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# ASTORIA DISTRICT

## 2006 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, 2005, through June 30, 2006.

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 FY06 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 be set at "Level 1" for most activities. The objectives and specific plans for timber harvesting and the associated roadwork provide an accurate picture of what will be designed and prepared for contract in FY06. Due to the time lag associated with contract duration, most of the actual on-the-ground logging and road 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 road plans, the reforestation, young stand management, recreation management, planning and information activities detailed in this plan will actually occur within the FY06 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.

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		2006 AOP Objective
	Low	High	
Conifer Partial Cut	2,100	3,200	2,647
Conifer Clearcut	400	800 <sup>1</sup>	760
Hardwood Partial Cut	0	200	0
Hardwood Clearcut	0	500	143
Rehabilitation	0	0	0
Reforestation (Initial Planting)	600	1,700	1,018
Precommercial Thinning	400	1,300	1,300
Fertilization	0	0	0
Pruning	200	700	320

<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 2.6% (acres) of the district's total acres. The rate (acres/year) of partial cut harvest in this AOP is 1.9% and the rate of regeneration harvest is 0.7%. Harvest activities in this AOP are partial cutting (74%) and regeneration harvesting (26%). 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://www.odf.state.or.us/DIVISIONS/management/state\\_forests/aop.asp](http://www.odf.state.or.us/DIVISIONS/management/state_forests/aop.asp).

**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 SDI 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 allows vigorous growth of the individual trees. Stand structure will continue to develop with a Moderate Thinning, 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.

As described in the Astoria District Implementation Plan, the FY06 operations plan emphasizes partial cuts due to the high percentage of CSC stand structures existing within the district. These stand structures are characterized by closed or crowded tree crowns that limit the amount of sunlight reaching the forest floor. This low light level precludes the introduction of both brush and shade tolerant conifer species in the understory, thus leaving the forest floor sparsely vegetated. In addition, their tree densities are causing increased competition and slower individual tree growth. Also, of all the structure types, CSC is the type least used by wildlife species, especially those that require more complex habitats. The designated partial cut stands of CSC and UDS will respond well to partial cutting. While all these 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 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 understory initiation phase that follows partial cutting of a CSC stand is termed UDS structure. LYR stands are in a more developed stage of UDS, and a stand reaches OFS when a LYR stand attains several structural characteristics that are normally associated with older forest conditions. Throughout this plan, the term general management (GEN) will be used to describe the desired future condition (DFC) of stands that are not planned for OFS or LYR.

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 903 acres of regeneration harvest planned for FY06 represents 0.7% of the district. During FY06, approximately 1,350 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.

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 FY06 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 FY06 operations plan is estimated to generate gross revenues of approximately \$22,700,000 and net revenues of \$19,800,000 (see Appendix A). It is estimated that active management will result in producing approximately 66.3 million board feet of conifer volume, 10.1 million board feet of hardwood volume, for a total of 76.4 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>0</b>	<b>1,621</b>	<b>1,657</b>	<b>272</b>	<b>0</b>	
<b>Post Harvest<sup>2</sup></b>	<b>903</b>	<b>0</b>	<b>1,274</b>	<b>1,308</b>	<b>65</b>	
<b>Desired Future</b>				<b>1,174</b>	<b>845</b>	<b>1,531</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 FY06 will be summarized in the context of the 17 management basins on the Astoria District. ODF and ODFW resource specialists reviewed the FY06 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	2006 AOP <sup>1</sup>		Cumulative Operations <sup>2</sup> (FY 02—06)	
	Partial Cut	Clearcut	Partial Cut	Clearcut
Astoria	0	0	1,146	85
Beneke	361	195	751	445
Buster	0	19	2,031	503
Crawford	0	0	177	0
Davis	0	0	139	315
Fishhawk	200	0	1,688	23
Gnat	745	170	1,695	586
Hamilton	207	0	238	296
Klaskanine	0	0	554	256
Lousignot	220	56	346	66
North Fork Nehalem	417	62	487	303
Northrup	233	138	1,602	454
Plympton	0	0	2,042	256
Quartz	0	0	1,677	492
Sager	264	0	1,308	143
Scattered	0	0	183	197
Sweethome	0	263	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**

There are no harvest operations planned in this basin for FY06.

### **BENEKE BASIN**

Operations will reduce CSC stands by approximately 6%; increase UDS by 4%; increase LYR by less than 1%; and increase REG by 2% within this basin.

Goose Pit Combination: This operation is comprised of three modified clearcut units totaling 195 acres, and one partial cut unit totaling 306 acres. The modified clearcut areas (Areas 1, 3, & 4) are in CSC stands containing Douglas-fir mixed with western

hemlock, with scattered clumps and stringers of red alder. These areas will be replanted with a mix of conifers. The partial cut area is primarily Douglas-fir and western hemlock stands, categorized as CSC. The desired future condition (DFC) of all these areas is general.

