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TILLAMOOK DISTRICT

2006 ANNUAL OPERATIONS PLAN

INTRODUCTION

This annual operations plan (AOP) covers the State Forest Land managed by Tillamook District for Fiscal Year 2006 (FY06), which begins July 1, 2005 and ends June 30, 2006. This document describes how the activities and projects undertaken by the district will achieve the goals, strategies, and objectives of the NW Oregon Forest Management Plan (FMP), Tillamook State Forest Recreation Action Plan, Tillamook District Implementation Plan (IP), and portions of the (DRAFT) Western Oregon Habitat Conservation Plan (HCP). Refer to the district IP for more specific information on physical characteristics and other resource information on the district.

The summary document of the AOP is divided into five major categories: Integrated Forest Management, Planning and Information Systems, Public Information and Education, Administration, and Appendices. Appendix A contains summary tables for timber harvest operations-financial, timber harvest operations-forest structure, forest roads, young stand management, recreation management, and salmon anchor habitat (SAH). Appendix B is the bulk of the AOP and contains the Pre-Operations Reports and maps for individual harvest operations. A summary of the results of public involvement will be added to the final plan.

Note that the acres detailed throughout the report express net acres, unless otherwise stated. Net acres are based on orthophotos and GIS and exclude roads, stream buffers (special stewardship in LMCS), other stream buffers and green tree retention areas.

The management activities planned for FY06 are based on the range of objectives established in the IP (Table 1 below) and the IP Minor Modification (1/31/05) that increases the upper range of the partial cut acres. The proposed timber sales will be designed, engineered, and submitted for processing during the FY06 time period. However, the actual on-the-ground operations may not occur during FY06 due to the time lag associated with contract duration, which could be one to three years after auction. In contrast, reforestation, young stand management, recreation management, and planning activities will be carried out during the FY06 time period.

Table 1. Annual Operations Plan objectives compared to annual objectives identified in the 2003 Tillamook District Implementation Plan (Table A-1). All values are acres.

Silvicultural Activity	IP Annual Objective		2006 AOP Objective
	Low	High	
Conifer Partial Cut	1,000	2,000 ¹	1,765
Conifer Regeneration Harvest	3,500	5,100	4,379
Hardwood Partial Cut	N/A	N/A	N/A
Hardwood Regeneration Harvest	0	1,100	802
Rehabilitation	0	0	0
Reforestation (Initial Planting)	1,500	3,500	4,500 ²
Precommercial Thinning	0	500	300
Fertilization	0	0	0
Pruning	0	0	0

1. The top end of Conifer Partial Cut was increased by Minor Modification (January 10, 2005)
2. Reforestation exceeds the IP objective due to an error in the IP document

INTEGRATED FOREST MANAGEMENT OPERATIONS

Timber Harvest Operations

Overview of Timber Harvest Operations

The planned timber harvest operations are within the total acres objective in the Tillamook District IP. The district completed a Minor Modification to the IP because the partial cut acres are above the IP upper range for partial cut but still within the total acres of activity on the district. The increase in partial cut acres is due to silvicultural opportunities in stands impacted by Swiss needle cast (SNC). These opportunities are based on stands with previous density management (PCT) and deep crowns. Partial cutting activities in the AOP will allow for stands to be moved toward complex structure and contribute to the overall objective of 78.7 mmbf.

The IP harvest levels are based on total acres which range from 4,500 – 7,600 acres. Total planned acres in this AOP are 6,946. Harvest activities in this AOP are partial cutting (25%), conifer regeneration harvest (63%) and hardwood regeneration harvest (12%). Below are definitions of harvest types followed by more specific examples of the planned operations. Please refer to www.odf.state.or.us/DIVISIONS/management/state_forests/aop.asp for complete description of the ranges of harvest types and terms.

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 a 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 Sites Class I, II, or III. The partial cuts in this plan will reduce stand density to a SDI of 15 to 40.

Partial cutting operations are planned to move stands from CSC to UDS or to maintain complex structure components. These operations thin conifer to maintain vigorous tree growth, retain deeper crowns and allow light onto the forest floor to initiate understory vegetation establishment and growth.

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

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

Modified Clearcut (MC): These operations leave less than 33 square feet of basal area on Site Class I, II, or III. Modified clearcut harvest will leave an average of 8-10 trees and snags per acre. The leave trees may be scattered across the unit (0-2 on any acre) or clumped (>15 on any acre). Areas of green tree retention are included in most of the modified clearcut harvest areas and are located along the riparian areas and/or on steep slopes above streams on the edge of a harvest unit.

The IP emphasizes harvest operations to address the severe impacts of Swiss needle cast (SNC) on Douglas-fir in the district. Most of the conifer regeneration harvest operations are focused on closed single canopy stands (CSC) or understory stands (UDS) most severely impacted by SNC. The stands are located in what is referred to as the SNC zone (approximately the coast to 15 miles inland), and/or have low needle retention with poor live crown ratios, and/or have been mapped in SNC aerial surveys. SNC harvest consists of regeneration harvesting of Douglas-fir stands and creating regeneration (REG) structure or partial cutting stands by removing Douglas-fir and thinning or retaining other conifer to create UDS stands.

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

Hardwood modified clearcuts are also planned in CSC or UDS stands dominated by alder. These operations create REG structure and remove hardwoods. Many hardwood

stands were aerially sprayed in the 1970's resulting in short boles with many limbs. Other hardwood stands not sprayed will be harvested to allow for regeneration of multiple species conifer stands. A component of hardwoods will be retained in a variety of locations (on high landslide hazard locations, in riparian areas, and/or throughout the unit).

Landscape Design

The overall goal of the operations proposed in this plan is to move portions of the forest toward complex stand structures by maintaining healthy and diverse stands. Due to impacts of Swiss needle cast and other stand conditions described above, some operations in the AOP are regeneration harvests in Desired Future Condition (DFC) Complex (LYR and OFS). The IP map of Desired Future Condition is one example of what the landscape may look like over time. While some regeneration harvests will take place in stands shown as DFC Complex, other areas shown as General (GEN) are planned for partial cut or retention cut which will move these stands toward more complex structure (UDS).

In the FY06 AOP, the district has planned operations on 2,144 acres shown on the IP map as DFC complex and 4,802 acres mapped as GEN. At post harvest 2,767 acres are being moved to UDS and 4,179 are being moved toward REG structure. These operations result in an additional 623 acres (beyond the 2,144 acres) being moved along the pathway toward complex structure to leave options open for future stand management decisions. The stands being moved toward complex on the ground may not match the stands on the IP map. This strategy allows the district to make decisions based on current stand conditions and silvicultural opportunities. The starting point of the IP contained many unknowns based on the impacts of Swiss needle cast, age of stands, and difficult terrain. Over time the IP map will be updated to reflect management decisions and stand conditions as the district moves stands along the pathway toward IP goals of complex structures.

