

TABLE OF CONTENTS

INTRODUCTION	3
INTEGRATED FOREST MANAGEMENT OPERATIONS	5
Timber Harvest Operations.....	5
Overview of Timber Harvest Operations.....	5
Forest Roads Management.....	11
Overview	11
Road Construction.....	13
Road Improvement.....	13
Road Access Management.....	13
Road Maintenance	14
Land Surveying.....	14
Young Stand Management.....	14
Rehabilitation	15
Site Preparation	15
Planting	16
Vegetation Management	17
Tree Protection	17
Precommercial Thinning (density management).....	17
Fertilization.....	18
Pruning.....	18
Recreation Management	18
Overview of Recreation Management	18
Facilities (Campgrounds, View Points, Trail Heads, etc.).....	21
Forest Land Management Classification	29
Land Exchange.....	29
Other Integrated Forest Management Operations	30
Firewood	30
Miscellaneous Forest Products	30
Planning (and Information Systems).....	31
Stand Level Inventory and Other Vegetation Inventories.....	31

Fish and Wildlife Surveys	31
Watershed Assessments	32
Research and Monitoring	32
Noxious Weeds	33
Other Planning Operations.....	33
Public Information and Education	33
Administration	35
APPENDICES.....	37
A. Summary Tables	37
B. Pre-Operations Reports	37
C. Public Involvement	37
D. Additional Maps	37

NORTH CASCADE DISTRICT

2009 ANNUAL OPERATIONS PLAN

INTRODUCTION

This operations plan describes the activities planned for the Santiam State Forest during the 2009 fiscal year. The 2009 fiscal year runs from July 1, 2009 to June 30, 2010. This plan summarizes the activities and projects that will take place in FY 2009 to achieve the goals, strategies and objectives of the Northwest Oregon State Forest Management Plan, Cascade District Implementation Plan and the Santiam State Forest Recreation Management Plan as well as state and federal statutes and regulations, policies and voluntary measures.

The 2009 Annual Operations Plan is broken out into a Summary section that discusses commercial forest management operations, roads and engineering, young stand management, recreation, land exchange, planning, public information and education, and administration; Summary Tables, Pre-Operations Reports, Maps and a Public Involvement appendix that will be included in the final document.

A portion of this plan describes timber harvests and associated road work which will be designed and prepared for contract during FY 2009. The actual harvesting and associated road work described in these plans will not occur until one to three years after the end of FY 2009 due to the time required to set up the timber sales, write the timber sale contracts, advertise and auction the sales. The duration of a timber sale contract is generally two to three years.

The young stand management, recreation management, road management, planning and information activities described within this plan are estimated objectives that will be met within FY 2009. The levels of these activities are based on current information and data. These management activity levels may be adjusted as new information becomes available during the fiscal year. For instance, initial tree planting levels are dependent upon harvest units being completed on a certain timeline. If those harvest units are completed in a time frame different than estimated, the initial tree planting levels would be adjusted accordingly.

Acreage objectives in this plan are described in terms of gross or net.. Gross acres refer to the total area within the boundaries of an operational unit. Gross acres are the starting point for determining acreage. Net acres refer to the total area within the boundary of an operational unit minus the acres in roads, stream buffers, green tree retention areas and other areas that will not be harvested. Net acres are used when determining harvest volumes.

Harvest Levels:

The District is including 14.5 MMBF of timber harvest in this Annual Operations Plan (Table A-1). The combined range for regeneration and partial cut objectives was modified in 2007 from the original 2003 approved IP range of 980 – 1,470 acres per year to 735 – 1,170 acres per year due to limitations associated with Threatened and Endangered species and the field validation of harvest projections derived from the Harvest and Habitat (H&H) modeling. Partial cut harvest objectives were reduced from the original 2003 IP range of 800 – 1,200 acres to a range of 470 – 900 acres per year. The regeneration harvest objectives remain at 180 – 270 acres.

The District has included 4 Alternate Operations in this Annual Operations Plan. These alternate operations may be used to replace regular sales that cannot be completed as planned.

Table 1. Annual Operations Plan objectives compared to annual objectives identified in the 2003 Cascade District Implementation Plan (Table A-1) as modified in 2007. All values are acres.

Silvicultural Activity	IP Annual Objective		2009 AOP Objective
	Low	High	
Conifer Partial Cut	470	900	677
Regeneration Cut	180	270	270
Hardwood Partial Cut	0	0	0
Hardwood Regeneration Cut	0	0	0
Rehabilitation	0	0	0
Reforestation (Initial Planting)	115	345	176
Precommercial Thinning	150	250	250
Fertilization	1000	1400	0
Pruning	0	50	0

INTEGRATED FOREST MANAGEMENT OPERATIONS

Timber Harvest Operations

Overview of Timber Harvest Operations

Definitions for proposed harvest types can be found on the “State Forest Annual Operations Planning” web page

(http://www.oregon.gov/ODF/STATE_FORESTS/docs/management/aop/Harvest_Type_definitions.pdf)

Summary tables and detailed pre-operation reports for the harvest operations are attached to this document.

The partial harvests and regeneration harvests proposed in this operations plan comprise 2% of the total acres within the Santiam State Forest.

Approximately 70% of the planned harvest operations are partial cuts, while the remaining 30% are regeneration harvests. The regeneration harvests will help maintain a sustainable flow of timber and revenue to local markets, economies, and governments, and help achieve open habitats on the landscape. The partial cuts are intended to reduce the density of the overstory trees and to maintain or further encourage the understory growth within these stands. Partial cutting will also allow the residual trees within a stand to increase their diameter growth and enhance stand volume production and value. These proposed partial cuts will allow the stands to move along the trajectory towards their desired future condition.

Most regeneration harvests are planned within stands that are not on a trajectory for a complex stand structure. Stand structure in these units begins to develop later when the units reach 10-15 years of age or pre-commercial thinning age. At the time of pre-commercial thinning, the DFC for the unit is re-evaluated since some young stands change dramatically within the first 15 years. The primary management objective for these stands is to enhance stand volume production and value while maintaining or developing structural components important to habitat diversity. All regeneration harvests will be reforested with a mixture of Douglas-fir and western redcedar or for higher elevation ground, a mixture of Douglas-fir and noble fir seedlings.