Rip Tide Area 3 only: Areas 1 and 2 of this operation are within the Hamilton Basin. Area 3 is a 55 acre partial cut unit, comprised of western hemlock and Douglas-fir, composed of CSC and UDS stands. The DFC for Area 3 is approximately 80% older forest structure (OFS) and the remaining 20% for layered (LYR).

### **BUSTER BASIN**

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

Osweg Alder No. 2: This operation is comprised of one 19 acre modified clearcut unit. This area is comprised of mainly red alder with scattered conifers with an average DBH of 12 inches. The stand is categorized as CSC, with a DFC of general.

Grasslands Thinning (alternate operation): This operation is comprised of two partial cut units totaling 357 acres. These two stands are categorized as CSC and UDS. The DFC of both these areas is OFS.

Sweeping Corners (alternate operation): This operation is comprised of two modified clearcut units, totaling 82 acres. These units are mixed conifer stands, classified as CSC and UDS. The DFC for both units is "general". This operation is not in the Buster Creek Salmon Anchor Habitat Area.

### **CRAWFORD BASIN**

There are no harvest operations planned in this basin for FY06.

### **DAVIS BASIN**

There are no harvest operations planned in this basin for FY06.

### **FISHHAWK BASIN**

Operations will reduce UDS stands by 4% and increase LYR by 4%.

Wookee Thinning: This operation is comprised of one partial cut area, totaling 200 acres of UDS stands containing primarily Douglas-fir and hemlock, with some true firs and western red cedars mixed throughout, and stringers of alders along many of the draws. This stand will be partial cut with a goal of developing the LYR condition. This operation is totally within the Fishhawk Lake Creek Salmon Anchor Habitat Area.

## **GNAT BASIN**

Operations will reduce CSC stands by 7%; increase UDS by 2%; increase LYR by 4%; and increase REG by 2% within this basin.

McKnob: This operation is comprised of four partial cut areas totaling 745 acres, and four modified clearcut areas, totaling 170 acres. The modified clearcut units are of CSC and UDS structure. The partial cuts are in overstocked young conifer stands of CSC and UDS structure. DFC for two of the partial cut units (176 acres) is general. DFC for about 438 acres of partial cut areas 7 and 8 is LYR, with the remaining 131 acres having a DFC of OFS. The DFC for the modified clearcut units is general.

Larkin (alternate operation): This operation is comprised of two modified clearcut units totaling 76 acres, and one partial cut area containing 52 acres. The modified clearcut units are composed of mixed conifer stands with CSC and UDS. These stands both have a DFC of general. The remaining 60% of the modified clearcut stands are classified as CSC. The partial cut area is composed of Douglas-fir and hemlock, currently classified as UDS and has a DFC of LYR.

## **HAMILTON BASIN**

Operations will reduce CSC stands by 2%; and increase UDS by 2%.

Rip Tide Areas 1 and 2 only: Area 3 of this sale is in the Beneke Basin. Areas 1 and 2 are partial cut units totaling 207 acres, composed primarily of hemlock, with a minor component of other conifers or alders, categorized as CSC and UDS. These stands will be partial cut to a help move toward its DFC of LYR and OFS.

Summit Combo (alternate operation): This operation is comprised of two modified clearcut units totaling 93 acres and one partial cut unit containing 61 acres. The modified clearcut units are composed primarily of western hemlock and Douglas-fir. One of the modified clearcut areas (71 acres) is a dense, overstocked stand, and is categorized as CSC, while the other modified clearcut area (22 acres) is categorized as UDS. These stands have a DFC of general. The partial cut unit is composed primarily of well stocked western hemlock and Douglas-fir, and has CSC structure. The DFC of this unit is OFS.

## **KLASKANINE BASIN**

There are no harvest operations planned in this basin for FY06.

## **LOUSIGNOT BASIN**

Operations will reduce CSC stands by 6%; increase UDS by 5%; and increase REG by 1% within this basin.

Steeple Chase: This operation is comprised of three partial cut units, totaling 220 acres, and one modified clearcut unit, totaling 56 acres. Partial cut Areas 2 and 3 are in Douglas-fir dominated CSC stands. The objective for these two areas is to reduce crown closure, allowing for more rapid understory development in order to move them toward their DFC of LYR. Partial cut Area 1 is a Douglas-fir dominated CSC stand. This stand has more understory development than Areas 2 and 3. The objective for this area is to maintain current levels of understory development and allow for future development to move this stand toward a DFC of OFS. Area 4 is a modified clearcut unit in a Douglas-fir dominated CSC and UDS stand. The DFC is general. All of Area 2 and approximately 56 acres of Area 3 are within the Fishhawk Lake Creek Salmon Anchor Habitat Area.

Cow Hollow Areas 1-4 (alternate operation): Area 5 of this operation is in the Northrup Basin. Areas 1-4 are comprised of three partial cut units totaling 277 acres, and one 22 acre modified clearcut unit. 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. Partial cut 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. Partial cut 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. The modified clearcut area 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 5%; increase LYR by 5%; and increase REG by less than 1% within this basin.