Operations create a mosaic of conditions on the landscape, basin, sub-basin, and/or stand level. These conditions are accomplished through a variety of prescriptions creating openings and leave tree arrangements. This creates horizontal diversity in the short term as well as vertical and horizontal diversity in the long term at the landscape to stand level. A single operation may have leave trees (clumped or scattered) in stream buffers (strips of trees) and large openings or smaller gaps.

Partial cutting allows stands to maintain vigorous growth and creates openings in the canopy for sunlight to reach the forest floor initiating understory growth of shrub and tree species and/or release understory trees. A single operation may have different thinning prescriptions based on diameter limit harvest, species selection, or residual tree stand densities. These operations create a variety of stand structures on the landscape with differing stand densities within the operation and in combination with the regeneration harvest operations at a larger scale.

Green Tree, Snag and Down Wood Strategies

Green trees are retained in or adjacent to regeneration harvest units in a variety of ways. These trees (hardwood and conifer) may be clumped or scattered across the unit depending on species and/or size distribution (reserve trees specified in contract) or through residual basal area targets. Some green trees retention (GTR) areas are designated outside of harvest unit boundaries. These GTR areas may be located on high landslide hazard locations or other inoperable terrain. Green trees are expected to be a future source for snags, down wood through time as well as large diameter trees for the planted stand. Mortality of some of these green trees is expected due to disease, wind, or snow damage.

Snags will be retained where they are not determined to be a safety hazard during the operations. If existing snags are cut, they are required to be left in the unit for down wood. Snags will be created in some harvest units by a variety of methods (topping lift trees, topping support trees, girdling guyline trees or by contract requirements).

Regeneration harvest operations encompass strategies for short-term retention of snags, down wood, and green trees with long-term strategies to add to the goals over time. The long-term goals may be obtained with natural mortality of green trees while other areas may be entered during pre-commercial or commercial operations to create snags and down wood. The stand conditions, including snags and down wood information, will be collected through the Stand Level Inventory (SLI) over time (see the Planning and Information Systems section for more information on SLI measurement cycle). If goals for snags and down wood are not being met, the stand will be reviewed and appropriate actions taken to create these stand components.

Existing down wood in harvest units will be retained and added to during harvest. On ground yarding areas trees are required to be topped, and tops left in the unit yarding. Felled snags will be left as down wood and other trees determined during sale layout will be left in the unit. Similar to the strategy to create snags over time, green tree retention is expected to add down wood due to natural mortality.

Partial cut operations reserve existing snags and down wood during harvest. Additional snags and down wood may be added where available depending on the residual stand average diameter and complexity. Similar to the regeneration harvest, there is an expectation of natural mortality over time in the stand. During sale layout and cruising, existing snags are tallied to determine if additional snags need to be created during harvest. As a rule of thumb, stands with an average residual DBH greater than 15" may have snags created depending on cruise data.

Stand Structure Development

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 below). The Tillamook district will be operating on approximately 2.8% (acres) of the district with these

planned harvest operations. The rate (acres/year) of partial cut harvest in this AOP is 0.7% and the rate of regeneration harvest is 2%.

All regeneration harvest operations will be reforested with mixed conifer species. A component of hardwoods will be reserved and will provide a seed source for the future stands. Reforestation decisions are based on the health of past stands, elevation, and aspect to create an appropriate species mix for the site.

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.

Stand Structure	REG	CSC	UDS	LYR	OFS	GEN¹
Current	-	4,592	2,354	0	-	
Post Harvest²	4,179	-	2,767	0	0	
Desired Future				970	1,068	4,908

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.

Acreages do not include alternate sales

Summary of Operations by Basin

This section is a summary of the operations by basin and is not meant to completely describe the planned operation. Refer to Appendix B for more detail of each operation.

Table 3. Summary of Timber Harvest Operations in each basin. All values are in acres.

Basin	2006 AOP ²		Cumulative Operations ^{1,2} (FY 02-06)	
	Partial Cut	Regeneration Harvest	Partial Cut	Regeneration Harvest
N. Fork Nehalem	51	0	613	260
Lower Nehalem	1253	688	3470	3580
Short Sands	0	0	0	0
Miami	164	98	731	885
Kilchis	0	0	231	568
Tillamook Bay	0	0	49	17
Wilson	64	2299	1211	7580
Tillamook River	0	0	106	67
Trask	147	1942	1166	8034
Nestucca	86	154	86	287
Little Nestucca	0	0	0	0

1. The Cumulative Operations include all Timber Harvest Operations under the current implementation plan period (July 1, 2001 through June 30, 2011). The acres refer to planned acres and not harvested or accomplishment acres.

2. These totals do not include alternate sales.

North Fork Nehalem Basin

Rackheap Falls: This sale consists of 2 areas totaling 327 acres. All areas are approximately 65 years old mixed conifer species with scattered cedar and alder. The conifer is overstocked resulting in poor live crown ratios and slowed diameter growth.

All areas are planned for partial cutting Douglas-fir, hemlock and spruce to a residual basal area of 160-180 square feet. All other species will be reserved.

Lower Nehalem Basin

Beaver Ridge: This sale consists of four areas totaling 465 acres. Areas 1-3 are 55 years old with mixed alder, hemlock and Douglas-fir. Area 4 is 65 years old with hemlock, Douglas-fir, spruce, cedar and alder.

Areas 1-3 are planned for retention cut by harvesting merchantable alder and removal of hemlock and Douglas-fir less than 16" DBH. Remaining conifer will be thinned to 120-140 square feet of basal area. All other species will be reserved.

Area 4 will partial cut hemlock, Douglas-fir, and spruce to a residual basal area of 160-180 square feet. All other species will be reserved.

Clamson: This sale consists of two areas totaling 299 acres. Areas 1 and 2 are 45 year old mixed species stands dominated by hemlock and Douglas-fir with scattered spruce and cedar. The alder component of these stands were aeriually sprayed in the 1970's resulting in short boles and many limbs. The Douglas-fir are impacted by Swiss needle cast.

Area 1 is planned for a retention cut by harvesting Douglas-fir and merchantable hardwood. Hemlock less than 16" DBH will also be harvested. A diameter limit will be used to leave a component of Douglas-fir. All other species will be reserved.

Area 2 is planned for a modified clearcut. Douglas-fir and merchantable alder will be harvested. All other species will be reserved.

Tin Tank: This sale consists of four areas totaling 854 acres dominated by Douglas-fir and alder with an average age of 40. The Douglas-fir are impacted by Swiss needle cast but maintain good live crowns due to precommercial thinning in 1987. The alder were aeriually sprayed in the 1970's resulting in short boles with many limbs.

All sale areas are planned for partial cuts. In the sale areas, the merchantable alder will be harvested and Douglas-fir and hemlock thinned to a basal area range of 120-140 square feet. All other species will be reserved.