The guidelines for managing structural habitat components listed under Landscape Management Strategy 3 in the *NWO State Forests Management Plan* (pg. 4-52) will be followed for the FY 2009 Annual Operations Plan. In proposed commercial forest management operations, existing down wood, snags, and remnant old growth trees or

patches of old growth will be retained. The landscape management goal is to have an average of two snags per acre retained across the landscape. Residual live trees retained in conjunction with regeneration harvests will serve as a source of future snags and down wood as well as provide legacy trees for the new stand being regenerated. Retained trees will include a component of hardwood trees when available. The snags and down wood left in all operations also support future forest needs. The snags provide habitat for cavity-using species and provide a future source of down wood. The down wood provides habitat for wildlife species and enables other key functions such as nutrient cycling.

Additional information on the proposed operations can be found in Tables 1, A-1, and A-2 located in Appendix A and in the individual pre-operations reports located in Appendix B.

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	0	213	708	26	0	
Post Harvest²	270	0	651	26	0	
Desired Future				292	26	629

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.

Management activities within riparian areas of streams will focus on achieving properly functioning aquatic and riparian habitat conditions over time. Riparian Management Areas (RMAs) will be established immediately adjacent to streams for the purpose of protecting aquatic and riparian resources and maintaining the functions and ecological processes of the streams. The Management Standards for Aquatic and Riparian Areas found in the *NWO State Forests Management Plan* (pg. J-1 – J-16) will be followed within these RMAs.

In addition to the requirements of the *NWO State Forests Management Plan*, the following measures will be employed to minimize impacts to the streams caused by harvesting activities:

1. No ground based equipment will be allowed within the stream buffers.
2. No timber will be felled within the buffer except to facilitate cable yarding.
3. Timber above the buffer will be felled away from or parallel to the stream.
4. Timber will be yarded away from the stream, where possible.
5. If it is necessary to yard logs across the stream, logs will be fully suspended above the buffer vegetation.

6. Skylines over buffer areas will be pulled prior to rigging the next yarding road.
7. Erosion control measures will be used on areas of soils exposed during road construction or improvement.
8. Road ditches will be disconnected from streams
9. Road maintenance will be required during log hauling.
10. Other requirements designed to minimize impacts to streams may include seasonal restrictions for road construction and log hauling.

The District follows the *Oregon Forest Practices Act* statutes and rules for soil and water protection. These rules define the best management practices for protecting soil, air and water quality when conducting timber harvests, prescribed burning or road construction activities. The District uses the professional expertise of foresters and forest engineers to evaluate proposed activities. The District also uses geotechnical expertise in planning and carrying out management activities, especially when steep slopes and other high landslide hazard locations require this.

All management activities will avoid take of Northern Spotted Owls by applying *Procedures Leading to Endangered Species Act Compliance for the Northern Spotted Owl (USFWS 1990)*, subsequently rescinded. These measures remain the best available information for avoiding take. The guidelines call for surveys of suitable habitat, protection of core areas, and maintaining suitable habitat within owl circles. Area II of the Green Tweener sale is located within a Northern Spotted Owl site. A biological assessment of this site has been prepared by ODF staff biologists. The assessment will be reviewed by both the Oregon Department of Fish and Wildlife and the US Department of Fish and Wildlife. The assessment and comments from both agencies will be reviewed by the District Forester, Area Director and Program Director who collaborate on how to apply conservation measures for the planned operations.

Summary of Operations by Basin

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

Basin	2009 AOP		Cumulative Operations ¹ (FY 02—09)	
	Partial Cut	Clearcut	Partial Cut	Clearcut
Butte Creek	0	114	971	382
Cedar Creek	0	0	1133	142
Crabtree	0	0	9	351
Green	207	0	637	3
Mad Creek	201	91	1383	263
Rock Creek	269	0	2278	330
Scattered	0	65	660	473

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

The following is a short description of operations proposed within the seven management basins within the District. A more detailed description of each operation can be found in the attached Pre-Operations Reports.

Butte Creek Basin

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

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

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

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

Taylor Creek (alternate): this is a 99 acre modified clearcut. The overstory is Douglas-fir and western hemlock averaging 73 years in age. The understory includes numerous suppressed western hemlock trees - 22 years old but only one inch in diameter. The

harvest objective is to establish a vigorous new stand while maintaining or developing structural components important to habitat diversity. A mix of Douglas-fir, noble fir, and western redcedar will be planted. Fourteen green trees per acre will be recruited and two snags per acre will be created.

Cedar Creek Basin

There is one alternate operation proposed in this basin.

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

Crabtree Basin

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

Green Basin

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

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

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

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

Special Concerns: Two domestic water use intakes are within or adjacent to the operation boundary. These water use intakes will be protected during

harvesting activities. A Bonneville Power Administration (BPA) powerline right of way is close to the proposed southern timber sale boundary. The BPA will be notified of our proposed activity and their guidelines for logging activities on or near BPA rights-of-way will be followed.

Mad Creek Basin

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

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

Rock Creek Basin

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

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

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

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

Scattered Basin

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

Polly Power: the operation is located in a low volume 50 to 80 year old Douglas-fir stand with dense vine maple openings. The area is proposed for a modified clearcut that will

remove the poorly stocked, underproductive trees and establish an intensively managed new stand of planted Douglas-fir and western redcedar.

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

Forest Roads Management

Overview

The primary transportation focus is to protect and secure access for forest management activities. This involves constructing new roads where needed and maintaining or upgrading existing roads. Other resource management and other users are also considered in the transportation planning. The transportation system provides access for timber removal, recreation, fire control and removal of other forest products to name a few of the uses. The District transportation system is managed to provide efficient and effective access that facilitates obtaining the greatest permanent value from the forest for the people of Oregon. This AOP represents Level III planning as described in the Forest Roads Manual, pg. 2-2.

An important component of the transportation activities planned in FY 2009 will be to maintain and improve current access to a condition that minimizes resource impacts to water quality and meets ODF’s access needs. A high priority and special concern for road improvement is to protect or improve water quality. Over the last 5 to 10 years much effort and success has been made in removing barriers to fish passage and providing drainage improvements that minimize impacts to water quality. There are only minor improvements left to complete on short reaches of fish streams and roads that will further enhance fish usage on the Santiam State Forest. The activities below will accomplish this as well as meet the transportation goals. The District Implementation Plan defines our goals for surfacing. Mainline roads and collector roads are in good condition and will only receive maintenance such as spot rock and vegetation control in this AOP period. Roads with crushed rock make it possible to create and maintain a road surface shape that will drain well and allow for efficient travel. This has largely been completed on this district where it makes sense economically and for future use. Good surface drainage is critical to minimizing sedimentation from roads and for protecting the subgrade to allow winter hauling where appropriate. Along with good surface drainage, once the water is off the road and into a ditch it needs to be directed in a way to minimize impacts to water quality. Cross drainage will be reviewed on essential haul routes, tributary roads and will be upgraded where necessary, including disconnecting the

ditches from live streams. The guidelines found in the ODF Roads Manual are followed to decide where additional culverts will be installed. Stream crossings will be analyzed on haul routes and the connecting spur roads to make sure they meet 50-year flow event minimums. Roadside brushing and roadside spraying will be conducted to control encroaching vegetation.