Cole Mountain Combination: This operation is comprised of two modified clearcut units, totaling 62 acres, and four partial cut units, totaling 417 acres. The modified clearcut units are in mixed conifer/hardwood stands of UDS structure. DFC for the modified clearcut units is general. The partial cut units are mostly in previously partial cut Douglas-fir stands, with a current condition of CSC, UDS, and LYR. The partial cut units will reduce current stocking levels. DFC for partial cut Area 1 is OFS; and for partial cut Areas 2, 5, and 6, the DFC is LYR. These units are not within the North Fork Nehalem Salmon Anchor Habitat Area.

Hamlet: (alternate operation) This operation is comprised of three modified clearcut units totaling 70 acres, and three partial cut units totaling 72 acres. The modified clearcut areas are composed of Douglas-fir stands, 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 these areas is UDS, and will be partial cut with the goal of reaching a complex stand condition. Only 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 UDS by 3%; increase LYR by 2%; and increase REG by 2% within this basin.

Northrup Quarry Combination: This operation is comprised of three partial cut units, totaling 233 acres, and two modified clearcut units, totaling 138 acres. Partial cut Areas 1 and 2 are classified as UDS. The DFC for Areas 1 and 2 is LYR. Partial cut Area 4 contains UDS structure. The DFC for this area is general. Areas 3 and 5 are modified clearcut units classified as UDS. DFC for Areas 3 and 5 is general.

Cow Hollow Area 5 only (alternate operation): Areas 1-4 of this operation are within the Lousignot Basin. Partial cut Area 5 (42 acres) is comprised of stands currently classified as CSC and UDS. This area will be partial cut to promote moving the stand towards its DFC of LYR.

## **PLYMPTON BASIN**

There are no harvest operations planned in this basin for FY06.

## **QUARTZ BASIN**

The only operation planned in this basin for FY06 is an alternate.

Ironman (alternate operation): This operation is comprised of one 287 acre partial cut unit, and two modified clearcut units totaling 99 acres. The partial cut area is categorized as CSC and UDS. The modified clearcut units are categorized as CSC and UDS. The DFC for all areas is general.

## **SAGER BASIN**

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

Sagermeister: This operation is comprised of six partial cut areas totaling 264 acres, and one area (26 acres) where tree topping will be the only activity. These partial cut units contain primarily Douglas-fir stands, and current conditions are classified as UDS or LYR. These areas all have a complex DFC of either LYR or OFS. Partial cutting is necessary in the currently layered stands to either maintain the LYR condition, or to help move the stand toward its DFC of OFS. Tree topping is the only activity in Area 6, which is currently 110 years old. Tree topping will provide structural diversity consistent with OFS condition. The only purpose for activity in this area is to top trees, which would create snags, and down wood. With an increase in these two items, this stand is expected to move into the OFS condition.

## **SCATTERED BASIN**

There are no harvest operations planned in this basin for FY06.

## **SWEETHOME BASIN**

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

Huff 'n Puff: This operation is comprised of three modified clearcut units, totaling 263 acres. These stands are predominantly CSC, with some UDS and six acres of LYR. The DFC for these stands is general.

## **Forest Roads Management**

### **Overview**

A variety of forest road and transportation system management activities are planned for under 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 (High Use)		Collector (Medium Use)		Spur (Low Use)	
	AOP	IP <sup>1</sup>	AOP	IP <sup>1</sup>	AOP	IP <sup>1</sup>
Road Construction	1	0.9-1.2	8.75	6.2-8.1	16.45	10.7-13.9
Road Improvement	5.6	9.6-15.8	19.5	7.2-11.9	3	7.2-11.9
Road Closure/Vacation	0	0.2-0.6	0	0.7-1.9	3.8	1.3-3.8
Road Maintenance - District <sup>2</sup>	11		66		33	
Road Maintenance - Active Operations <sup>3</sup>	27.2		54.1		24.1	

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 2006 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. However, the exact amount can not be predicted at this time.

### Road Construction

Approximately one mile of Mainline (high use), 8.75 miles of Collector (medium use) and 16.45 miles of Spur (low use) roads will be constructed with planned operations. Mainline (high use) and Collector (medium use) type roads will be surfaced with hard rock to facilitate all weather hauling. Of the 16.45 miles of Spur (low use) roads identified in this plan, approximately 23% or 3.8 miles of native earth (dirt) roads will be constructed and closed or vacated upon completion of road use. Therefore, this Operations Plan will increase the amount of active roads by an estimated 22.4 net miles.

In addition to providing access to timber sale areas, other road construction activities are planned for the following operations:

- Cole Mountain Combination: Re-route of the Cole Mountain Road around three large fills above the West Fork of Soapstone Creek.
- Goose Pit Combination: Completion of the Upper Trailover road system.