Short Sands Basin

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

Miami Basin

Filosi Moss: This sale has 3 areas totaling 141 acres. All the sale areas are mixed species stands with alder, hemlock and Douglas-fir. Areas 1 and 3 have an average age of 35 years old and the conifer species are overstocked resulting in slowed diameter growth and poor crown ratios. Area 2 is approximately 60 years old with dense conifer and alder with slowed diameter growth.

In Areas 1 and 3, hemlock and Douglas-fir will be partial cut to a basal area of 120-140 square feet. All other species will be reserved.

Area 2 will be a retention cut prescription by removing alder. Hemlock and Douglas-fir less than 14 inches will be harvested to prevent windthrow of the residual stand. All other species will be reserved.

Fire Break Ridge (portions in Lower Nehalem Basin): This sale consists of 3 areas totaling 158 acres. All sale areas are approximately 55 year old mixed species of

hemlock, alder and Douglas-fir. Areas 1 and 3 have overstocked conifer with slowed diameter growth and poor crown ratios. In Area 2, Douglas-fir is impacted by Swiss needle cast.

Areas 1 and 3 will be partial cut. In Area 1, the merchantable alder will be harvested and hemlock and Douglas-fir will be thinned to a residual basal area range of 120 to 140 square feet. Area 3 will thin hemlock and Douglas-fir. All other species will be reserved in both areas.

Area 2 will have a modified clearcut prescription removing Douglas-fir and thinning pockets of hemlock to a residual basal area range of 120 to 140 square feet. All other species will be reserved.

Kilchis Basin

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

Tillamook Bay Basin

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

Wilson Basin

Fire Mole (alternate): This sale consists of one area totaling 321 acres. The sale area is approximately 43 years old consisting of a mix of alder and Douglas-fir and scattered hemlock, spruce, and cedar. The Douglas-fir is impacted by Swiss needle cast and the alder component of the stands was aerially sprayed in the 1970's resulting in short boles with many limbs.

The entire sale area is planned for retention cut by removing merchantable alder and Douglas-fir less than 16" DBH. Remaining Douglas-fir will be partial cut to a basal area range of 60-80 square feet. All other species reserved.

Hole in the Wall (portions in Lower Nehalem): This planned sale consists of 5 areas totaling 345 acres. The sale areas are 41 to 43 year old Douglas-fir dominated stands. The Douglas-fir in all sale areas is impacted by Swiss needle cast. There is scattered hemlock, noble fir, cedar, and alder throughout the sale. Isolated pockets of *Phellinus weirii* were noted during review of the sale and in previous management activities.

Areas 1, 2 and 4 are planned for modified clearcuts. The merchantable Douglas-fir will be removed and all other species reserved.

Areas 3 and 5 are planned retention cuts leaving at least 33 square feet of basal area per acre, mostly Douglas-fir. The remaining merchantable Douglas-fir will be removed and all other species reserved.

Hoskins Bridge: This sale consists of 6 areas totaling 378 acres. The sale areas are 42 to 53 year old Douglas-fir dominated stands. The Douglas-fir in all sale areas is impacted by Swiss needle cast. There is scattered hemlock, spruce, and cedar throughout the sale area.

Areas 1, 2, 4, and 5 are planned for modified clearcut by harvesting Douglas-fir and merchantable alder. All other species will be reserved.

Areas 3 and 6 are planned for retention cuts by harvesting Douglas-fir and merchantable alder in excess of 33 square feet of basal area. Leave trees will primarily consist of Douglas-fir and all other conifer species.

Relay Tower: This sale consists of 4 areas totaling 714 acres. The stands are 45 years old mixed Douglas-fir and alder. The Douglas-fir is impacted by Swiss needle cast and the alder component of the stands were aerielly sprayed in the 1970's resulting in short boles with many limbs.

Areas 1 and 3 are planned for modified clearcut by harvesting merchantable alder and Douglas-fir. All other species will be reserved.

Areas 2 and 4 are planned for retention cut by removing merchantable alder and Douglas-fir in excess of 40 square feet of basal area. All other species will be reserved.

Roger Fox: This sale consists of 10 areas totaling 512 acres of Douglas-fir and alder mix with scattered hemlock, spruce and cedar. Areas 1 and 2 are approximately 50 years old and Areas 3-10 are 44 years old. The Douglas-fir is impacted by Swiss needle cast.

Areas 1, 3, 4, 7, 8 and 9, are planned for modified clearcut by harvesting Douglas-fir and merchantable alder. All other species will be reserved.

Areas 2, 5, 6, and 10 will harvest Douglas-fir and alder in excess of 33 square feet of basal area. All other species will be reserved.

Sargent Lyda: This sale contains 5 areas totaling 424 acres of Douglas-fir dominated stands. The sale areas vary in age from 48-54. The Douglas-fir has SNC symptoms resulting in slowed diameter and height growth. The alder component of these stands were aerielly sprayed in the 1970's resulting in short boles with many limbs. Minor amounts of *Phellinus weirii* were noted in the sale area, especially in Area 5.

Areas 1-4 are planned for modified clearcut by harvesting Douglas-fir and merchantable alder. All other species will be reserved.

In Area 5, Douglas-fir will be partial cut to a basal area range of 100-120 square feet. All other species will be reserved.

Tillamook River Basin

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

Trask Basin

Mike Pine: This sale consists of 6 areas totaling 731 acres. All sale areas are approximately 41 years old and dominated by Douglas-fir with scattered alder and cedar. The Douglas-fir is impacted by Swiss needle cast resulting in slowed diameter growth. The alder was aerially sprayed during the 1970's resulting in short boles with many limbs.

Areas 2, 3, 4, 5 and 6 are planned for modified clearcuts by harvesting Douglas-fir and merchantable alder. A diameter limit will be used to select leave trees of the largest diameter. All other species will be reserved.

Area 1 is planned for a retention cut by leaving a residual basal area of at least 33 square feet, primarily in Douglas-fir. Merchantable alder will be removed. All other species will be reserved.

Rimrock Road: This sale consists of two areas totaling 207 acres of Douglas-fir and alder mix approximately 43 years old. The Douglas-fir is impacted by Swiss needle cast.

Area 1 is planned for a modified clearcut by harvesting Douglas-fir and merchantable alder. All other species will be reserved.

Area 2 is a planned retention cut. Douglas-fir in excess of 33 square feet will be harvested along with merchantable alder. All other species will be reserved.

Trask Cutoff: This sale has 4 areas totaling 346 acres. The stands are mixed Douglas-fir and hemlock with pockets of alder. The Douglas-fir is impacted by Swiss needle cast and the alder was aerially sprayed in the 1970's resulting in short boles and many limbs.

Area 2 is planned for partial cut by removing alder and thinning Douglas-fir, hemlock and spruce to a residual basal area range of 100-120 square feet. All other species will be reserved.

