 81 of the IP was modified on February 20, 2004, for Conifer Clearcut Harvest from 400-600 acres to 400-800 acres.

# 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 Astoria District's 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 2.2% of the district's total acres. Of this 2.2%, 1.5% is planned for partial cut harvest and 0.7% regeneration harvest." Harvest activities in this AOP are partial cutting (69%) and regeneration harvesting (31%). 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](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.

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 FY07 Astoria District operations plan emphasizes thinning of UDS stands. Currently these stands have canopy openings allowing light to foster the growth of understory herb and shrub layers. Significant tree crowns have not yet developed in the UDS stands, thus thinning will allow continued understory growth as well as crown development.

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.

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

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:** 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 937 acres of regeneration harvest planned for FY07 represents 0.7% of the district. During FY07, approximately 1,273 acres will grow out of the Regeneration (REG) stand type, resulting in a slight decrease 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 FY07 timber sales prior to auctioning but is no longer required. To prevent a potentially complex stand from being clearcut, a simplified version of SLI will be employed; collecting enough data to ensure the stand is not in a “complex” stand condition (LYR or OFS). 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 FY07 operations plan is estimated to generate gross revenues of approximately \$19,656,350 and net revenues of \$18,018,850 (see Appendix A). It is estimated that active management will result in producing approximately 57.3 million board feet of conifer volume, 4.1 million board feet of hardwood volume, for a total of 61.4 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.

<b>Stand Structure</b>	<b>REG</b>	<b>CSC</b>	<b>UDS</b>	<b>LYR</b>	<b>OFS</b>	<b>GEN<sup>1</sup></b>
<b>Current</b>	<b>10</b>	<b>1,144</b>	<b>1,848</b>	<b>37</b>	<b>0</b>	
<b>Post Harvest<sup>2</sup></b>	<b>937</b>	<b>28</b>	<b>1,057</b>	<b>991</b>	<b>26</b>	
<b>Desired Future</b>				<b>469</b>	<b>723</b>	<b>1,847</b>

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 are completed.

## Summary of Operations by Basin

In the following section, the commercial forest management operations planned for FY07 will be summarized in the context of the 17 management basins on the Astoria District. ODF and ODFW resource specialists reviewed the FY07 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.

Basin	2007 AOP <sup>1</sup>		Cumulative Operations <sup>2</sup> (FY 02—07)	
	Partial Cut	Clearcut	Partial Cut	Clearcut
Astoria	121	90	1,267	175
Beneke	462	261	1,213	706
Buster	338	82	2,369	585
Crawford	0	0	177	0
Davis	0	0	139	315
Fishhawk	319	166	2,007	189
Gnat	52	76	1,747	662
Hamilton	0	0	238	296
Klaskanine	0	0	554	256
Lousignot	277	22	623	88
North Fork Nehalem	72	70	559	373
Northrup	31	0	1,633	454
Plympton	0	0	2,042	256
Quartz	287	99	1,964	591
Sager	0	0	1,308	143
Scattered	143	71	326	268
Sweethome	0	0	290	487

1. Does not include alternate sales.

2. 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**

Operations will reduce CSC stands by approximately 4%; increase UDS by 2%; and increase REG by 2% within this basin.

Jackpipe: This operation is comprised of three modified clearcut units totaling 90 acres, and two partial cut units totaling 121 acres. The modified clearcut areas are of CSC and UDS structure primarily containing western hemlock and western red cedar. These areas

will be replanted with a mix of conifers. The partial cut areas are Douglas-fir and western hemlock stands and are categorized as CSC and UDS. The Desired Future Condition (DFC) is general for the modified clearcuts and LYR for the partial cuts.

## **BENEKE BASIN**

Operations will reduce CSC stands by approximately 2%; increase UDS by 1%; increase LYR by 3%; and increase REG by 3% within this basin.

Loose Goose: This operation is comprised of three modified clearcut units totaling 261 acres, and three partial cut units totaling 462 acres. The modified clearcut areas (Areas 2, 3, & 6) are in CSC and UDS stands containing Douglas-fir mixed with western hemlock and western red cedar with scattered clumps and stringers of red alder. These areas will be replanted with a mix of conifers. The partial cut areas are primarily Douglas-fir and western hemlock with some scattered red alder categorized as CSC and UDS. The DFC is general for the modified clearcuts and 74% general and 26% OFS for the partial cuts.

## **BUSTER BASIN**

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

Grasslands Thinning: This operation is comprised of two partial cut units totaling 338 acres. These two areas are categorized as 54% CSC and 46% UDS and consist of Douglas-fir. Little understory exists due to the closed canopy condition. The DFC of both these areas is OFS. A portion of Area 1 is within the Strum Creek NSO home range and both areas are within the Buster Salmon Anchor Habitat Area.<sup>1</sup>

Sweeping Corners: This operation is comprised of two modified clearcut units, totaling 82 acres. These two areas are categorized as 72% CSC and 28% UDS, consisting of Douglas-fir and red alder. The DFC for both units is general. This operation is not in the Buster Creek Salmon Anchor Habitat Area.