Several new roads will be constructed to provide access for commercial forest management operations planned within the 2009 fiscal year. All new road construction for this Annual Operations Plan falls into the spur road category and will be evaluated during sale prep for closure or being vacated after the sale is completed. Spur roads needed for future management activities but not for immediate use may be put in a restricted status by partially vacating or simply closing the road. This will help to reduce the maintenance cost as well as water quality impacts from those roads. All new road construction will be designed, reviewed and administered by foresters with forest engineering experience. Roads will be rocked if winter use is anticipated, typically during cable logging operations. Roads within some of the predominately ground harvestable operations will be restricted to summer use only and those roads will generally not be surfaced. There are exceptions when it may be desirable to rock roads primarily for reforestation access that must occur in the winter.

The transportation activities for the 2009 fiscal year will fall within fiscal year budget instructions. These projects are achievable with the proposed sales for this plan and stay within current guidelines for project expenses.

Small quantities of noxious weeds such as Tansy ragwort, Scotch broom, and a variety of thistles are present around the District. If significant populations of noxious weeds are present on the District, a formal plan will be created and implemented to address their control.

Additional information regarding roads and engineering can be found in Table A-3 located in Appendix A.

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	0 - 0.4	0	0.2 - 0.3	5.3	4 - 5.2
Road Improvement	0	1.6 - 15	0	4.9 - 6.1	3.5	2.4 - 3.6
Road Closure/Vacation	0	0 - 0.5	0	0 - 0.5	2.4	4.6 - 5.8
Road Maintenance – District²	20		60		40	
Road Maintenance - Active Operations³	27	n/a	13	n/a	7.5	

1. These are annual estimates derived from Table 6 Potential Road Activities FY 2002-2011 of the 2003 District Implementation Plan. The values here were derived by dividing the values in the Potential Road Activities table by 10.
2. The road maintenance estimates include only the work to be completed during Fiscal Year 2009 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

All of the road construction described for the planned commercial forest management operations described within this Annual Operations Plan will be designed as spur roads. These will be short roads, generally less than ½ mile in length and will be built to standards to minimize the road footprint. Road subgrade widths will be 14 to 16 feet wide and either ditched or out-sloped. Since many of the proposed operations are partial harvests, there will be a need to use most of the roads again for future management activities. Some of the roads built will be closed (not vacated) when the operation has been completed. Closed roads will be put in a condition that will require minimal or no maintenance until needed again. This may involve grass seeding and the installation of water bars, tank traps or other road barriers to keep vehicles off the road. Spur roads into completed clear-cut operations will be closed when it is determined that the road is no longer needed for approximately 15 years or more. Stream crossing structures will be removed to eliminate the possibility of a stream restriction or maintenance problem. In some cases the access in clear cuts will not be vacated to assist with the reforestation effort. The net effect of road building and road vacating will be a gain of 2.8 miles of spur road on the District.

Road Improvement

The road improvement in this plan will consist of minor culvert replacements/additions and spot rocking as needed on mainlines and collector spurs.

Road Access Management

Access to the Santiam State Forest generally is not restricted. Roads that are not needed for future forest management or for extended periods of time (more than 15 years) are candidates for some form of closure to take the road out of active use. Roads that pose a high risk of damage to water quality are candidates for closure. Closing and vacating roads reduces the District's maintenance cost and helps to minimize impacts to the environment from roads. Not only do these roads cause a maintenance liability; some of these roads become opportunities or locations for dumping of trash. Many of the short spurs constructed for timber sale use will be reviewed for closure. Before any road is

scheduled for closure a "Road Proposed for Vacating" sheet is routed to all known interested management sections within the District to make sure roads are not closed that are needed.

Road Maintenance

The road maintenance for roads being used for timber sale access becomes the responsibility of the timber sale purchaser once sale activity has begun. Timber sale purchasers during this operating plan will maintain approximately 47 miles of road. Road grading, ditch cleaning, culvert inlet and outlet cleaning and spreading patch rock as needed during timber haul will all be done by purchasers.

The District roads not under timber sale contracts are maintained by the District using a grader, loader, lowboy and a dump truck. Road grading over much of the District is covered once during the year with some roads graded more. Small rocking projects will also take place to reinforce weak subgrades or cover road surfaces producing sediment. The District road crew also responds to emergencies such as unplugging culverts, removing small slides, clearing slough from ditch lines and blocking roads when necessary. A backhoe or excavator will be rented for approximately a month to clean out culvert catch basins as well as working on any miscellaneous projects that come up.

By combining the timber sale road activities and District road crew activities together the following road maintenance work estimates are expected:

- 160 miles of road will be graded
- 5,000 cubic yards of crushed rock will be put in a stockpile for maintenance needs
- 15 miles of road will be brushed
- 30 miles of road side vegetation will be treated with herbicide
- culvert catch basins will be cleaned as needed
- Slough and slide removal will take place as needed
- Road surface rock patching will be done as needed

Land Surveying

There are 2.75 miles of property line on 3 timber sales that will be surveyed, posted and blazed by District personnel.

Young Stand Management

Young stand management operations occur in forest stands prior to the first commercial thinning and after a commercial thinning. These operations tend not to produce revenue, but are essential in establishing a healthy forest. The objectives of young stand management are to achieve the goals for reforestation, stand structure development, and

future revenue generation. The current fiscal year budget allocates the necessary funding to implement stand management prescriptions to move stands toward the desired future conditions for each stand.

The reforestation and young stand management table outlines the costs needed to perform management activities on young stands. These young stands are typically not associated with the sales described in the pre-operations reports found in Appendix B.

Several smaller and short-term reforestation projects are well suited to using inmate crews from Marion County or South Fork. South Fork is a correctional facility that is a cooperative effort between the Department of Corrections and ODF. These reforestation projects tend to be one-day projects such as planting a few acres or pruning small acres of white pine to protect them from blister rust. The inmate crews do work well in filling the niche left open when projects are too small to contract out. Prior planning is needed to schedule any inmate crew for these projects; although some emergency situations can be accommodated.