Areas 1 and 3 are planned for modified clearcut. Douglas-fir and alder will be removed. A diameter limit will be used to select conifer leave trees in the unit. All other species will be reserved.

Area 4 is planned for retention cut leaving at least 33 square feet of basal area, primarily in Douglas-fir. All other species will be reserved.

Toll Shanty: This sale has 2 areas totaling 423 acres. The stands are 43 year old mixed Douglas-fir and alder with scattered hemlock throughout the sale. The alder was aerially

sprayed in the 1970's resulting in short boles and many limbs. The Douglas-fir is impacted by Swiss needle cast.

Area 1 is planned for retention cut leaving at least 33 square feet of basal area, primarily in Douglas-fir. Douglas-fir and alder will be harvested. All other species will be reserved.

Area 2 is planned for modified clearcut by harvesting Douglas-fir and alder. All other species will be reserved.

Tucca Head (Trask 52% and Nestucca 48%): This sale has 2 areas totaling 63 acres. The stands are 52 year old mixed Douglas-fir and hemlock with scattered cedar in the sale area.

Areas 1 and 2 will be partial cut to a residual basal area range of 90-110 square feet. All other species will be reserved.

West Beagle: This sale consists of 6 areas totaling 349 acres. The stands are 41 year old mixed Douglas-fir and alder. The Douglas-fir is impacted by Swiss needle cast and the alder was aerially sprayed in the 1970's resulting in short boles and many limbs.

Areas 1, 3, 4 and 6 are planned modified clearcuts by harvesting merchantable alder and Douglas-fir. All other species will be reserved.

Areas 2 and 5 are planned retention cuts leaving at least 33 square feet of basal area, primarily in Douglas-fir. Douglas-fir and alder will be harvested and all other species reserved.

Nestucca Basin

East Wood: This sale has one area totaling 42 acres. The sale is a 43 year old mixed species stand of Douglas-fir, hemlock and red alder. The Douglas-fir is impacted by Swiss needle cast.

The sale area is planned for a modified clearcut by removing Douglas-fir and merchantable hardwoods. All other species will be removed.

Farest: This sale consists of 2 areas totaling 168 acres. The stands range in age from 41-46 years old of mixed Douglas-fir and hemlock with scattered cedar and hemlock. The Douglas-fir is impacted by Swiss needle cast and the hemlock is overstocked with poor height to diameter ratios. The alder components of these stands were aerially sprayed in the 1970's resulting in short boles with many limbs.

Area 1 is planned for partial cut by harvesting Douglas-fir less than 24 inches DBH and merchantable alder. Hemlock will be thinned to a residual stand density of 25-40 SDI. All other species will be reserved.

Area 2 is planned for modified clearcut by harvesting Douglas-fir, hemlock and merchantable alder. All other species will be reserved.

Little Nestucca Basin

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

Forest Roads Management

Overview

The FY06 AOP includes approximately 11.6 miles of new road construction and 44 miles of road improvement. In addition, 3.1 miles of road will be vacated or closed in the Tillamook District. Refer to summary tables in Appendix A for more information.

The constructed and improved roads will provide improved access for recreational opportunities, fire protection, and hauling forest products from the sale areas. Since the mainline roads are already in place on the district, these new roads will be mostly short, low use roads. The amount of surfacing and road width will depend on the amount of volume that will be hauled on each road segment and the potential long-term use of the road after timber sale completion. These projects may include culvert replacement, side-cast pullback and vacating roads. Guidance for transportation management activities will come from the ODF *Forest Roads Manual*. Specifics within this AOP represent Level III Transportation Planning.

In-stream activity will be restricted to the ODFW guidelines to limit impacts to aquatic habitat and any exceptions will be reviewed with ODFW for site specific approval. End-hauling is required when constructing roads on side slopes greater than 55% and location of waste areas will be reviewed with ODF geotechnical specialist as needed.

District activities to control noxious weeds consist primarily of controlling Scotch broom in and around plantations and along roads. Other species such as knotweed and Himalayan blackberry are targeted for control as well. Noxious weed control will be performed on about 20 acres during the fiscal year. Since many infestations start along roads where soil disturbance occurs during road improvement or construction, the district specifies 100% weed-free grass seed and the use of straw for mulch instead of hay.

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

	Mainline (High Use)		Collector (Medium Use)		Spur (Low Use)	
	AOP	IP ¹	AOP	IP ¹	AOP	IP ¹
Road Construction	0	.5-1	0	2-3	11.65	2-3
Road Improvement	3	10-20	18.4	15-25	22.6	20-30
Road Closure/Vacation	0	0	0	2.5-5	3.1	2.5-5
Road Maintenance – District ²	10	-	200	-	150	-
Road Maintenance – Active Operations ³	37.1	-	68.7	-	7.2	-

1. These are annual estimates from Table 3-6, pg 27) 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 be within IP ranges at 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.

Alternate sales are not included in this table

Road Construction

Most of the new construction roads are classified as low use. These roads are often short dead-end spurs to access ridge tops and facilitate harvesting operations. Roads will not be located on steep slopes or high landslide hazard locations where risk analysis by the geotechnical specialists determines the probability of failure is high and the risk of resource damage is high. Roads will be designed to the minimum width necessary to accommodate the planned management activity. See Road Access Management section below for discussion on road closure and vacation.

Road Improvement

The majority of roadwork in this AOP is to complete road improvement. Road improvement may consist of surfacing, widening, side cast pullback, and improving drainage structures. Road improvement on the Tillamook District is discussed in two ways: 1) Improvement of existing roads and 2) Improvement of legacy roads. Existing roads have been improved and maintained over the years through timber sales or the district road crew. Legacy roads are roads built during the Tillamook Burn salvage operations and then abandoned. These legacy roads have a defined roadbed but are often overgrown with trees and shrubs. Legacy roads often require sidecast pullback, culvert installation, and resurfacing but the roadbed is defined and minimal equipment work is needed.

Special Projects:

Relay Tower sale will create a stockpile in the Fisherman's Access area for general road maintenance needs in the vicinity.

Sargent Lyda will have additional project work costs to rock portions of Hoskins Bridge access roads.

Road Access Management

All surfaced roads are categorized as active use roads. Unsurfaced roads will be waterbarred during wet season and will be reviewed for partial or full vacation at the end of the sale. In this AOP, approximately 2.0 miles of road is planned for full vacation. The *Forest Roads Manual* guidance for road vacation will be followed for this work.

At the end of timber sales, all roads are evaluated for access to future sales, resource considerations, and other use such as fire fighting needs. Roads may be retained, partially vacated, or fully vacated based on this evaluation. At the completion of regeneration harvests, access is needed for tree planting operations and a road may be left open for a longer period of time. This time period could be up to five years after harvest depending on the reforestation success. After a plantation is free to grow, roads will be closed by the district road crew or added to future timber sales as project work.