Rapid Stanley (alternate operation): This operation is comprised of five partial cut units totaling 457 acres. These five areas are categorized as CSC with minor portions (22%) of UDS. Primary species consist of Douglas-fir, western hemlock with some scattered clumps and stringers of red alder. The DFC for Areas 1 and 2 is OFS, and LYR for the remaining areas. Portions of Areas 1 and 2 fall within the Strum Creek Northern Spotted Owl home range and all areas are within the Buster Salmon Anchor Habitat Area.<sup>2</sup>

<sup>1</sup>Currently, Area 1 is 90% CSC and 10% UDS, with a stand density between 25 and 63. Thinning of these stands is being done in order to keep them on a pathway toward OFS, ensuring that they will become suitable NSO habitat. This objective is aligned with the draft HCP cluster goal of “thinning in young plantations of non-suitable habitat (20-40 year old stands)” and “thinning in CSC and UDS stands for which structural development could be enhanced and accelerated through stand density management.” These will both be done in an effort to accelerate the development of suitable

habitat to “enhance the viability of all spotted owl sites within the cluster.” This sale, in combination with others, will not exceed harvest of 8% of the cluster acres within the current IP period.

<sup>2</sup> Areas 1 and 2 are young CSC stands 31-35 years old that will be thinned to keep them on a pathway toward OFS. This objective is aligned with the draft HCP cluster goal of “thinning in young plantations of non-suitable habitat (20-40 year old stands)” and “thinning in CSC and UDS stands for which structural development could be enhanced and accelerated through stand density management.” These will both be done in an effort to accelerate the development of suitable habitat to “enhance the viability of all spotted owl sites within the cluster.” This sale, in combination with others, will not exceed harvest of 8% of the cluster acres within the current IP period.

## **CRAWFORD BASIN**

There is no harvest planned in this basin for FY07.

## **DAVIS BASIN**

There is no harvest planned in this basin for FY07.

## **FISHHAWK BASIN**

Operations will reduce UDS stands by less than 1%; decrease UDS by 9%; increase LYR by 6% and increase REG by 3%.

Porter Horse: (57 acres of Area 1 is located in the Plympton Basin) This operation is comprised of four modified clearcut units totaling 166 acres and five partial cut units, totaling 319 acres. The modified clearcut areas (Areas 3, 5, 7 & 8) are in UDS containing primarily Douglas-fir and western hemlock, with some true firs and western red cedars mixed throughout. Stringers of alders are along many of the draws. The DFC for the modified clearcut units is general and OFS or LYR for the partial cut units. This operation is totally within the Fishhawk Lake Creek Salmon Anchor Habitat Area.

## **GNAT BASIN**

Operations will reduce CSC stands by less than 1%; increase UDS by less than 1%; increase LYR by less than 1%; and increase REG by 2% within this basin.

Larkin: This operation is comprised of two modified clearcut units totaling 76 acres, and one partial cut unit containing 52 acres. The modified clearcut units are categorized as UDS and are composed primarily of western hemlock and Douglas-fir. These stands have a DFC of general. The partial cut unit is composed primarily of well stocked western hemlock and Douglas-fir, and has UDS structure. The DFC of this unit is LYR.

## **HAMILTON BASIN**

The only harvest planned in this basin for FY07 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 operation planned in this basin for FY07 is an alternate.

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 CSC stands by 5%; increase UDS by 3%; increase LYR by 6% and increase REG by 3% within this basin.

Cow Hollow Areas 1-4: (Area 5 of this operation is in the Northrup Basin). Areas 1-4 are comprised of three partial cut units (Areas 1, 3 & 4) totaling 277 acres, and one 22 acre modified clearcut unit (Area 2). Partial cut Area 1 is a Douglas-fir stand with current conditions of CSC and LYR. This stand will be thinned to increase understory development (UDS) in some portions of the stand, while others will be partial cut to maintain the LYR condition. DFC of this area is general. Area 3 is composed of Douglas-fir, currently containing UDS stand structure and will be partial cut to promote the LYR post harvest stand conditions, eventually moving toward its DFC of OFS. Area 4 is comprised of primarily Douglas-fir stands currently classified as CSC and UDS. This area will be partial cut to promote moving the stand towards its DFC of LYR. Modified clearcut Area 2 is a dense, overstocked stand composed of Douglas-fir and red alder. This area is currently classified as CSC and has a DFC of general.

## **NORTH FORK NEHALEM BASIN**

Operations will reduce UDS by 2%; increase LYR by less than 1%; increase OFS by less than 1% and increase REG by less than 1% within this basin.