### 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 5.6 miles of Mainline (high use), 19.5 miles of Collector (medium use), and three miles of Spur (low use) roads are identified for improvement with planned operations. This plan includes special projects, such as:

- Cole Mountain Combination: Upgrade stream crossings on tributaries of Sally Creek and Hakura Creek to fish passable structures.
- Huff 'n Puff: Upgrade stream crossings on Sweethome Creek, Spur 27 and Hoppinhome to fish passable structures.
- Northrup Quarry Combination: Repair and maintenance of the Northrup Creek No. 2 Bridge. Upgrade one Northrup Creek Road stream crossing to a fish passable structure.
- Steeple Chase: Evaluation of the Grub Creek Crossing for replacement.
- Wookee Thinning: Repair and maintenance of the Kerry Road Bridge (replacement of wood decking).

### **Road Access Management**

With this plan, approximately 3.80 miles of roads are identified for closure and/or permanent vacating with these operations, as follows:

- McKnob: Planned road closures include approximately 1.5 miles of dirt roads constructed for timber sale access. In addition, several deteriorating fills on an old abandoned railroad grade (approximately 0.5 miles in length) will be permanently vacated.
- Goose Pit Combination: Planned road closures include approximately 0.8 miles of dirt roads constructed for timber sale access.
- Northrup Quarry Combination: Planned road closures include approximately 0.6 miles of dirt roads constructed for timber sale access.
- Sagermeister: Planned road closures include approximately 0.6 miles of dirt roads constructed for timber sale access.
- Steeple Chase: Planned road closures include approximately 0.3 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.

### **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:

- Cole Mountain Combination
- Huff n' Puff
- McKnob

- Northrup Quarry Combination
- Rip Tide
- Steeple Chase

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.
- Cole Mountain Combination: Test drilling of potential (new) rock sources in the Cole Mountain Area.

### **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 105.4 miles of active road maintenance (associated with hauling operations and road use) is planned for under timber sale contracts.
- Huff 'n Puff: 25 miles of mechanical road brushing is planned.
- Northrup Quarry Combination: 25 miles of mechanical road brushing is planned.

District Road Crew: The district road crew will perform routine road maintenance activities on approximately 110 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:

- Find, mark, and restore 27 survey monuments.
- Traverse, blaze, and post about 4.25 miles of property line.

### Young Stand Management

The application of a full range of silvicultural tools will be employed to achieve the long-term goals of structure-based management and integrated resource management. The district strategy is to provide for mixed species throughout the district landscape that will provide more opportunities to develop diverse landscapes with an array of species. These tools are planting, inter-planting, underplanting, site specific planting area preparation, actively managing non-target vegetation, protecting trees from damage by animals, regulating stocking densities on young trees, and tree pruning to reduce bear damage.

Forest health strategies within the Forest Management Plan direct that the district shall develop a diverse species mix for the establishment of future planting operations across the landscape. We utilize genetically improved seed of Douglas-fir and western hemlock, and locally collected seed for the other minor species, provides for the diversity of species in this plan. Focusing on maintaining the native species composition in the basins close to the coast and the Columbia River potentially impacted by Swiss Needle Cast allows newly established plantations to perform better. Where Douglas-fir is planted, seedlings with a higher tolerance to Swiss Needle Cast are used. The above factors provide for alignment with strategies to enhance forest health and biodiversity issues.

See the Young Stand Management Table in the Appendix A for a more detailed description for what is planned in FY 2006.

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 2006.

### **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 (85 acres in Gnat Basin, 95 acres in Lousignot Basin, 85 acres in North Fork Nehalem Basin, and 85 acres in Sweethome Basin for a total of 350 acres); (2) dense slash concentrations, occupying too many planting spots, are mechanically piled and some of the piles are burned in the late fall (13 acres in Klaskanine Basin, 150 acres in North Fork Nehalem Basin, 40 acres in Northrup Basin, and 150 acres in Quartz Basin for a total of 353 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 1,018 acres of initial planting in regeneration harvest units (74 acres in Astoria Basin, 153 acres in Davis Basin, 185 acres in North Fork Nehalem Basin, 180 acres in Northrup Basin, 223 acres in Quartz Basin and 203 acres in Sweethome 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, 225 acres of inter-planting existing 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 2005, 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 by animal browsing. In the inter-planting portion of the planting plan the following species will be planted: 35% western hemlock, 65% Douglas-fir.

Also, 250 acres will be underplanted. The exact units needing under-planting will not be identified until the current planting season is complete, in the spring of 2005. 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 will be planted with western hemlock and/or red cedar. The desired future condition of these areas is 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. By establishing a mixture of species, it 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 680 acres of manual release in conifer plantations (165 acres in Buster Basin, 15 acres in Fishhawk Basin, 104 acres in Gnat Basin, 30 acres in Hamilton Basin, 168 acres in Klaskanine Basin, 10 acres in North Fork Nehalem Basin, 65 acres in Plympton Basin, 114 acres in Sager Basin, and 9 acres

in Scattered Basin. Additionally, we are planning 598 acres of aerial herbicide application (from the early foliar release), which includes 85 acres in Buster Basin, 106 acres in Gnat Basin, 15 acres in North Fork Nehalem Basin, 30 acres in Plympton Basin, 117 acres in Quartz Basin and for a total of 353 acres. The late foliar aerial herbicide application has not been identified on the ground yet, but is estimated that 245 acres will be treated, and 207 acres of ground application of herbicides (68 acres in Astoria Basin, 56 acres in Buster Basin, 28 acres in Davis Basin, five acres in Fishhawk Basin, 13 acres in Gnat Basin, and 37 acres in Hamilton 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 350 miles of roadside herbicide treatment (planned for Quartz Basin, Sweethome Basin and North Fork Nehalem Basin), and 150 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 on 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, control hunts and/or cooperative programs.