The planned operations necessary to meet landscape and stand structure targets include: site preparation, planting, vegetation management, tree protection, pre-commercial thinning and fertilization. The following is a brief summary of each individual activity. Additional information on young stand management can be found in Tables 1 and A-4.

Rehabilitation

No rehabilitation projects are planned for fiscal year 2009.

Site Preparation

Site preparation is an important tool used in establishing a stand. Site preparation can affect seedling establishment and survival. Site preparation will help with reforestation efforts to move a stand into a Regeneration (REG) classification. Prescribed fire (burning of logging slash), mechanical (piling of slash) and use of herbicides are just a few tools used in site preparation. The goal of burning or piling logging slash is to eliminate or manipulate logging debris in order to create plantable areas. Herbicide site preparation is used to manage undesirable vegetation that would compete with newly planted seedlings. Planting spot development is used when burning is not a preferred method due to shallow soils or flat slopes. The use of a slash buster reduces the size of the slash and creates open areas for planting. The slash is not removed from the site and quickly decomposes on site. All site preparation activities contribute to moving a stand towards its desired future condition.

Basins:

Butte Creek: None

Cedar Creek: 174 acres of slash burning

Mad Creek: None

Rock Creek: 250 acres of slash burning; 17 acres of mechanical site prep; and 28 acres of chemical site prep.

Scattered: 183 acres of slash burning, 122 acres of chemical site prep

Special Concerns: To protect air quality, all burning will be done in accordance with the Oregon Smoke Management Plan. The Smoke Management Plan is designed to reduce emissions from prescribed burning in western Oregon and to minimize smoke intrusions into designated population areas.

When using herbicides on State Forests for site preparation needs, EPA approved herbicide product labels and the Forest Practices Act will be strictly adhered to. Mechanical site preparation will also be monitored during use to ensure that the Forest Practices Act requirements are met.

Planting

Reforestation is the establishment of seedlings following regeneration harvests, patch cuts, root disease removal, severe blow down events, and, in certain cases, partial harvests. Planting helps meet the goals of reforestation through planting a variety of tree species in stands. The mixing of tree species helps achieve the desired future conditions within each management basin. The various activities of initial planting, interplanting, and underplanting provide different outcomes to achieve these future conditions.

Initial planting establishes the seedlings to begin a regeneration stand. The species of seedlings planted and the density at which they are planted will influence future management activities within the stand.

Interplanting is used when initial reforestation has been less successful than desired. Planting additional trees within an area will continue the stand along its desired management path.

Underplanting involves planting seedlings beneath a canopy of taller trees. Most species used in underplanting are shade tolerant and are used to help achieve a desirable understory needed for Layered or Older Forest Structure stands. This activity can likewise introduce a desired native species into a stand to increase stand diversity.

Basins:

Butte Creek: Interplant 36 acres.

Cedar Creek: Interplant 30 acres

Mad Creek: Interplant 14 acres.

Rock Creek: Initial Plant 38 acres; and interplant 37 acres.

Scattered: Initial Plant 167 acres; and interplant 33 acres.

Vegetation Management

Vegetation management activities include the use of aerial, backpack and hand applications of herbicides to control brush, and the removal of brush using chainsaws, mechanized equipment or hand tools. The various tools used control the growth of unwanted vegetation within stands classified as Regeneration. However, the same tools are used in stands of other classifications. The objective of vegetation management is to favor the survival and development of desired species or to remove invasive plant species.

Basins:

Butte Creek: None

Cedar Creek: Hand Chemical Release 79 acres

Mad Creek: None

Rock Creek: None

Scattered: None

All Basins: Noxious weeds 100 acres

Tree Protection

Tree protection is used in areas where animal damage is expected to reduce the number of seedlings below desired levels. An initial means of protection is placing a vexar tube over a newly planted seedling and supporting the tube with a pin. Vexar tubes are generally reserved for tree species ravaged by browsing animals.

Basins:

Scattered: Tubing 20acres

Rock Creek: Tubing 40 acres

Precommercial Thinning (density management)

Due to successful reforestation efforts and to an influx of natural seedlings, forested stands can become crowded. Tree removal is needed to reduce the crowding. A pre-commercial thinning project removes some of the weaker, slower growing trees making room for the stronger, larger trees to grow. Species selections are based upon the desired future condition for each particular stand. The timing of the pre-commercial thinning and the residual number of trees to remain are influenced by the desired future condition as well. The trees in these stands have not reached commercial size. Those trees cut are left within the unit to decay and provide future nutrient needs.

Basins:

Mad Creek: 125 acres

Rock Creek: 125 acres

Special Concerns: Leaving the cut trees within the stand creates a potential fire hazard. The slash from the cut trees decomposes quickly so that the hazard is short term, usually less than five years.

Fertilization

No fertilization projects are planned for fiscal year 2009.

Pruning

No pruning projects are planned for fiscal year 2009.

Recreation Management

Overview of Recreation Management

The Recreation Program on the Santiam State Forest is managed with the guidance of the Recreation Management Plan approved in September 2000, Cascade Implementation Plan approved in March 2003 and the approved 2001 Northwest Oregon State Forest Management Plan. This section of the FY09 AOP is designed to provide information about the types of recreation opportunities and activities that are currently in demand on the Santiam State Forest, the current developments and opportunities available on the forest, and the planned projects for the FY09 AOP period. The planned projects will increase the recreation capacity of the District while improving long term safety, sanitation and maintenance efforts. Funding for the planned projects will be from the 2009 fiscal budget. The District will also find and apply for state and federal grants that will compliment the program.

A Citizen Advisory Committee is utilized to provide input on a wide range of recreational interests and the public. The Committee convenes once a year to review accomplishments and to discuss and suggest future projects and activities. The Committee is also a source for recruiting volunteers for the District. The District initiated the formation of an inter-governmental committee to open an avenue of coordination and communication among the various recreational staffs of county governments and state and federal agencies. The committee adopted the name of "Mid-Willamette and Cascade Recreation Coordination Group". The members of this committee hope to use this group as a forum to coordinate recreation needs, opportunities and development as well as to avoid unnecessary or conflicting uses and duplication of efforts.

Volunteers are expected to contribute labor and expertise to the recreation program. Volunteers from clubs will partner with ODF to construct and maintain both trails and facilities. These clubs may include the Oregon Equestrian Trail club (OET), Back Country Horsemen club, Chemeketans Hiking club, Crooked Finger Rider's

Association, Merry Cranksters and Mountain Street Dirt Crew (MSDC) which are both mountain bike clubs.