Hamlet: This operation is comprised of three modified clearcut units (Areas 1, 3, & 6) totaling 70 acres, and three partial cut units (Areas 2, 4, & 5) totaling 72 acres. The modified clearcut areas are composed of Douglas-fir stands with scattered spruce, western hemlock and red alder currently classified as CSC, with a DFC of general. The partial cut units are composed primarily of Douglas-fir and other conifers, with a current stand condition of UDS. Area 5 (28 acres) has a DFC of LYR, while the other two partial cut units have a DFC of general.

## **NORTHRUP BASIN**

Operations will reduce CSC by less than 1%; increase LYR by less than 1%; and increase UDS by less than 1%.

Cow Hollow Area 5: (Areas 1-4 of this operation are within the Lousignot Basin). Area 5 consists of a 31 acre "group selection" partial cut unit comprised of Douglas-fir and red alder. The current condition of the stands is 32% UDS and 68% CSC. Three patch cuts, less than five acres each, will be installed throughout the area to promote understory species and to increase layering within the stand. The DFC of Area 5 is LYR.

## **PLYMPTON BASIN**

There is no harvest operations planned in this basin for FY07.

## **QUARTZ BASIN**

Operations will reduce CSC by 3%; increase UDS by 4.5% and increase REG by 2%.

Ironman: This operation is comprised of two modified clearcut units totaling 99 acres (Areas 2 & 3) and one partial cut unit totaling 287 acres. The partial cut area is categorized as CSC and UDS with Douglas-fir and western hemlock as the primary species. The modified clearcut units are categorized as CSC and UDS and also consist of Douglas-fir and western hemlock. The DFC for all areas is general.

## **SAGER BASIN**

The only harvest planned in this basin for FY07 is an alternate operation.

Paradise East (alternate operation): This operation is comprised of six partial cut units totaling 368 acres. These 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.

### **SCATTERED BASIN**

Operations will reduce CSC by 4%; increase UDS by 2% and increase REG by 1%.

Norrison Combination: This operation consists of three modified clearcuts (Areas 2, 3 & 5) totaling 71 acres and two partial cut units totaling 143 acres. The modified clearcut areas consist of CSC stands with western hemlock, spruce and portions of western red cedar. Areas 2, 3, and 5 have a DFC of general. The partial cut areas (Areas 1 & 4) also have a current condition of CSC. These stands will be thinned moderately to open the canopy promoting understory growth. The DFC for Area 1 is general and for Area 4 is 74% general and 26% LYR.

### **SWEETHOME BASIN**

There is no harvest planned in the basin for FY07.

## **Forest Roads Management**

### **Overview**

Land surveying and a variety of forest road and transportation system management 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

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 <sup>1</sup>	AOP	IP <sup>1</sup>	AOP	IP <sup>1</sup>
Road Construction	0	0.9-1.2	4.2	6.2-8.1	11.8	10.7-13.9
Road Improvement	3	9.6-15.8	24.9	7.2-11.9	5.9	7.2-11.9
Road Closure/Vacation	0	0.2-0.6	0	0.7-1.9	5.35	1.3-3.8
Road Maintenance - District <sup>2</sup>	5.5		33		16.5	
Road Maintenance - Active Operations <sup>3</sup>	24.6		48.5		15.9	

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.

2. The road maintenance estimates include only the work to be completed during Fiscal Year 2007 by the district road crew or service contract. Estimates of road maintenance were not made in the Implementation Plan.

3. This is a broad estimate of the road maintenance that may be accomplished during the fiscal year, through active commercial operations. The exact amount can not be predicted at this time.

## Road Construction

4.2 miles of Collector and 11.80 miles of Spur roads will be constructed with planned timber sale projects or other projects during the 2007 AOP. Collector type roads will be surfaced with hard rock to facilitate all weather hauling. Of the 11.80 miles of Spur roads identified in this plan, approximately 37% or 4.35 miles of native earth (dirt) roads will be constructed and closed or vacated upon completion of road use. In addition, approximately one mile of old legacy roads will be vacated with the Norriston Combination timber sale.

Therefore, this Operations Plan will increase the amount of active roads by an estimated 10.65 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 3.0 miles of Mainline, 24.9 miles of Collector, and 5.9 miles of Spur roads are identified for improvement with planned operations. This plan includes special projects, such as:

- Cow Hollow: Realignment of a curve on the Greasy Spoon Road.
- Ironman: Evaluation of two (2) stream crossings on Spruce Run Road for upgrade to fish passable structures.

- Larkin: Upgrade stream crossing on the Larkin-Green Road to a fish passable structure.