The district plans to tube western red cedar trees on 40 acres, bud cap Douglas-fir trees on 2,746 acres, trap mountain beavers on 770 acres, and monitor and respond to big game damage on approximately 16,000 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**

There are currently no areas planned for fertilization on the district at this time. Therefore, none is scheduled for FY 2006. A cost benefit analysis is being conducted on a fertilization project in the Nicolai Mountain area for Astoria's FY 2007 AOP.

### **Pruning**

The district plans to prune approximately 320 acres. Pruning has been planned to help reduce the amount of bear damage to plantations. The 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 our 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.

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. A significant portion of the responsibilities of the recreation staff is devoted to maintenance and administration of existing recreation facilities. In order to effectively complete the work planned in FY 2006, a significant portion of the projects will be completed through contract services.

Utilizing 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 2006 will require the continued efforts of South Fork.

The continued expansion of recreational opportunities on Clatsop State Forest through development of new recreational facilities requires a corresponding expansion of effort and financial resources in complying with permitting requirements. The Astoria District is committed to maintaining and improving relationships with the various county and state permitting agencies.

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

### **Existing Facilities**

#### Campgrounds

Gnat Creek Campground located in northern Clatsop County is a primitive campground composed of six campsites. Data collected in 2004 shows that 5,309 people visited the Gnat Creek area with 1,250 visitors at the Gnat Creek Campground.

Henry Rierson Spruce Run Campground is located in southern Clatsop County on the Nehalem River, a semi-primitive campground composed of 39 campsites. Data collected in 2004 shows that Henry Rierson Spruce Run Campground received 8,801 visitors.

Northup Creek Horse Camp is scheduled to be completed and open for use during the late summer of 2005. The horse camp is composed of eight horse camp sites consisting of truck and horse trailer parking, tent site, and a horse corral. Vaulted restrooms, manure bins, and a hand operated well are also planned. Installation of picnic tables and fire rings are scheduled for FY 2006 to finalize construction. The site also includes a day use area with parking, horse mounting assist, picnic area, single vault restroom, and access to horse trails currently in development. A group picnic area is also included plus a three site tent camping area for non-horse users sited separate from the horse camping area.

Lost Lake was acquired by the Astoria District through a land exchange with Longview Fibre Company in February, 2004. New data collected at the Lost Lake area estimates that approximately 6,900 people visited the area between May and September of 2004. ODF established an information kiosk at the lake in FY 2005. Currently the only developed facility at the lake is a primitive boat launching area. Development of a recreational facility to manage use at the lake is a high priority for the Astoria District. Incorporating comments from the Clatsop Recreation Advisory Committee and the general public, development of conceptual designs for a campground at Lost Lake through contract services was completed in FY 2005.

Four dispersed camping sites along the Lower Nehalem River were also improved in FY 2005 which includes gravel parking areas, tent sites, picnic tables, and fire rings.

### Non-motorized trails

The Astoria district has been aggressively constructing non-motorized trails and has increased the amount of trails from 3½ miles in FY 2003 to 13 miles by the end of FY 2005. Existing non-motorized trails on the district are:

Northrup Creek equestrian trails – 5 miles

Bloom Lake Trail – 2 miles

Soapstone Lake Trail – 2 miles

Gnat Creek Trail – 2 miles

Demonstration Forest Trail – 2 miles

### Motorized trails

Currently there are no designated motorized trails on the Astoria District. In FY 2005 approximately 36 miles of OHV trails were field inventoried in the Nicolai Mountain area. A committee composed of Clatsop Recreation Advisory Committee members and ATV users initiated planning efforts in FY 2005 to begin development of recommendations for management of the Nicolai area for ATV use including location of staging areas, designation of trail locations, and signing.

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

The following sites are identified for development through the FY 2006 AOP.

#### Northrup Creek Horse Camp

Finalize construction at Northrup Creek Horse Camp

The majority of construction for the Northrup Horse Camp was completed through contract services in FY 2005. It is anticipated that South Fork Inmate Camp will be utilized to place picnic tables and fire rings to finalize construction in FY 2006. Opening of the facility is planned for late summer in 2005.

#### Lost Lake Campground

Development of site specific construction drawings for facility improvements at Lost Lake.

The construction drawings will implement final design objectives as identified through comments obtained in FY 2005 from the general public, the Clatsop Recreation Advisory Committee, and ODF. The construction drawings will be obtained through contract services. Coordination with county and state permitting agencies to identify and begin processing of required permits will also begin in FY 2006.