In FY05 a pilot project was completed in the Trask Basin for temporary closure of roads. This project was completed in partnership with ODFW and Oregon Hunter's Association (Tillamook Chapter) to install gates that were closed during the October and November hunting seasons. A continuation and possible expansion of this project may occur in the Wilson Basin. These reviews and decisions will be done in consultation with ODFW and Oregon Hunter's Association (Tillamook Chapter).

Road Maintenance

Timber sale purchasers will maintain timber sale access roads. ODF will maintain other roads. Road maintenance activities are divided into five basic categories; drainage, surface maintenance, cut and fill slopes, erosion control and vegetation control. Culverts, catch basins and ditches will be cleaned as necessary to ensure proper drainage. Road surfaces will be graded only when needed to maintain a smooth, stable running surface and surface drainage. Cut slope ravel will be removed from ditches and unstable fill slope material will be removed to prevent failure. Erosion and sediment control structures, such as culvert downspouts, sediment fencing, straw bales, bio-bags, sediment ponds and bio-filtration swales will be maintained or repaired as necessary to ensure their proper function. Vegetation will be controlled manually, mechanically or chemically where necessary. The method used will depend on the characteristics of the vegetation and it's location. Precautions will be used to avoid harm to non-target plants and to prevent any of the herbicide from contaminating water.

Some Level III planning projects (*refer to the Forest Roads Manual*) include removing fish passage barriers, vacating/closing lower elevation roads near streams, constructing roads on higher elevation ridges and the redevelopment of large capacity rock pits suitable for crushing to reduce turbid runoff from the road system.

Land Surveying

Property surveys are required to establish property corners and mark the lines defining State ownership. Four and one-quarter miles of property line will be surveyed and marked for six sales planned for FY06. One and one-quarter miles of property line marked in prior surveys will be retraced and refreshed, if required, for two sales planned for FY06. This work will be accomplished by both State personnel and cost share survey agreements with adjacent landowners.

Sixty-five existing corners will be maintained in order to preserve their position. This activity requires checking the condition of the monument and its accessories, and establishing new ones if necessary. This work will be accomplished by both State personnel and cost share survey agreements with adjacent landowners.

Young Stand Management

This section describes the types and anticipated amounts of reforestation and stand management activities that will occur in FY 06. The location and amount (acres) of these activities are estimates based on plans, information and conditions as known at this point in time. The type, amount and specific stand management prescriptions will be further adjusted based on when existing sold harvest units are completed and on updated assessments and surveys.

Reforestation and young stand management requires various combinations of site preparation, planting, animal damage control, vegetation management, and interplanting or replanting. These practices must be considered and prescribed for individual stands on a site-specific basis.

Rehabilitation

None Planned

Site Preparation

Prescribed Fire (Slash Burning): None Planned

Mechanical (Slash Piling): None Planned

Chemical Site Preparation: The site preparation objective is to control brush species to allow stand establishment and maintain 2-3 years of free to grow status. The current

estimate is 3,500 acres. The actual site preparation plan will be prepared in late spring or early summer when harvest units and brush development is better known. Most chemical site preparation is completed by helicopter spraying.

Planting

Initial Planting: The planting objective is to establish mixed conifer stands at 400 trees per acre. Initial plant species will consist of western hemlock, western red cedar, noble fir, and Douglas-fir. Douglas-fir will be included in planting units outside of the areas of severe Swiss needle cast. The target at age 10 is a mixed conifer stand with a minor hardwood component. These stands generally have the most potential to develop into complex stands, are the most resistant to pest and environmental impacts and retain the most future options. The current estimate is 4,500 acres of initial planting. Actual plans will be made in the fall prior to planting season when available harvest units are known.

Interplanting: The interplanting objective is to raise conifer stocking in young plantations that are below acceptable levels or below Forest Practices Requirements to a minimum of 250 trees per acre. The current estimate is 400 acres. Actual plans will be made after stocking surveys in the spring.

Underplanting: Candidate stands will be underplanted if surplus trees are available. Candidate stands are generally those stands where natural seed-in of tolerant species is not anticipated and the residual stand density is relatively low. Underplanting is planned for stands to introduce species diversity and to accelerate the establishment of a second cohort.

Natural Regeneration: None planned at this time. Units or portions of units will be assessed prior to planting. Natural regeneration will be considered primarily where small gaps and holes have been created in partial cut units.

Vegetation Management

The release objective is to attain or maintain free to grow status for current hemlock or mixed conifer plantations by controlling brush species, primarily salmonberry. Release assists with accelerating stand establishment and tree growth for development of complex structures.

Manual: None planned at this time.

Chemical: The current estimate is 600 acres. The actual plan will be developed in late spring or early summer when brush is more developed and actual needs can be assessed.

Tree Protection

The objective is to reduce browse by elk, deer, and rodents allowing trees to attain full height growth potential. Tree protection also reduces cost of long-term vegetation management once plantations reach a free to grow stage.

Tube & Pin: The current estimate is 900 acres. This will be in block planted cedar and areas of known heavy browse pressure.

Trapping: The current estimate is 4,000 acres.

Precommercial Thinning (density management)

The PCT objective is to reduce the density in overstocked conifer stands to maintain good individual tree growth rates with good live crown ratios. In mixed species stands with Douglas-fir heavily impacted by Swiss needle cast, species other than Douglas-fir will be favored. The current estimate is 400 acres.

Fertilization

None planned due to the impacts of Swiss needle cast. Past research has found that fertilizing accelerates the impact of Swiss needle cast. Future mixed species plantations may be considered for fertilization.

Pruning

None planned due to impacts of Swiss needle cast. The loss of needle retention in many Douglas-fir plantations does not make pruning a viable tool. By pruning the trees, the crown length is further reduced which in-turn reduces overall tree growth.

Recreation Management

Recreation management will continue to focus on implementing *the Tillamook State Forest Comprehensive Recreation Plan (1993) and Tillamook State Forest Recreation Action Plan 2000 (2001)*. These actions will encompass trail construction (motorized and non-motorized), trail maintenance, establishment of new facilities, and maintenance of existing facilities. The recreation program also works directly with law enforcement and coordinates several volunteer programs. See Summary Table A-5 for more information.

New Facilities Construction

These sites are identified in the *Action Plan 2000* for development.

Hollywood OHV Staging Area:

- Improvement and Upgrade of Staging Area
- Construction will begin in FY06

Footbridge Trailhead:

- Improvement and Upgrade of Site
- Construction will begin in FY06

Campsites:

- Upgrade up to 16 dispersed campsites located at Foss Road, East Fork Trask, and North Fork Trask areas

Facilities Expansion

No facilities expansions are planned FY06

Facilities Maintenance

The following is a list of facility maintenance during FY06. South Fork Inmate Camp crews perform the bulk of the maintenance. The district also has a janitorial contract for maintenance of Smith Homestead and Sprague Wayside.