### **Road Access Management**

With this plan, approximately 5.35 miles of roads are identified for closure and/or permanent vacating with these operations, as follows:

- Grasslands Thinning: Planned road closures include approximately 1.5 miles of dirt road constructed for timber sale access.
- Jackpipe: Planned road closures include approximately 0.25 miles of dirt roads constructed for timber sale access.
- Larkin: Planned road closures include approximately 0.5 miles of dirt roads constructed for timber sale access.
- Loose Goose: Planned road closures include approximately 0.4 miles of dirt roads constructed for timber sale access.
- Norrifton Combination: Planned road closures include approximately 0.5 miles of dirt roads constructed for timber sale access and one mile of existing, old “legacy” roads and the old stream crossings. These will be evaluated for removal during sale layout.
- Porterhorse: Planned road closures include approximately 0.5 miles of dirt roads constructed for timber sale access and two miles of old railroad grades. These railroad grades have numerous fills located in fairly steep headwalls, which will be evaluated for removal during sale layout.
- Sweeping Corners: Planned road closures include approximately 0.7 miles of dirt roads constructed for timber sale access.

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

District Road Crew: The district road crew plans on evaluating and/or vacating three fills, (Larkin Green, Grasslands, and Fertile Valley).

### **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:

- Loose Goose
- Porterhorse

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

- ODF Funded: Testing of existing rock sources located throughout the district as specific needs arise.

## **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 89 miles of active road maintenance (associated with hauling operations and road use) is planned for under timber sale contracts.
- Cow Hollow: 25 miles of mechanical road brushing is planned.
- Jackpipe: 10 miles of mechanical road brushing is planned.
- Porterhorse: 25 miles of mechanical road brushing is planned.

District Road Crew: The district road crew will perform routine road maintenance activities on approximately 55 miles of inactive and active forest roads located throughout the district.

## **Land Surveying**

To accomplish the proposed operations, the following property line activities will need to be completed through a contract surveyor:

- Validate, rewitness, or restore approximately 30 survey monuments.
- Traverse, blaze, and post approximately 6.25 miles of property line.

## Young Stand Management

The young stand management program requires the application of various silviculture treatments intended to create diverse management options for future stand and forest development while accomplishing the objectives of the State Forest Management Plan. These applications include site preparation, planting, inter planting, under planting, rehabilitation, vegetation management, tree protection, precommercial thinning and pruning. To meet the objectives of the Forest Management Plan and the desired future condition, specific prescriptions of the above applications must be developed for each set of stands and environmental conditions.

Forest health strategies within this program focus on a diversity of tree species composition 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 both 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 2007.

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

### **Rehabilitation**

There are currently no areas needing rehabilitation on the district at this time. Therefore, none is scheduled for FY 2007.

### **Site Preparation**

These activities prepare the planting sites, not necessarily entire operation units, so new conifer stands can be established that meet stocking guidelines and are comprised of mainly two site specific prescriptions: (1) herbicides applied by helicopter or by ground methods target species that will aggressively compete with the newly planted trees in an effort to give the planted trees room to grow (255 acres in Beneke Basin, 70 acres in Klatskanine Basin, 21 acres in North Fork Nehalem Basin, and 24 acres in Northrup Basin, 86 acres in Quartz Basin for a total of 456 acres); (2) dense slash concentrations, occupying too many planting spots, are mechanically piled and some piles are burned in the late fall (40 acres in Beneke Basin, 18 acres in Buster Basin, 74 acres in Gnat Basin, 15 acres in Klatskanine basin, 15 acres in Plympton Basin, 12 acres in Sweethome Basin and 50 acres in Scattered tracts for a total of 224 acres).

Some of the units requiring additional site preparation are holdover units that require extra time to successfully complete the preparation for planting. Site specific prescriptions consider target species, Swiss Needle Cast risk, *Phellinus weirii* (laminated root rot) presence, protection of water quality, required stocking guidelines, ensure "large woody debris" guidelines are met, natural advanced regeneration, and the desired future condition of the stand.

### **Planting**

This activity is comprised of matching the appropriate species and stock type to the planting site. Forest health strategies are addressed when the planting operation plan is developed on a site-specific basis.

The planting plan anticipates 730 acres of initial planting in regeneration harvest units (215 acres in Beneke Basin, 40 acres in Buster Basin, 251 acres in Klatskanine Basin, 26 acres in Northrup Basin, 53 acres in Northfork Basin, 59 acres in Plympton Basin and 86

acres in Quartz Basin). Some initial planting units are holdover units from previous years. Units may be holdovers from the previous year if harvesting was completed too late in the season, and/or harvesting was completed after the seedling sowing plans were submitted. In the initial planting portion of the district's planting plan the following species mix will be planted: 22% western hemlock, 64% Douglas-fir, 10% western red cedar, 1% grand fir, 2% Sitka spruce and 1% red alder.

In addition, 95 acres of inter-planting plantation stands is anticipated to meet stocking standards for existing young stands. The exact units needing inter-planting will not be identified until the fall of 2006, when stocking surveys are complete. Some stands, over time drop below acceptable stocking standards due to tree mortality caused by environmental conditions and/or impacts from animal damage. In the inter-planting portion of the planting plan the following species will be planted: 35% western hemlock, and 65% Douglas-fir.