### Demonstration Forest

Install information panels and kiosk for the Demonstration Forest located on the Astoria District compound.

A Master Plan for development of the Demonstration Forest to function as an interpretative site was accomplished through contract services in FY 2005. Installation of interpretive panels along the existing two miles of trails and an information kiosk is scheduled for completion in FY 2006.

### Astoria Basin Recreation Assessment

Begin development of a Recreation Assessment for the Astoria Basin to determine existing recreation use levels and patterns, obtain comments and concerns from local stakeholders, recommend areas in the basin for motorized and non-motorized activities, and develop recommendations for consideration in developing a future Master Plan addressing recreation activities in the basin.

This project will be accomplished through contract services. Development of a Request for Proposal and selection of a contractor will be accomplished in FY 2005. It is anticipated this Recreation Assessment will be accomplished in FY 2006.

### **Trails (motorized)**

#### Nicolai Mountain OHV Trail Development

Begin OHV trail construction and install associated ATV signing.

Approximately five miles of OHV trail construction is planned for the Nicolai area in FY 2006. Actual on the ground accomplishment is dependent upon final design of the trail network scheduled for completion in late FY 2005. Based upon that final trail network design, installation of OHV bridges or other structures may take precedence over actual trail construction. OHV signing will address public safety, law enforcement, and general information for the OHV area. Development goals will be outlined in the OHV development plan and implementation will begin during the summer of 2005.

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

The district will continue to develop non-motorized trails increasing the amount of available trails from 13 miles to 18 miles.

### Northrup Creek Trail

Layout and construction of one mile of equestrian trail. Completion of this project is dependent upon volunteer efforts.

This trail construction will compliment the existing five miles of equestrian trails accessible from the newly constructed Northrup Horse Camp.

### Quartz Basin Trail

Construct two miles of new trail to begin development of a trail system from Henry Rierson Spruce Run Campground to Lost Lake.

Trail construction is dependent upon availability of the South Fork Inmate Camp. The low number of anticipated miles of trail construction for FY 2006 is based upon the extremely rugged terrain associated with this trail system. Terrain conditions may impact the amount of trail actually constructed. Five miles of trail design for this trail system were completed through volunteer efforts in FY 2005.

### Gnat Creek Trail

Construct two miles of trail.

This trail construction will compliment the existing two miles of the Gnat Creek Trail. Layout of approximately 3 ½ miles of trail for the Gnat Creek trail system was completed in FY 2005 through contract services. Completion of this project objective is dependent upon obtaining volunteer efforts or through contract services.

## **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, 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
- Vegetation management

## **Trails**

Trail construction and associated maintenance has been steadily increasing on the district. Currently there are 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

Trail maintenance (motorized)

There are no designated motorized trails at this time. The district anticipates that 5 miles of motorized trails will be designated in FY 2006 in the Nicolai Mountain area.

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.

- Clatsop County Deputy Sheriff (ODF contract employee)
- Private companies that provide contract maintenance and repair service
- Admin Unit/Office Manager
- Public/user group clubs and organizations.
- South Fork Inmate Camp

- ODF&W
- Forest Management, Engineering, and Reforestation staff for integration with other planned management activities.

## **Other Recreation Management Activities**

### Forest Interpretation

Coordination with the NW Oregon Area Interpretation Staff will continue with design and installation of forest wide interpretive panels located at Gnat Creek Campground, Henry Rierson Spruce Run Campground, Sunset Rest Area, Northrup Creek Horse Camp, and the Astoria District Headquarters to inform and educate users about recreation opportunities, management of the forest, cultural and natural history, etc. Development of interpretation panels describing the history at Henry Rierson Spruce Run Campground will also begin in FY 2006.

### Volunteer Efforts

In 2004 the Clatsop State Forest had 1,017 hours of volunteer work. Volunteerism has increased 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. Volunteer efforts will be instrumental in completion of activities planned in FY 2006 including continuation of the camp host program and construction of both motorized and non-motorized trails.

### Event Management

There are no planned recreation events or permits scheduled for FY 2006 on the Clatsop State Forest.

### 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 2006.

### Land Exchange

No land exchanges or acquisitions are planned in FY 2006.

A district land exchange plan will be updated for the Board of Forestry to review and approve, as required in the Acquisition and Exchange administrative rule (unless the rule is amended during the planning period).

## 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 operation has 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. During FY 2006, it is estimated that the Astoria District will issue approximately 370 woodcutting permits.

### **Miscellaneous Forest Products**

The Astoria District currently administers a Miscellaneous Forest Products program which consists of issuing Commercial Use Permits allowing individuals to collect larger quantities of various of forest products including mushrooms, seedlings, boughs, salal and moss with the intent to be re-sold. Additionally, the public has the ability to gather smaller quantities of these forest products for personal use.