- Jones Creek Campground - Open May 1st through Oct. 31st
- Diamond Mill OHV Campground - Open year round
- Keenig Creek Campground – Open year round
- Nehalem Falls Campground – Open May 1st through Oct. 31st
- Jordan Creek OHV Staging Area - Open late March through November
- Hollywood OHV Staging Area - Open year round
- Stones Road Boat Ramp – Open year round
- Peninsula Day Use Area & Boat Launch – Open year round
- Cedar Butte Trailhead – Open year round
- Footbridge Trailhead – Open year round
- Lake Tahoe – Open year round
- District maintains 29 developed dispersed campsites
- Charles Sprague Memorial Wayside
- Smith Homestead Wayside & Learning Shelter

Facilities Closure

No planned facility closures.

Trails

The trails listed below were identified in the non-motorized trail plan as discussed in the *Action Plan 2000*. The trail plan was reviewed by the Tillamook Recreation Advisory Committee (TRAC) resulting in the following priorities:

Non-motorized Trail Construction:

Wilson River Hiking Trail –

- Keenig Creek Trailhead to Muesial Creek Bridge –approximately ½ mile
- Muesial Creek west towards proposed Vanderzanden Trailhead – approximately ¾ mile

Special Concerns: Trail construction occurs in steep, rocky, remote terrain with multiple creeks, rock faces, and headwalls requiring stream fords and bridges. The estimate (miles and cost) of trail construction is difficult due to these concerns.

Coal Creek Trails

- Construction of ridge access trail – approximately ½ mile new trail construction

Non-Motorized Trail Bridges

- Keenig Creek
- Rhem Creek
- Rhinehart Creek
- Haines Creek

Non-motorized Trail Maintenance

- Wilson River Trail – Diamond Mill to Jones Creek – 1.62 miles
- Wilson River Trail – Jones Creek to Keenig Creek – approx. 7.7 miles
- Cedar Butte Trail – .75 mile
- Peninsula Trail – 0.8 mile
- Nehalem Falls Trail – 0.5 mile
- Bridge Creek Trail – 400'
- Outback Trail – 0.36 mile
- Coal Creek Trail - 1.3 miles

Motorized Trails

Motorized Trail Constructed :

South Fork Trask Bypass Trail

- Reconnaissance and layout of trail from Hollywood Camp along South Fork Trask Road. This trail is being completed in conjunction with Hollywood Camp staging area improvement.
- Approximately 1 mile of trail constructed in FY06

4WD Trail

- A 4WD trail will be created by converting a ridge road upon completion of harvesting activities located at T2N, R8W, Sec.9, 15, and 16. The trail will be approximately 2.1 miles.

Special Concerns: Due to timing issues with completion of timber harvest, this trail work may be delayed.

Motorized Trail Bridges:

- Approx. 24' bridge – no name creek
- South Wolf Creek – Coast Range Trail
- South Wolf Creek – BPA Trail
- 12' bridge – Spaur Creek Trail

Motorized Trail Maintenance:

These maintenance priorities are based on field observations of current trail conditions, resource concerns, and amount of use.

Jordan Creek Area

- Mad Dogs Pumpkin Patch - hand maintenance on narrow sections of trail
- Radio Silence – Volunteer work with hand- tools, continue upgrades to trail, install grade dips, brushing
- Hembre Ridge - install grade dips, widen, tree removal, grass grid for steep uphill sections, and harden trail road junctions
- Spaur Creek Trail - rock on uphill, clean bridge surfaces
- Jordan Creek Trail – re-route around steep uphill section

Diamond Mill Area

- Muesial Misery – open old road bed route, grade for OHV use
- Elk Wallow Trail – widen, grade dips, clear slash
- BPA Trail – grade to standard

Trask

- Zig Zag Trail - rocking, rolling dips, and screen at top of trail. Signing of trail at conclusion of logging
- Helipad 5 Trail – install grade dips
- Log Jam - grade top to bottom
- Poe Wade - grade top to bottom, haul rock as needed

Special Concern: Funding for second equipment operator is unknown at this time, which may decrease the amount of work that can be completed in the FY06.

Motorized Trail Vacation:

Closure of user created OHV trails in Bay City area. There is concern with T&E species conflicts and the trails are in poor condition, which may contribute sediment to Larson, Peterson, and Jacoby Creeks.

Special Concern for all Trail Building: ODF directives require compliance with local land use planning laws. Tillamook District will obtain appropriate permits from Tillamook County Community Development Department for bridge installation on trails. The timing and cost of trail building may increase due to the process to obtain permits.

Special Concern for Trail Vacation:

ODF plans to have public meetings to educate local residents about the reasons for trail closure in Bay City area. An alternative OHV trail system may be established in Bay City area away from T&E sites.

Other Management Activities

Table 5: Tillamook District Volunteer Activities

<u>ACTIVITY</u>	<u>NUMBER OF PEOPLE INVOLVED</u>	<u>ESTIMATED HOURS</u>
Camp Hosting	Up to 12 volunteers	5 days/week for 10 hours/day = 2400 hours of volunteer time
Volunteer trail Work non-motorized trails	10 – 15 people per work day	Non motorized trail workdays occur 3 rd Saturday of March, May, July, September and last 6 hours = 360 hours
Volunteer trail work motorized trails	<p>Trailsmen M/C Club work days 3-5 people per event</p> <p>Mt. Scott M/C Club work days 5 – 8 people per work day</p> <p>Lobos M/C 5 –8 people per work day</p> <p>WORC (Western Oregon Riders Club)</p> <p>Trask Mt. Trail Runners</p>	<p>Trailsmen perform volunteer work days perhaps 8 times/year = 320 hours of volunteer time</p> <p>Mt. Scott M/C up to 5 work days per year =150 hours volunteer time</p> <p>Lobos M/C 3-5 work days per year Est. 240 hours volunteer time</p> <p>450 hours per year</p> <p>300 hours per year</p>
North Coast Travel Management Area	1 – volunteer	520 hours per year

Organized Event Administration

For the 2005 event season (FY06), Tillamook District in conjunction with the OHV Coordinator will administer 16 motorized event permits. Events include poker runs, races, 4WD runs, dual sport runs, a car rally, and observed motorcycle trials.

Table 6: 2005 MOTORIZED CALENDAR OF EVENTS TILLAMOOK DISTRICT

MONTH	EVENT NAME/TYPE	LOCATION	ORGANIZER
July	MC Poker Run	Trask	Lobos
	4WD – Back to Basics	Rogers Block	Jolly Jeepers
	MC/Quad Poker Run	Jordan Creek	Trailsmen
August	Kids Field Day	Diamond Mill	Trailsmen
September	Dual Sport - Rat Dog	TSF	NW Tour & Trail
	Dual Sport -	TSF	Lobos
	4WD Poker Run	Rogers Block	Cascade Cruisers
October	MC/Quad Poker Run	Jordan Creek	Trailsmen
	Trials	Jordan Creek	COTA
	4WD Poker Run	Rogers Block	Flat Broke
November	Trials	Cedar Creek	COTA

Law Enforcement

Tillamook State Forest contracts with the Tillamook County Sheriffs Office for three full-time deputies to patrol the state forest. The sheriff's office funds 60% of the program with funds from the Oregon ATV Fund and the remaining 40% is provided by the ODF.