Also, 84 acres will be under-planted. The exact units needing under-planting will not be identified until the current planting season is complete, in the spring of 2006. These are older partial cut areas, where planting trees under the established overstory of residual trees promotes the rapid development of an understory of conifer trees. These are the stands designated to be on a pathway to complex structure. The underplanting areas will be scheduled to be planted with western hemlock and/or western red cedar. The desired future conditions of these areas are on a pathway to "complex" structure.

Stocking densities are site specific and natural regeneration is considered when establishing a new stand in the western hemlock zone. Establishing a mixture of species, provides for healthier, more productive, and a more sustainable forest ecosystem over time. This strategy provides for diverse habitats for wildlife. The newly established stands will provide for a full range of social, economic, and environmental benefits for future generations.

### **Vegetation Management**

These activities are comprised of 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 potential and protect the economic investment that has already been directed to these stands. In young stand management, the plan includes 441 acres of manual release in conifer plantations (119 acres in Buster Basin, 22 acres in Fishhawk Basin, 46 acres in Hamilton Basin, 40 acres in Klatskanine Basin, 7 acres in North Fork Basin, 14 acres in Plympton Basin, 100 acres in Quartz Basin, and 93 acres in Sweethome Basin. Additionally, we are planning 70 acres of aerial herbicide application (from the early foliar release), which includes 30 acres in Buster Basin and 40 acres in North Fork Nehalem Basin. The late foliar aerial herbicide application has not been identified on the ground yet, but is estimated that 100 acres will be treated, and 796 acres of ground application of herbicides (293 acres in Beneke Basin, 266 acres in Buster Basin, 8 acres in Davis

Basin, 44 acres in Fishhawk Basin, 57 acres in Gnat Basin, 5 acres in Hamilton Basin, 30 acres in Klatskanine Basin, 28 acres in Louisignout Basin, 31 acres in North Fork Basin, and 34 acres in Quartz Basin).

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. This AOP will complete 650 acres (325 miles) of roadside herbicide treatment (planned for Astoria Basin, Davis Basin, Gnat Basin, Plympton Basin, Fishhawk Basin, Lousignot Basin and Northrup Basin), and 60 miles of mechanical roadside brushing (planned for active and inactive roads throughout the district).

### **Tree Protection**

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

The district plans to tube western red cedar trees on 22 acres, bud cap Douglas-fir trees on 1,315 acres and trap mountain beavers on 692 acres.

### **Precommercial Thinning (density management)**

This activity is composed of providing density management to stands when high stand densities first develop, generally from 7 to 18 years of age. The practice of density management allows for increased individual tree growth for many years until significant competition between trees develops again, 15 to 20 years later. This practice accelerates the development of the stand towards its silvicultural pathway for the desired future condition. These density management techniques are applied to the range of tree species across the forest, including hardwoods. Generally, all minor species, such as western red cedar and true firs, are retained.

Western hemlock stands provide unique challenges for density management, as this species generates a prodigious 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 patches developed within planted stands 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.

The district plans to precommercially thin approximately 1,300 acres.

## **Fertilization**

The district plans to complete a cost benefit analysis during FY 2007 for a fertilization project in the Nicolai Mountain area. The results of the analysis will determine if fertilization will be conducted on the Astoria District in the FY 2008 AOP.

## **Pruning**

There are currently no areas planned or identified for pruning. Any planned pruning work to be done will be accomplished by South Fork work crews if available. South Fork work crews perform many various forest management related activities throughout the year, and will complete any planned pruning as time permits with their other priorities.

## 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.

As of December 2005, a revision of the Astoria District Recreation Management Plan is being considered to determine if goals, objectives, and opportunities should be revised to reflect changing conditions and new information obtained since the plan was finalized.

The current recreation plan proposes to manage 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 is implemented, goals in the recreation plan will be realized and offer more diverse and user specific activities on the forest.

The Astoria District recreation program is composed of a Support Unit Forester, Recreation Coordinator, County Deputy Sheriff, two permanent and one temporary 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 2007 will require the continued efforts of South Fork.

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

### **New Facilities Development/Construction**

The following sites are identified for development through the FY 2007 AOP.

#### **Campgrounds**

##### Lost Lake Campground

There will be continued development of site specific construction drawings for facility improvements at Lost Lake, and the District will work to obtain required development permits through contractor services.

#### **Trails (non-motorized)**

##### Northrup Creek Trail

The District will explore and implement opportunities for minor trail improvements and connections to existing equestrian trails. This would create continuity within the trail system and minimize the amount of vehicle traffic conflict on roads that are currently needed to connect trails in the area. A bridge will be constructed over Cow Creek as part of the Northrup Creek equestrian trail system to improve the safety of equestrian users when crossing the stream.

##### Gnat Creek Trail

Continuing work from the FY 2006 AOP, 1.5 miles of trail toward the lower Gnat Creek Falls will be continued. Completion of this project is dependent upon obtaining volunteer efforts or contract services.