In the past year volunteers have donated significant time as well as expertise and resources to aid in the development of campgrounds and trails on the district. Partnership with the Silver Falls Chapter of the Oregon Equestrian Trails club (OET) has been important in the development of equestrian and other non-motorized trails and facilities

Recreation staff has formed a partnership with the Mountain Street Dirt Crew (MSDC) free-ride mountain biking club. MSDC is working with the recreation staff to create mountain biking opportunities near the Shellburg Falls Recreation area.

Most recently recreation staff has assisted in the development of an ATV club, the Crooked Finger Rider's Association, who will develop and adopt motorized trails and a staging area along the Crooked Finger Road near Scott's Mills.

The recreation staff may utilize 10-person inmate crews from the Oregon Department of Corrections (DOC), Santiam Correctional Institution, Mill Creek Correctional Facility and also Marion County Inmate Work crews. These inmate crews will be used for facility and trail maintenance, improvements, and construction projects. The crews are within 30 minutes to 1 ½ hour travel time from most recreation sites. The crews have the expertise and ability to perform the kind of specialized work projects that need to be completed. Finally, when there are complex or difficult projects that require more expertise than is available from the above crews the Department of Forestry's South Fork Inmate Crews can be utilized. However the long travel distance each way limits the work that South Fork Crews can accomplish each day.

The primary recreational activities on the Santiam State Forest include hiking, equestrian use, biking, camping, hunting, fishing and sight seeing. The Crooked Finger Road area is a popular site for local ATV users. A variety of organizations occasionally request to use an area of the forest for 2 to 3 days for re-enactment of historical events and youth leadership camps in which a forest setting is needed. In the past these have included re-enactments of Civil War and World War II battles, mountain bike races, youth leadership camps, bow hunting skill competition and back-country road motorcycle events.

The recreational facilities and opportunities on the Santiam State Forest consist of four developed car campgrounds, one primitive hike in only campground, dispersed camping areas, one developed specialized campground for Equestrian enthusiasts and two unique vistas and natural attractions. Combined, there are currently 24 camp sites on the Forest. There are about 28 miles of non-motorized trails associated with the developed sites. The attractions or special places on the Santiam State Forest are located at or near developed sites. These include three waterfalls, Shellburg Falls and Upper and Lower Butte Falls, two lakes, Rhody and Butte, commonly called the High Lakes, as well as Rocky Top and the Natural Rock Arch.

One area of the Forest is used by ATV enthusiasts. The State Forest land adjacent to the Crooked Finger Road area east of Scott Mills has been used by local off-road motorists for a number of years. The Recreation Coordinator has established a relationship with the Crooked Finger Rider's Association. The recreation staff plans to continue to work with this organization to develop and manage a 6 mile system of OHV trails. These trails will be developed for ATVs and motorcycles. Currently one mile of trail has been completed.

Since the Santiam State Forest Recreation Plan was approved there has been a steady annual increase of recreation use by the public on the Forest. A fee system was implemented at Santiam Horse Camp, Butte Creek Campground and Rock Creek Campsites during 2006. In 2007 the fee system will also be implemented at the Shellburg Falls Campground. The purpose of this fee is to help supplement maintenance costs, regulate use and limit long term occupancy at camp sites. It is important for the district to ensure that all visitors may have an opportunity to camp at their favorite sites.

Visitation to the Santiam State Forest rose dramatically in the past year. As new developments have opened up and word of mouth spread, recreation staff have worked diligently to operate and maintain existing facilities as well as implement new projects to meet public demand. As use increases on the forest, limited staff resources at times must be directed away from new development and towards maintenance and operation of existing facilities. In AOP 2009 development will focus primarily on improving select campgrounds and trailheads to meet use demands and to provide host sites. This will reduce long-term maintenance and patrol costs significantly and reduce work load on stretched staff time. To ensure the facilities and trails are kept to high standards and safe, the district is strengthening its maintenance budget and increasing inmate sweeps throughout recreation areas. The district is also continually seeking partnerships and contracts for trail and facility stewardship. As these opportunities are found, ODF will once again be able to increase their focus on new development that is outlined in the Recreation Management Plan.

It should also be noted that there is significant use in the Santiam State Forest outside of the designated recreation areas. This includes, dispersed camping, hunting, site seeing, rock climbing, exploration and other activities such as mushroom gathering. Recreation staff is responsible for litter cleanup, monitoring vandalism, monitoring illegal motorized off-road use and providing visitor assistance on nearly 47,000 acres of the Santiam State Forest.

The two most visited areas are the Butte Creek Falls Recreation Area and the Shellburg Falls Recreation Area. These sites are well-known regionally. Butte Creek Falls is used primarily for day-use. The nearby campground receives moderate use during the summer. Use at Shellburg Falls is increasing because of the hiking trail connecting to Silver Falls State Park, as well as the publicity about Shellburg Falls and the exposure the site receives through the Forest Education and Interpretation Programs. The third most

visited location is the Santiam Horse Camp area. The Santiam Horse Camp and surrounding Monument Peak Trail System was opened officially in June of 2006. Trail and day-use has increased significantly over the past year. As news of this campground and trails spread, use will increase. The Rocky Top and Natural Rock Arch trails and vistas are used frequently by those who want more solitude on their hike. A road improvement project is expected to increase use at these sites.

The dispersed camp sites at Rock Creek were used frequently throughout the summer.

All of the developed sites and other frequently used areas are patrolled by two certified Law Enforcement Officers hired through an agreement with the Oregon State Police. These retired State Troopers promote public awareness of rules and regulations and assist with providing a safe recreational experience for recreationists. They investigate crimes and violations on the Santiam State Forest and cite individuals to court when the responsible party is identified. An on-going effort of the officers is to identify and contact individuals that illegally dump debris and garbage. When responsible parties are identified they are usually cited to Justice Court and required to clean-up the trash. Since the District began using these officers there has been a significant improvement in compliance with the regulations in effect.

The Recreation Coordinator, temporary employees and the Recreation Summer Intern regularly patrol all the developed sites from May through October. The primary objectives of this effort is to monitor and document the amount of use the sites are getting and, as important, to make contact with recreationists to inquire if the facilities and opportunities provided are ones that they like to visit and if there are additional services and opportunities they would like offered on the Santiam State Forest.

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

Butte Creek Falls Recreation Area

Overview: Located near Scott's Mills, Oregon this area is the most heavily visited site at the Santiam State Forest. The Butte Creek Falls Trail and day-use area offer access to two impressive waterfalls and large swimming pools surrounded by a 200 year old Douglas-fir and Western Hemlock stand. There are also 2 miles of hiking trail and a three site campground within the recreation area. In addition the Butte Creek Falls Trail is becoming a popular education/interpretive site with local school and youth groups. It is also a tour site for a variety of groups who participate in programs at the Santiam State Forest. Use has increased significantly at this location over the past five years. In 2001 observed use estimated 20-40 visitors per weekend at the Butte Creek Falls Trail. In 2007 this number has risen to 150-200 visitors per weekend. Use is expected to increase.