North Coast Travel Management Area

For the last six years the district has participated in the North Coast Travel Management Area. The Travel Management Program regulates vehicle travel during the general deer and elk seasons to reduce road damage, increase large bull escapement and provide non-motorized hunting opportunities. Throughout the hunting season signs are posted on the dead end spur roads in the Gods Valley area to close the roads to vehicle traffic. A volunteer maintains the road signs and two information boards. The volunteer performs public contact and informs people about the intent of the closures, and monitors the road system and reports to ODF on down trees, plugged culverts, and other road problems.

Land Exchange

No land exchanges are planned during the FY06.

Other Integrated Forest Management Operations

The Tillamook District is working with ODFW to identify areas for stream enhancement projects. Potential sites have been identified in some individual Pre-operations Reports and other projects are still be reviewed and discussed at this time.

Tillamook District is also implementing Salmon Anchor Habitat (SAH) Strategies as described in the Implementation Plan. In FY05, the district completed Basin Plans for six basins as listed in the strategy. Future AOP documents will discuss these plans and modifications to the basin plans will be addressed through the AOP process.

The District will set up and administer commercial and individual wood cutting areas. These areas are used to daylight roads, clean up landings, and salvage windthrow adjacent to roads. Commercial permits will also be issued for moss, beargrass, salal, ferns, vine maple, and alder saplings.

Planning (and Information Systems)

The Tillamook District will use a variety of tools, data sources, and other information for the continuing planning and implementation of the AOP. These consists of computer programs (ArcView, SuperAce, GPS programs, etc), inventories (OSCUR, Road Inventories and Stand Inventories), surveys (T&E, fish presence), and field reconnaissance. These will also be used to assist in setting resource goals for the district, and to monitor progress in achieving those goals. During the FY06, the district will be undertaking the following projects in order to update existing data and acquire new information.

Stand Level Inventory and Other Vegetation Inventories

Stand Level Inventory will not be conducted on the district during FY06. The district will complete stand type designations for stands across the district through a Personal Services Contract instead. The purpose of this project is to break stand type boundaries into smaller units. In the past the district focused on commercial thinning operations and designating stand type boundaries based on past operations like precommercial thinning and large blocks of conifer of similar age. In recent years, management has changed focus toward regeneration harvest for treatment of Swiss needle cast. Secondly, the type of data and method used for the Stand Level Inventory is not as useful with large stand type boundaries as it could be with smaller type boundaries. The contract work is

expected to be completed by October 2005 and the changes incorporated into the next SLI contract to be awarded in Spring 2006.

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

Fish and Wildlife Surveys

Fish Surveys

Requests will be submitted to ODFW for stream surveys to determine fish presence. If the surveys are not completed, by the time of sale preparation, streams will be treated as fish bearing. All attempts will be made to verify fish use by time of auction or when sale activities begin.

Marbled Murrelet Surveys

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

ODF completes surveys of potential habitat within or adjacent to planned timber sales. Additional monitoring surveys are planned in Marbled Murrelet Management Areas (MMMA).

Northern Spotted Owl Surveys

In FY06 the district will continue its northern spotted owl survey program, in order to effectively comply with the *Agreement for the Conservation of Northern Spotted Owls* (September 2001) and to comply with ODF's responsibilities under the state Endangered Species Act. The survey method utilized by ODF is the *Protocol for Surveying Proposed Management Activities That May Impact Northern Spotted Owls*. This protocol was originally dated March 1991 was revised March 1992 and is endorsed by the USFWS. The district surveys planned timber sales with potential habitat and monitors known nest sites. Additional surveys are completed in the Tillamook Burn on a two year cycle.

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

See the table below for a summary of on-going timber sale surveys for marbled murrelet and northern spotted owls.

Table 7. Summary of status of T&E surveys

Operation	Species (NSO/MM)*	Status
Beaver Ridge	NSO/TBA	2005/2006 Surveys
Clamson	NSO	2004/2005 Surveys
East Wood	NSO	2004/2005 Surveys
Farest	NSO/MM	2004/2005 Surveys
Filosi Moss	NSO/MM	2004/2005 Surveys
Fire Break Ridge	NSO/MM	2004/2005 Surveys
Hole in the Wall	MM	2005/2006 Surveys
Hoskins Bridge	NA	
Mike Pine	NA/TBA	
Rackheap Falls	NSO/MM	2004/2005 Surveys
Relay Tower	NSO	2004/2005 Surveys
Rimrock Road	NA	
Roger Fox	NA	
Sargent Lyda	NSO	2004/2005 Surveys
Tin Tank	NA	
Toll Shanty	NA	
Trask Cutoff	NSO/MM	2004/2005 Surveys
Tucca Head	NSO	2004/2005 Surveys
West Beagle	NA	
Alternate		
Fire Mole (alt)	NA	

*NSO is Northern Spotted Owls

*MM is Marbled Murrelet

*NA indicates sale does not require surveys for either species

*TBA indicates sale requiring more fieldwork to determine surveys needs. These sales will be reviewed before final AOP approval.

Plants

The proposed harvest operations were screened against the Oregon Natural Heritage Database and known locations on the district to identify potential conflicts with listed plant species. See the specific pre-op reports for Hole in the Wall, Roger Fox, Relay Tower, Trask Cutoff, and West Beagle for more information. The district will work with Department of Agriculture to determine distribution and appropriate protection.

Watershed Analysis

The watershed analysis began for the Miami Basin during FY05. Final assessment and analysis will be completed during summer of FY06. Watershed analyses for the Wilson and Lower Nehalem Basins are planned to begin during FY06 and continue into FY07.

Research and Monitoring

The Tillamook District will be involved in a variety of research and monitoring projects in FY06. Study sites and plots will be established and/or maintained on the district. District employees may participate in these projects. The following sections provide brief summaries of current research as well as planned research.

Cooperative Forest Ecosystem Research (CFER):

Cooperative research program supported by OSU, USGS, and ODF. Projects are focused on

- Ecology and management of biodiversity in young stands
- Ecology and management of riparian zones
- Ecology and management of special interest species

This program contributes information on how to tailor forest management to achieve the objectives of long-term Forest Management Plans. CFER is also continuing work initiated by COPE program.

Integrative Young Stand Management Strategies for Productivity and Structural Diversity: (OSU, ODF Districts)

These projects investigate assumptions critical to the successful implementation of the FMP. Two sets of studies are investigating the development of young Douglas-fir monocultures and mixed species stands managed for revenue production with the goal of determining at what specific stage various structural components are lost in the stand. Secondly, the studies are determining under which conditions, if any, management activities can ensure persistence of certain structural components and evaluate the associated tradeoffs in stand growth and economic returns.