### **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 and Other Vegetation Inventories**

The Astoria District plans to complete approximately 162 stands (approx. 24,978 acres) of Stand Level Inventory (SLI) during the AOP period (approximately 11% of the stands in the district). These stands will be inventoried through a statewide contract. This brings the cumulative total to approximately 47% of the stands in the district having updated SLI by the end of FY2006. 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.

The collected 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.

Stocking surveys will be conducted on young conifer stands to determine stocking levels on the one-year-old and three-year-old stands. Approximately 774 acres of stocking surveys will be conducted on these types of stands in FY 2006.

### **Fish and Wildlife Surveys**

An 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 575 survey stations, 1,750 individual nighttime surveys conducted, and 22 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 49 sites, 156 stations, and 324 surveys.

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

<b>Operation</b>	<b>Species (NSO/MM)</b>	<b>Status</b>
Cole Mountain Comb.	NSO	Surveyed in 2001, 2002, 2003, 2004 with no responses.
Cole Mountain Comb.	MM	Surveyed in 2001, 2002, 2003, and 2004 with no detections, will be surveyed in 2005.
Goose Pit Combination	NSO	Surveyed in 2004, will be in 2005 also. One unknown species owl response, most likely a barred owl based on follow-up observations.
Goose Pit Combination	MM	Not suitable habitat, no surveys needed.
Huff n' Puff	NSO	Surveyed in 2004, will be in 2005 also. No responses.
Huff n' Puff	MM	Surveyed in 2004 with no detections, and will be surveyed again in 2005.
McKnob	NSO	Surveyed in 2003, 2004 and will be in 2005- no responses to date.
McKnob	MM	Surveyed in 2003 and 2004 with no detections.
Northrup Quarry Comb.	NSO	Surveyed since 2000, and will be in 2005 with no responses to date.
Northrup Quarry Comb.	MM	Non-suitable habitat, no surveys needed.
Osweg Alder No. 2	NSO	Surveyed in 2004 and will be in 2005. Responses within 1.5 miles attributed to Buster Quarry.
Osweg Alder No. 2	MM	Non-suitable habitat, no surveys needed.
Rip Tide	NSO	Surveyed in 2004 with one response, nothing heard on follow-up. Will be surveyed in 2005.
Rip Tide	MM	In MMMA, surveyed since 2001 with no detections.
Sagermeister	NSO	Surveyed in 2004 with no responses. Will be surveyed in 2005.
Sagermeister	MM	Surveyed in 2004 with no detections. Will be surveyed in 2005.
Steeple Chase	NSO	Surveyed in 2003 & 2004, with no responses. Will be surveyed in 2005.
Steeple Chase	MM	Non-suitable habitat, no surveys needed.
Wookee Thinning	NSO	Surveyed in 2004 with no responses. Will be surveyed in 2005.
Wookee Thinning	MM	Surveyed in 2004 with no detections. Will be surveyed in 2005.
Cow Hollow	NSO	Surveyed in 2004 with no responses. Will be surveyed in 2005.
Cow Hollow	MM	Portions of Areas 3, 4, & 5 surveyed in 2004, with no detections, will be surveyed in 2005.
Grasslands Thinning	NSO	Surveyed in 2004 with no responses. Will be surveyed in 2005.
Grasslands Thinning	MM	Non-suitable habitat, no surveys needed.
Hamlet	NSO	Surveyed in 2004 with no responses. Will be surveyed in 2005.
Hamlet	MM	Surveyed in 2004 with no detections. Will be surveyed in 2005.
Ironman	NSO	Surveyed in 2004 with no responses. Will be surveyed in 2005.
Ironman	MM	Non-suitable habitat, no surveys needed.
Larkin	NSO	Surveyed in 2004 with no responses. Will be surveyed in 2005.
Larkin	MM	Non-suitable habitat, no surveys needed.
Summit Combo	NSO	Surveyed in 2004 with no responses. Will be surveyed in 2005.
Summit Combo	MM	Surveyed in 2004 with no detections. Will be surveyed in 2005.
Sweeping Corners	NSO	Surveyed in 2003 & 2004 with no responses. Will be surveyed in 2005.
Sweeping Corners	MM	Non-suitable habitat, no surveys needed.

## **Watershed Assessments**

A watershed assessment and analysis is currently underway on the Upper Nehalem Basin. This basin encompasses approximately 107,000 acres of ODF land (76,000 acres on the Astoria District and 31,000 acres on the Forest Grove District). The assessment and analysis work are scheduled to be completed by December 2005.

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 the University of Washington's Stand Management—Cooperative Density Management Study. During the next year, plot maintenance activities will also occur on the 15-acre hemlock density study located within the Gnat Basin.

During the winter of 2004, two second generation progeny test sites were established in cooperation with the Vernonia-Ryderwood and TRASK cooperatives. Numerous maintenance activities will occur on both of the five acre test sites during FY 2006.

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.

In 2004, the district participated in a forest road surfacing research study by Oregon State University, School of Forest Engineering. Research objectives included:

- Improve understanding of variability in subgrade and surfacing materials properties
- Correlate material properties, abrasion resistance, construction practices, subgrade density, moisture and impact values with the formation of ruts in road surfaces.
- Use laboratory tests to compare actual bearing strength with potential strength and consider areas for improving road performance.