Trails: Two miles of hiking trail are within the Butte Creek Falls Recreation Area. These heavily visited trails offer visitors a pleasant hike through the forest and lead to the picturesque upper and lower Butte Creek Falls as well as connecting to the Butte Creek Campground. An increase in use on the trail from visitors with a variety of skill levels as well as an increase in use from local school groups has created a need to develop improved access to the Lower Butte Creek Fall. Visitors commonly scramble down a steep rock slope to access the waterfall basin. The current difficulty rating is “most difficult” and in some places it is a rock scramble. In FY09 improved access will be designed and constructed to the lower waterfall. The goal is to provide an access rated at “moderate” in difficulty.

Day-use Area: In 2001 a single vault toilet was placed at the Butte Creek Falls Trailhead and a small four site parking area was cleared of brush and garbage. It was surfaced with crushed rock and provided for the parking and sanitation needs at that time. The current facilities do not provide for present and future use. In AOP 09 the day-use area will be redesigned and improved to meet the growing demand and safety/sanitation requirements. The parking lot will be expanded and designed with entrance and exit points that can be gated during the winter months to deter vandalism. A picnic area will be developed to accommodate groups and the single vault toilet will be relocated to the Crooked Finger ATV Area. A double vault toilet will be installed at the Butte Creek Falls Trailhead. This is important to provide for sanitation needs and for the privacy/safety of the visiting public. The increase in number of school groups, youth groups and large family groups require a female and male designated restroom stall.

Butte Creek Campground: Nestled among towering Douglas-fir the Butte Creek Campground is a popular location. Currently there are three camp sites, a vault toilet, designated fire rings and picnic tables. Major issues this campground faces are a lack of camp sites, impacts from vandalism and lack of monitoring due to the long travel times for ODF staff. As part of the desired future condition to provide for increased use within the recreation area, to improve safety and deter vandalism at recreation sites the Butte Campground will be redesigned in AOP 09. The goal of the new design will be to add 5-7 new sites, improve traffic flow, create a picnic area for families, redesign existing camp sites for group camping, and to develop a host site at the campground. This design will maintain the rustic, secluded camp setting while enhancing opportunities for visitors and improving safety, vandalism and monitoring issues. Only the design phase will take place in AOP 09.

Security: A gate will be installed at the Crooked Finger 450 Road. The CF 450 Road is a gravel spur within the Butte Creek Falls Recreation Area. It dead ends just outside the recreation area and is a common spot for garbage dumping, illegal campfires, unsafe target shooting and undesirable off-road use. This negatively affects visitors and forest resources in the area. The road will be gated and vehicle access prohibited. This will

reduce vandalism and the costs associated with patrolling and garbage clean up in the Butte Creek Falls area. Visitors may still access the road on foot, horseback or bicycle.

Butte Lakes

Overview: The Butte Lakes are a series of three picturesque high elevation lakes located south of Scott's Mills. These lakes are accessible by hiking, mountain biking and horseback. Vehicle access is prohibited. This creates a very secluded, peaceful setting for visitors. The most popular recreation activities at this location are hiking and primitive camping.

Trails: During AOP 09 staff will investigate and if feasible design a short 1 mile perimeter trail around the Butte Lakes located in the High Lakes Recreation Area. The goal of this trail is to enhance the trail opportunities for hikers and campers who visit this location.

Crooked Finger ATV Area

Overview: Near Scott's Mills, Oregon the Crooked Finger ATV Area is comprised of a designated ATV staging area and currently 1 mile of motorized trail. In the past a number of motorized vehicles have damaged natural and recreational resources through improper off-road use. Historically off-road trails often go up steep slopes, dead end, enter wet areas or cause damage within designated recreation areas. The intent of the Crooked Finger ATV Area is to provide a safe, designated system of well designed trails that will give local users, especially families, a place to ride off-road without damaging resources or conflicting with other forms of use.

Trails: The North Cascade District has partnered with the Crooked Finger Riders Association (CFRA) a group of local ATV enthusiast and developed an adopt-a-trail agreement. Together ODF and CFRA will design, construct and steward these trails. In addition club members will educate others about sustainable ATV use in this area. A large rehabilitation project in Crooked Finger, Butte Creek Falls and High Lakes Area has recently been completed. Areas heavily impacted by off-road use, garbage dumping and vandalism have been cleaned, blocked and the soil prepared for planting during winter 2008. The long term success of the trails depends on the club's efforts and the cooperation of local ATV riders in the area. The desired future condition is for six miles of trail in this area. CFRA members with guidance from ODF staff will continue to develop new trails and maintain existing trails as they work towards this goal. An estimated 2-3 miles of trail will be complete during AOP 09.

Gate: A gate will be installed at the Crooked Finger ATV Staging Area and Day-use Area. This will allow a trail host to close the day-use area at night. This will deter vandalism, underage parties and improve public safety in the day-use and staging area.

Shellburg Falls Recreation Area

Overview: The Shellburg Falls Recreation Area offers a variety of nonmotorized recreational activities in a secluded forest setting. Within the Shellburg Falls Recreation Area there are 4.5 miles of trail, a campground with four sites, two trailhead parking areas, an interpretive shelter and picnic area. The Shellburg Falls Recreation Area is a popular interpretive and educational destination for schools and the general public. Hundreds of students participate in forest education field programs and stewardship projects at Shellburg Falls each year.

North Cascade District's goal at Shellburg Falls is to maintain a secluded, rustic setting while offering a quality camping and trail use experience while enhancing the educational potential of this site.

Trails: The emphasis of trail development at Shellburg Falls is to offer a system of nonmotorized loop trails. These trails include hiking only and nonmotorized multiuse trails. These loops are of varying lengths and difficulty to offer visitors to Shellburg Falls a variety of trail options. Short trails that are easy in difficulty are designed for interpretive/educational programs and the casual trail user. Longer more difficult trails are designed for trail users who wish a more challenging experience. During FY09 a .5 mile trail will be constructed in this area. This trail is a continuation of the Shellburg Falls hiking/interpretive trail allowing visitor's access to the Lower Shellburg Falls. A timber sale north of the campground will close the Shellburg Creek Trail during FY08. During the timber sale efforts will focus on ensuring visitor safety in the Shellburg Recreation Area and protecting recreation resources. Once the timber sale is complete the trail will be repaired and reopened at or above current conditions.