Swiss Needle Cast Cooperative Studies: (ODF Districts and SNCC)

- Pre-commercial thinning plot measurements and disease assessments
- Permanent plot measurements and disease assessment
- Sulfur plot measurements, nutrient sampling, disease assessments
- Bravo plot disease assessments

Swiss Needle Cast and Commercial Thinning: (OSU, ODF Districts)

Proposed research will address 1) growth trends following thinning of older stands with varying levels of Swiss needle cast damage, 2) interactive effects of Swiss needle cast with intensity of thinning, and 3) possible interactions between thinning, disease severity, and seed source (where data is available). The approach includes a combination of a retrospective study of stand growth since thinning with permanent monitoring plots to track future growth. The study will require a minimum of 10-year duration to establish trends in stand development after thinning.

Evaluation of Crown Length: Sapwood Area: (ODF)

Studies thus far have focused on correlating recent tree volume growth with relatively easy-to-obtain field measurements such as foliage retention, discoloration and crown length to sapwood area ratios (CL:SA). Recent work on commercial thinning plots shows CL:SA is a reasonable predictor of volume growth, and the combination of CL:SA and foliage retention is even better (Mainwaring and Maguire). The objective of this evaluation is to estimate recent periodic volume increment, which when adjusted for site index and correlated with SNC damage indices, should provide a reasonable indicator of how well the stand is growing compared to a stand without SNC damage.

Edwards Creek Pilot Study: (ODF)

Field measurements will begin to evaluate Swiss needle cast impact on tree and stand growth. The objective of the field sampling is to compare measured tree and stand growth to predicted growth in models under the impacts of Swiss needle cast.

Stream Temperature and Riparian Function: (ODF Forest Practices Monitoring Program (FPMP), ODF State Forests Monitoring Program (SFMP), ODF Districts, Forest Industry)

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

Animal Damage in Plantations: (ODF)

The formal study compares various stock type and seedling nutrient level combinations as they relate to controlling/preventing animal damage. The study will look at various economic investments (stock type, repellents, physical barriers) and returns (tree survival and growth) in plantations.

East Fork Trask Fish Traps: (ODF and ODFW)

A Salmonid Life Cycle Monitoring site was established in cooperation with ODFW during fall 2004 at East Fork Trask hatchery facility (no longer in use). Life Cycle Monitoring collects information on returning adults and out-migrating smolts to provide information on basin productivity and population dynamics. This site augments ODFW's larger Life Cycle Monitoring project covering the Oregon coast. ODF refurbished the facilities and conducts all trapping and stream survey activities. ODFW provides technical oversight and processes, analyzes and interprets data. This project will continue in FY06 and future years.

T&E Surveys: (ODF, Contractors)

See the above section on fish and wildlife for more detail of surveys for spotted owls and marbled murrelets.

Northern Spotted Owls and Marbled Murrelet On-going Monitoring: (ODF, Contractors)

On-going monitoring is occurring of known sites of Northern spotted owls and marbled murrelets. The objective of these surveys is to determine continued occupancy of the site and movement within designated owl circles or marbled murrelet management areas (MMMA) over time.

Other Planning Operations:

None Planned

Public Information and Education

The district will maintain supporting information for the Implementation Plan, Land Management Classification System, and Annual Operations Plans for public review. Public involvement will include public review and input on the FY06 Annual Operations Plan. District personnel will participate in public education opportunities such as assisting the Tillamook Forest Education and Interpretation program, watershed council meetings, recreation planning meetings, school field trips and other public events as the opportunity arises. The district will continue to meet with concerned citizens or groups when they have specific questions.

The Northwest Oregon Area Office will continue site development work at Cedar Creek Flat in preparation for opening of the Tillamook Forest Center. During the second half of this AOP period, the Tillamook Forest Center will be open to the public. Typical activities on-site during this time will include routine maintenance of the building and grounds, guided and self-guided public use of the trails at the site.

Administration

There are currently forty-four permanent positions on the Tillamook District responsible for implementing the 2006 Annual Operations Plan. These positions are divided into five functional groups: Forest Management, Engineering, Reforestation, Recreation, and Administration. See the attached organizational chart.

There are three forest management units (North, Central, South) responsible for all aspects of timber marketing. These activities include planning, unit layout, assisting with road layout and design, timber cruising, timber sale appraisal, contract writing, and contract administration. These units prepare the Pre-Operations Reports for the AOP.

The units also manage firewood sales, and miscellaneous forest products such as moss, ferns and salal.

The engineering unit is responsible for all aspects of road engineering and land surveying. These activities include road design and layout, rockpit development, road maintenance, property line location, road construction and improvement appraisals, contract preparation, and road contract administration.

The reforestation unit is responsible for all activities in forest plantations from the time the harvesting is complete through pre-commercial thinning. The activities of this unit include site preparation, trapping, tree planting, vegetation management, tree improvement, and pre-commercial thinning. The reforestation unit also coordinates South Fork crews and administers contracts to complete these tasks.

The recreation unit is responsible for implementation of the 2000 Recreation Plan Update and operation of the overall recreation program including facility maintenance. Program elements include the operation and maintenance of campgrounds, day use areas, trailheads, staging areas, motorized and non-motorized trails, boat ramps, event management, South Fork crew coordination, law enforcement coordination, volunteer recruitment and management, and contract administration. The recreation unit also reviews AOP documents and works closely with the forest management units for trail protection during operations or trail rehabilitation after operations.

Administration consists of the District Forester, Assistant District Forester, Office Manager, Purchasing Specialist, and two Office Specialists. The District Forester and Assistant District Forester provide policy direction, budget development, and oversight to the field units.

The Office Manager, Purchasing Specialist, and Office Specialists provide clerical support to State Forest Management. These positions are responsible for initial public contact, distribution and filing of documents, and providing assistance at timber sale auctions. The Office Specialist is also responsible for issuing permits for firewood cutting, and special forest products.

The GIS Specialist and Operations Coordinator act as coordinators between all of the above units. The GIS Specialist assists the units with creating GIS displays for timber sale layout, contracts, and planning documents. The GIS manager also completes maintenance and timely updates to the GIS database and provides overall IT support. The Operations Coordinator works between units for consistency as well as completing other planning documents. The Coordinator also acts as the contract administrator for T&E surveys.

Each of these units is responsible for ensuring the management approaches, activities, and projects are designed to meet the goals, strategies, and objectives of the FMP, Implementation Plan, AOP, and Recreation Plan. The sales and projects are

coordinated across the district from the development of the AOP to the final sale administration for consistency within and between units to meet common goals.

APPENDICES

A. Summary Tables

B. Pre-Operations Reports

C. Public Involvement and Plan Changes