## Other Planning Operations

Several recreation planning issues will continue to be addressed in FY 2006, with the scope of this planning effort dependent on availability of funding. The current approved recreation plan includes an action plan based on priorities and funding. Additional planning efforts may be contracted out to professional firms, if funding and staffing is available, and may include:

- User survey for the Astoria Basin, to better incorporate existing recreation uses in the management planning effort.
- Continue Astoria Basin trail and site inventory, and recreation planning.

Much time and effort will be expended in FY 2006 continuing to participate in the Harvest and Habitat Computer Model for the District. In addition, it is expected that continuing development and negotiations related to a Habitat Conservation Plan will take some of this district's staff time.

## 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.

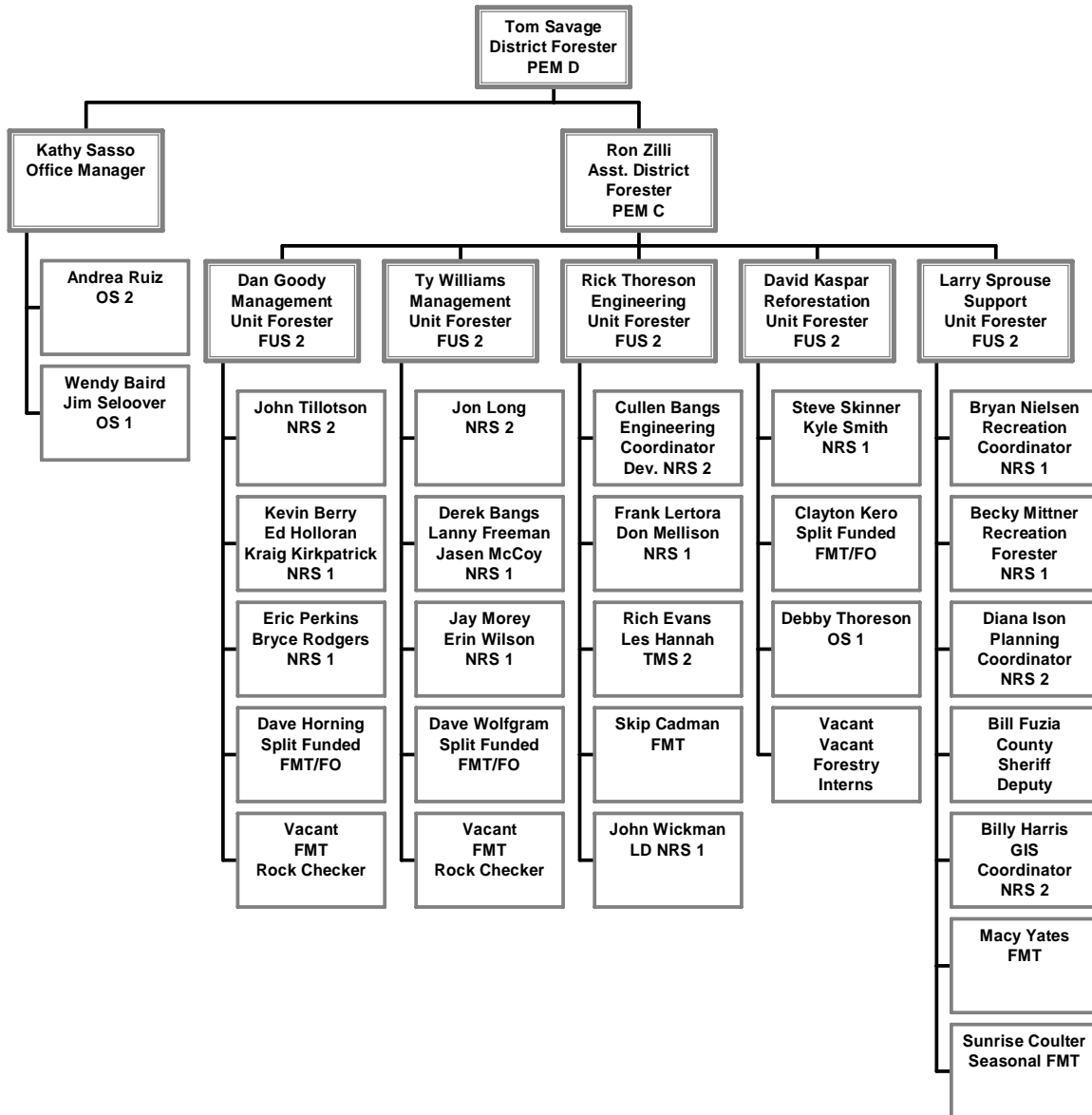
The **Forest Management Units**, which include the Jewell Unit (central Clatsop County) and the Sunset Unit (remaining state forest lands along the western and northern portions

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

# ASTORIA DISTRICT ORGANIZATION JUNE, 2005



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# APPENDICES

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