##### Quartz Basin Trail

Recreation Staff will oversee construction of approximately one mile of trail completing the section of trail between Henry Rierson Spruce Run Campground and Spruce Run Lake. This is a continuation of approximately one mile of trail already constructed.

## **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 four dispersed sites, one interpretive site, and five designated trailheads.

- Gnat Creek Campground
- Henry Rierson Spruce Run Campground
- Northrup Creek Horse Camp
- Lower Nehalem Dispersed Sites
- Demonstration Forest Interpretive Site
- Gnat Creek Trailhead
- Bloom Lake Trailhead
- Soapstone Lake Trailhead
- Northrup Creek Equestrian Trailhead
- Demonstration Forest Trailhead
- Lost Lake (dispersed recreation area)

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 13 miles of designated non-motorized trails on the district.

Trail maintenance (non-motorized)

- Gnat Creek Trail – Two miles
- Bloom Lake Trail – Two miles
- Soapstone Lake Trail – Two miles
- Demonstration Forest Trail – Two miles

- Northrup Equestrian Trails – Five 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**

#### Forest Interpretation

Coordination with the NW Oregon Area Interpretation Staff will continue with installation of forest wide interpretive panels located at Gnat Creek Campground, Henry Rierson Spruce Run Campground, Sunset Rest Area, Northrup Creek Campground, and the Astoria District Headquarters to inform and educate users about recreation opportunities, management of the forest, cultural and natural history, etc.

#### Volunteer Efforts

In 2005 the Clatsop State Forest had 1,795 hours of volunteer work consisting of trail volunteers, camp-host programs, and various recreational committee member participants. Volunteerism has increased 43% from last year and is anticipated to increase in the future. The District Recreation Staff will continue to develop a working relationship with local clubs and organizations, and promote volunteerism on the forest.

#### Event Management

In the past, the Clatsop State Forest has not received any requests for event permits. As permits are received, consideration for the event/activity will be processed according to ODF 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 2007.

## Forest Land Management Classification

As required under OAR 629-035-0050, Forest Land Management Classifications (FLMCS), and for the purposes of implementing the FMP's forest resource management strategies, all forest lands have been classified within the planning area to describe the types of management that a District will apply to particular areas of the land base, the appropriate range of management activities for these areas and the forest resource or resources the classifications are intended to address. The system identifies when a particular forest resource may need a more focused approach, or possibly an exclusive priority, in management. State Forest Lands are classified into one of three classifications: General Stewardship, Focused Stewardship, or Special Stewardship. Descriptions and methods of the classifications are found in the Forest Management Plan beginning on page 2-56.

Focused and Special Stewardship classifications are further classified into subclasses based upon the existence of forest resources that require some level of supplemental planning and/or modified management practices to help achieve identified goals. Several subclasses may be assigned to a parcel of land. Where this occurs, the resource requiring the highest level of protection will determine the management approach. A complete list and specific definitions of the subclasses can be found in OAR 629-035-0055.

Total acreage for each classification and subclass can be found in the District IP on page 5.

The acreage and boundary lines shown on maps for forest land management classifications are approximate. The information will be updated through watershed assessments, planning for site-specific management activities or site-specific field visits conducted over time. Management activities will be conducted based upon exact areas and locations as determined on the site and will depend upon the conditions that exist on the site.

## Land Exchange

No land exchanges or acquisitions are planned in FY 2007. However, work will be done this year to update the district land exchange plan.

## 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 Reforestation Unit Forester. Wood cutting permits are issued once the commercial harvesting operations have been completed. Coordination between the timber management units and the

Reforestation Unit Forester is critical to ensure the interest of the timber sale purchaser is protected. Each permit costs ten dollars and is issued for two cords of wood. During the FY 2007, it is estimated that the Astoria District will issue approximately 490 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. These products include mushrooms, seedlings, boughs, salal and moss. Additionally, the public has the ability to gather smaller quantities of these forest products for personal use. 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.

### **Negotiated Sales**

The district also sells a small number of negotiated timber sales when the need arises. These small, negotiated sales may be necessary for recovery of wind thrown trees, or when an adjacent landowner needs to purchase right-of-way timber from the State in the event they have been granted permission to construct an access road across State ownership.

### 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 (SLI) and Other Vegetation Inventories**

The collected SLI data is being used for developing a new inventory which determines stand structure types based on measurable criteria. The accurate determination of stand structure types is an important component of AOP preparation. Additionally, this inventory information is being used as a monitoring tool to determine pre-harvest and post-harvest stand structure types and long term development of stand structures.

The Astoria District plans to complete approximately 220 stands (approx. 19,557 acres) of Stand Level Inventory (SLI) during the AOP period (approximately 15% of the stands in the district). These stands will be inventoried through a statewide contract. This brings the cumulative total to approximately 62% of the stands in the district having updated SLI by the end of FY 2007. The district may complete SLI on additional stands, on an as needed basis. This would usually occur when there is a need for up-to date inventory information for stands not yet having SLI completed.