Shellburg Falls Campground: Use at the Shellburg Falls Campground has continued to increase since 2001. There are currently four sites at the campground which are regularly filled on summer weekends. In order to provide for the increase in use four new walk in sites will be improved near the Shellburg Falls Interpretive Shelter. These improvements will take place primarily at old camp sites which were in use during the 90's before the campground was closed for rehabilitation. A host site will also be designed and constructed at the campground. It has been proven that campground hosts improve safety conditions, enhance visitor opportunities, reduce vandalism and reduce patrol time for recreation staff. The host site will play a key role in the long term operation of the Shellburg Falls and other campgrounds.

Shellburg Area Free Ride Mountain Biking Trails: Free ride mountain biking is a relatively new yet fast growing recreational activity. This activity is comprised of down hill

mountain bike trails with technical trail features such as bridges and jumps. The North Cascade District has established a partnership with the Mountain Street Dirt Crew (MSDC) free ride mountain biking club to establish free ride trails near the Shellburg Falls Recreation Area. The District and MSDC have established an adopt-a-trail agreement to design and construct free ride mountain bike trails. The District approves and monitors trail development while MSDC is responsible for on the ground trail design, construction and maintenance. Currently an estimated 2 miles of trail have been established. These trails have a variety of trail features and difficulties and are designed for experienced free ride mountain bikers.

Santiam Horse Camp

Overview: The Santiam Horse Camp is a 9 site picturesque equestrian camp and day-use area near Gates, Oregon. Amenities include drinking water, picnic shelter, corrals, manure bins, restrooms, and trailer parking both in camp and in the day-use area. Newly opened in June of 2006 the horse camp has seen moderate use. All of the visitors the district has spoken to have been impressed with and appreciative of the camp. During the upcoming year North Cascade will be focusing on maintenance, sanitation and promotion of the campground and trail system in this area. Use will increase as the word gets out to more equestrian riders about the campground.

Monument Peak Trail System

Overview: Located south of the city of Gates the Monument Peak Trail System officially opened to the public in 2006. The Santiam Horse Camp is the hub of the trail system. Currently the primary user group is horse back riders. The North Cascade District and many volunteers have worked over the past two years to complete the short range trail development goals. In this short time the trails have already become popular with many local people and visitors from outside the Santiam Canyon.

The short term goals are to develop a lengthy perimeter trail and two shorter trail loops within the perimeter trail. In addition the trail system will connect to the Rock Creek Campground. During the initial design phase some sections of trails were located on gravel roads. However after observations in the field and reports from trail users it became apparent that trail sections should be removed from the roads wherever feasible. This would reduce conflicts between trail users and motorists while improving safety conditions and creating a more enjoyable trail system. Much of the trail work in 2007 focused on these issues.

Currently the Perimeter Trail and the Turnage Creek Loop will be completed by spring 2008. The connection to Rock Creek Camps is also expected to be complete at this time. The trail system will consist of single track trail with very minimal trail route on gravel roads.

Trails: During AOP 09 two trail development projects are planned in this area. The first project is construction of the final 3 mile trail loop called Iron Horse. This trail had been planned for completion in 2007. However a large increase in day-use and maintenance needs in other areas of the forest diverted resources away from this project. The second project will be research and development of long range trail goals. The Santiam State Forest Citizen Advisory Committee working with North Cascade District is working to set long range goals for the trail system. ODF staff working with advisory members will focus on setting long range goals as well as determining the feasibility and resources needed to construct and maintain a larger trail system.

7 Mile Trail

During 2007 a heavily used trail accessing the Santiam River was discovered near Gates, Oregon on the Santiam State Forest. This ¼ mile trail leads to a deep, clear pool and waterfall, surrounded by stone formations sculpted smooth by the river current. The trail is currently in poor condition. The trail will be improved to provide safer access for hikers and eliminate erosion issues. The current parking area will be improved and a kiosk erected to provide information about the forest for visitors. In addition this trail will enhance visitor opportunities at the Santiam Horse Camp giving campers a nearby location to fish and day-use.

Rocky Top/Natural Arch

The Rocky Top/Natural Arch Recreation Area is a high elevation site in the foothills of the Cascade Mountains. This scenic area is composed of two hiking trails and day-use areas offering breathtaking views of the Cascade Mountain Range. Rocky Top at 5000 feet is the high elevation within the Cascade foothills. Natural Rock Arch is an impressive forty foot tall rock arch made accessible by a rugged hiking trail. Though there are no designated camping areas, there is dispersed camping within the area. Future plans call for extending trails within this area. No new development will take place during AOP 09. Current trails and day-use areas will be maintained and monitored.

Abiqua Falls

Abiqua Falls is an impressive waterfall located on Mount Angel Abbey ownership. This waterfall is both unique as a waterfall and a geological formation. This waterfall would be a valuable addition to public ownership. ODF will continue as staff time allows investigating the feasibility of a land trade to improve the public access to the Falls with the adjacent state ownership at the top of the Falls.

Maintenance Program

Overview: As the level of recreational use increases a strong maintenance and custodial program is a necessity. The maintenance program must focus on both preventive maintenance and repairing existing damage as it arises. A good preventive maintenance program will reduce costs in the long term. Keeping facilities and trails in good repair will reduce acts of vandalism or misuse. An adequate custodial program is key in keeping facilities, trails and roads clean and attractive to ensure visitor health and promote responsible use of recreation sites.

In AOP 08 a Personal Service Contract was developed and awarded in the Butte Creek, Crooked Finger and High Lakes area to perform year round maintenance and visitor assistance. Due to long travel times to these sites a personal service contract is the most efficient option for maintenance at these locations. The district plans to continue this contract in AOP 09.

The district will utilize Marion County inmate crews, ODF staff and volunteer organizations to maintain all other recreation areas, trails, campgrounds and related facilities.

Vehicle Access: Proper maintenance of roads accessing recreation sites is important. ODF works to ensure that roads are safe and accessible for visitors. One issue the North Cascade Districts faces is that some access roads to popular recreation sites travel through other agency and private land ownerships. It is important for ODF to work with these land owners to ensure safe public access to recreation sites. Having safe, maintained roads will ensure that the public visits the recreation sites. An increase in public use throughout the forest has helped to reduce vandalism and dumping. Visitors monitor each other and in many instances this has reduced natural resource degradation. Road access is a key factor in this success.