Stocking surveys will be conducted on young conifer stands to determine stocking levels in the one-year-old and three-year-old stands. Approximately 223 acres of stocking surveys will be conducted on these types of stands in FY 2007.

### **Fish and Wildlife Surveys**

An Oregon Department of Fish and Wildlife (ODFW) contract crew will complete stream surveys to determine fish presence in streams currently unknown. Additionally, ODFW will also complete surveys to quantify stream habitat. With better information on our current stream habitats, we're better able to prioritize stream enhancement opportunities.

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 550 survey stations, 1,650 individual nighttime surveys conducted, and 24 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 50 sites, 196 stations, and 390 surveys.

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

<b>Operation</b>	<b>Species (NSO/MM)</b>	<b>Status</b>
California Elk	NSO	Surveyed in 2004 & 2005 with no detections. Will survey in 2006.
California Elk	MM	Surveyed in 2004 & 2005 with no detections. Will survey in 2006.
Cow Hollow	NSO	Surveyed in 2004 & 2005 with no detections. Will survey in 2006.
Cow Hollow	MM	Portions of Areas 3, 4, & 5 surveyed in 2004, with no detections.
Grasslands Thinning	NSO	Surveyed in 2004 & 2005 with no detections. Will survey in 2006.

Grasslands Thinning	MM	Non-suitable habitat, no surveys needed.
Hamlet	NSO	Surveyed in 2004 & 2005 with no detections. Will survey in 2006.
Hamlet	MM	Surveyed in 2004 & 2005 with no detections.
Ironman	NSO	Surveyed in 2003, 2004 & 2005 with no detections.
Ironman	MM	Non-suitable habitat, no surveys needed.
Jackpipe	NSO	Surveyed in 2005 with no detections. Will survey in 2006.
Jackpipe	MM	Surveyed in 2005 with no detections. Will survey in 2006.
Larkin	NSO	Surveyed in 2004 & 2005 with no detections. Will survey in 2006.
Larkin	MM	Non-suitable habitat, no surveys needed.
Loose Goose	NSO	Surveyed in 2005 with no detections. Will survey in 2006.
Loose Goose	MM	Surveyed in 2005 with no detections. Will survey in 2006.
Norrifton Combination	NSO	Non-suitable habitat, no surveys needed.
Norrifton Combination	MM	Near Hug Point MMMA. Surveyed in 2004 & 2005. Will be surveyed in 2006.
Paradise East	NSO	Surveyed in 2005 with no detections. Will survey in 2006.
Paradise East	MM	Surveyed in 2005 with no detections. Will survey in 2006.
Porter Horse	NSO	Surveyed in 2005 with no detections. Will survey in 2006.
Porter Horse	MM	Non-suitable habitat, no surveys needed.
Rapid Stanley	NSO	Surveyed in 2005 with no detections. Will survey in 2006.
Rapid Stanley	MM	Surveyed in 2005 with no detections. Will survey in 2006.
Silver Spoon	NSO	Surveyed in 2005 with no detections. Will survey in 2006.
Silver Spoon	MM	Non-suitable habitat, no surveys needed.
Summit Combo	NSO	Surveyed in 2004 & 2005 with no detections. Will survey in 2006.
Summit Combo	MM	Surveyed in 2004 & 2005 with no detections. Will survey in 2006.
Summit Stone	NSO	Surveyed in 2005 with no detections. Will survey in 2006.
Summit Stone	MM	Surveyed in 2005 with no detections. Will survey in 2006.
Sweeping Corners	NSO	Surveyed in 2003, 2004 & 2005 with no detections. Will survey in 2006.
Sweeping Corners	MM	Non-suitable habitat, no surveys needed.

## Watershed Assessments

Work is completed on the Upper Nehalem Watershed analysis. The project was done in conjunction with the Astoria and Forest Grove Districts and encompasses approximately 106,000 acres of the Clatsop and Tillamook State Forests, the bulk of which is within Clatsop County. The implementation phase of the project is beginning. The District will use this document to create an action plan to respond to the points brought out in the report. This plan will include projects that will improve areas within the Upper Nehalem Watershed in order to maintain or achieve properly functioning conditions.

ODF is committed to perform watershed analysis on key watersheds on State Forest lands. Watershed analysis will be used to gain insights into the interaction between ecological resources and forest management. This, in turn, will provide information for future Annual Operating Plans and Implementation Plans, as well as potential revisions to Forest Management Plans.

The district is continuing to work with ODFW to assimilate all the stream habitat information that has been gathered over the past couple of years (through separate annual contracts with ODFW), and provide an evaluation of the local watersheds (not an assessment). It is anticipated that this would contribute to completing watershed analyses throughout the state forestlands in the IP period.

### **Research and Monitoring**

The district is an active participant with Oregon State University's investigation of the creation and maintenance of gaps or small openings in young Douglas-fir plantations. The gaps will be created by cutting all planted or naturally regenerated dominant conifer trees within the gap. This long-term study will measure the effects gaps have on wildlife habitat, including their usage by songbirds, bats, and small mammals. The study will also evaluate the gap's effects on wood volume, wood quality, and changes in understory vegetation over time.

The study will create 39 gaps which will range in size from .06 to .24 acres. The gaps will be located in three Douglas-fir plantations, all of which are less than ten years of age. The study sites will be located in the Quartz and Sager basins.

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 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. Staff also participates in the Clatsop County Recreation Lands Task Force and the City of Astoria Trail Planning Committee.

## 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.

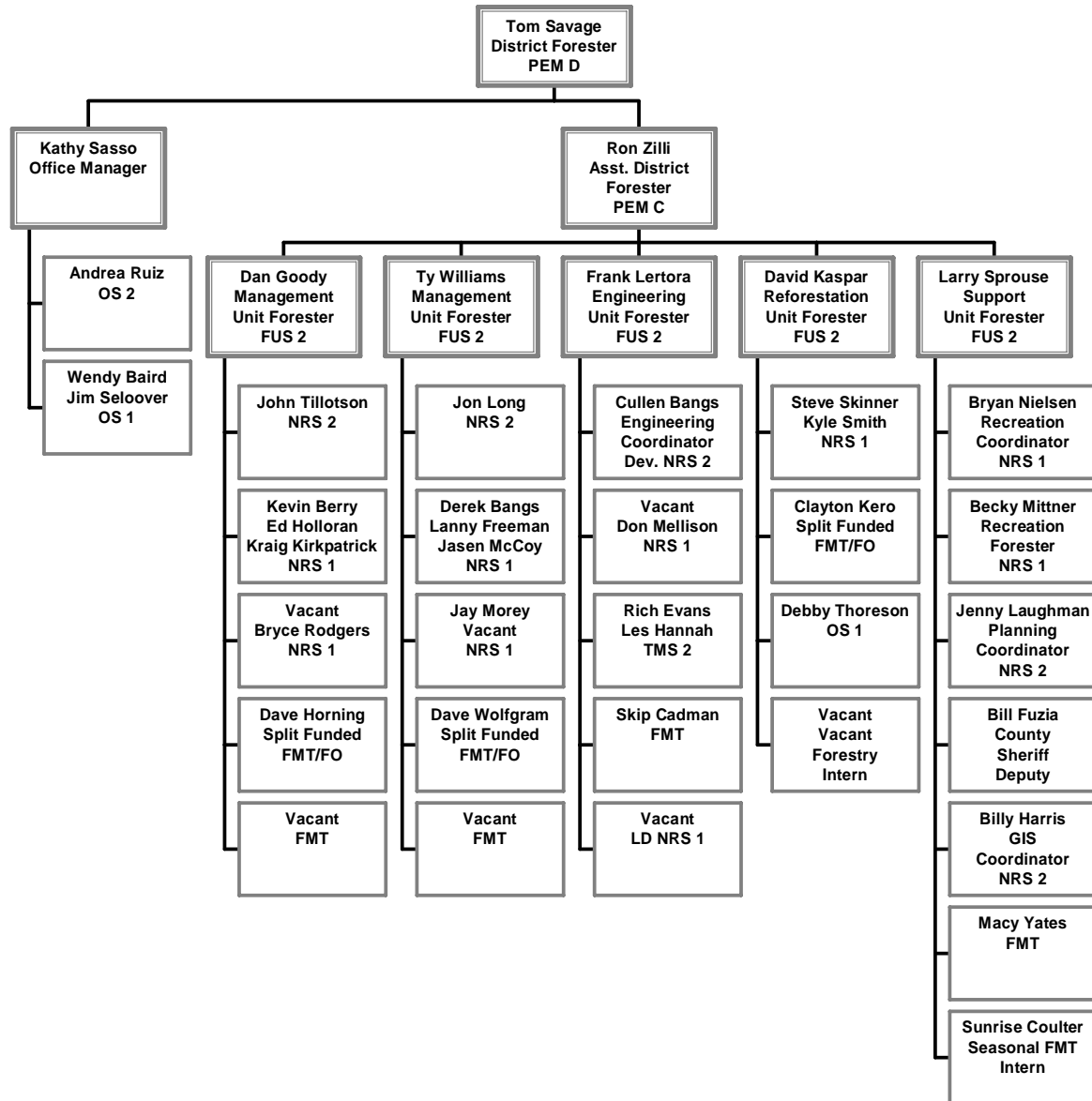
The **Engineering Unit** is responsible for the road and project engineering support, establishment and maintenance of property line surveys, and supervision of the district road maintenance crew.

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, public contact and information, and monitoring and assessment of overall recreational use patterns.

# ASTORIA DISTRICT ORGANIZATION DECEMBER, 2005



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# APPENDICES

- A. Summary Tables
- B. Pre-Operations Reports
- C. Vicinity Map
- D. Public Involvement