Forest Education and Interpretation

Overview: The Santiam State Forest Recreation Coordinator has developed a growing Forest Education and Interpretative Program. ODF offers educational programs to local school children both in the classroom and in the forest. Students learn about forest environment, management and ethics with educational hands-on activities. During the past year over 2000 students have participated in education/interpretive programs.

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

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

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

Upcoming Programs: The recreation staff has been successful in obtaining a Title III Grant from the Clackamas County Board of Commissioners, for an After-School Forest Education and Interpretation Program. This program has been developed by the recreation staff with the cooperation of the Oregon State University Extension Service in Clackamas County. It consists of several classroom and field sessions for elementary-age students from First through Fifth-grades. Subjects include Forest Ecology, Forest Management, Forest–User ethics and fire prevention and safety. The District has also taken the experience gained from developing these curriculums and programs to teach similar programs and lead field trips during the school year in Marion and Linn County. This has been a popular program and will continue to grow with the cooperation of local schools and county agencies.

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

Forest Land Management Classification

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

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

Total acreage for each classification and subclass can be found in the District IP on pages 5 and 6.

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

Land Exchange

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

management and administrative effectiveness and efficiency for ODF and adjacent landowners.

Other Integrated Forest Management Operations

Firewood

The North Cascade District has a firewood program that is tied to the completion of timber sales. Timber sale contracts require any non-merchantable wood or cull material that has been yarded to the landing and is suitable for firewood to be placed in a pile. This wood is then made available to the public by issuing a permit for two cords of firewood. There is a great demand by the public for firewood. Some years there is an abundant supply of firewood. Other years there is very little firewood available.

Offering firewood permits to the public involves the timber sale administrator, clerical staff, and management. The time spent on each timber sale area opened up for firewood is approximately eight hours a week by the sale administrator, sixteen hours a week by the clerical staff, and four hours a week by managers. Law enforcement also spends time checking permits out in the firewood areas. In a typical year, the firewood season lasts for approximately three months. Areas with limited public access are set aside for commercial firewood cutting or special interest groups such as church organizations or community assistance groups. Overall, the firewood program on the Santiam State Forest is highly visible and provides an important face-to-face interaction with the public.

Miscellaneous Forest Products

The North Cascade District has an active miscellaneous forest products program on State Forest lands. Part of the District's landscape management objectives is to provide for diverse stand types that over time can produce a sustainable source of a wide variety of forest products. Some forest products are available on a seasonal basis, such as mushrooms, while others like vine maple, and salal are available year-round. Harvest is always dependent upon markets and commercial demand. Many of these products are available throughout the forest landscape, and can be found in the different stand structures on the forest. Other products require specific stand types and growing conditions to be most productive. The most popular products requested on this District are salal, mushrooms and flat rock. Salal can be found over most of the District, while mushrooms grow best at lower elevations and in younger, dense stands of timber, usually in the under 40-year old closed single canopy stands. State lands foresters and office staff on average spends approximately 2 hours per week answering questions and issuing permits for this program.

On October 1, 2006 the North Cascade District implemented new procedures for selling Miscellaneous Forest Products. These procedures are being implemented by all districts in the Northwest Oregon Area. (NWOA) All NWOA districts use the same sale permit form and exhibits (attachments) for commercial quantities of miscellaneous forest

products. The price structure for products is the same across the NWOA except for bear grass, fir boughs, cascara and yew bark, and rock. These and other miscellaneous forest products that are not on the NWOA list are sold following individual district policy. Currently the North Cascade District does not issue commercial permits for bear grass and moss. The District does not have a good inventory for these plants. Some of the products, including cascara bark and noble fir boughs, are not available in desired commercial quantities on this district. Consequently very few, if any, commercial use permits are sold for those products.

Commercial use permits are sold for all Santiam Forest Management Basins. The permittee is required to provide a list of authorized pickers/workers for every permit. They must maintain and return a product removal form showing the dates and corresponding quantities removed. Picking instructions are issued for all products. Copies of permits are provided to law enforcement personnel. They check permits in the field as they encounter gathers and vehicles hauling products. Individuals gathering commercial quantities without a commercial permit are issued a Uniform Citation for unlawful transport of forest products or theft of forest products and the product is confiscated. If there is a local market for the product, the District will sell it.

The District does not issue personal use permits, consistent with NWOA policy. Gathering of these products is allowed provided that the products and quantities are not removed or exceeded as outlined in ORS Chapter 164.813.

Planning (and Information Systems)

Stand Level Inventory and Other Vegetation Inventories

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

Fish and Wildlife Surveys

Almost all of the streams located within operations proposed in the FY 2009 Annual Operations Plan have been surveyed to determine beneficial use (i.e. fish bearing or not). The only exceptions to this will follow the Oregon Forest Practices *Revised Guidance on Interim Water Classifications (1995)* to determine beneficial use on these streams or be surveyed by an ODF co-op fish survey crew during the survey season in the spring of 2008 prior to sale layout.

Surveys for the Northern Spotted Owl (*Strix occidentalis*) will be conducted by a contractor during the 2008 field season. The information gathered from these surveys is used during planning activities to determine how to proceed with forest activities without adversely affecting the owls and their habitat. Surveys will be specifically done on a portion of commercial management operations identified for the fiscal year 2008, and all commercial management operations identified for the fiscal years 2009 and 2010 as well as known owl sites.

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

Operation	Species (NSO/MM)	Status
Green Tweener	NSO	Surveyed in 2004, 2005, 2006, 2007. Will be surveyed again in 2008.
Little Rock Monument	NSO	Surveyed in 2007, Will be surveyed again in 2008.
Polly Power	NSO	Surveyed in 2007. Will be surveyed again in 2008.
Translator Hill	NSO	Surveyed in 2007. Will be surveyed again in 2008.
South Gawley	NSO	Surveyed in 2003,2004,2005,2006,2007. Will be surveyed again in 2008.
Air Abiqua (alt)	NSO	Surveyed in 2007. Will be surveyed again in 2008.
Lookout Mountain (alt)	NSO	Surveyed in 2007. Will be surveyed again in 2008.
Ruby Slipper (alt)	NSO	Surveyed in 2007. Will be surveyed again in 2008.
Taylor Creek (alt)	NSO	Surveyed in 2007. Will be surveyed again in 2008.

Watershed Assessments

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 Implementation Plans and Annual Operation Plans.

The Northwest Oregon FMP provides that watershed analyses shall be performed on all priority watersheds “within the ten-year period following plan adoption”. No watershed assessments for the Santiam State Forest are planned to begin in fiscal year 2009.

Research and Monitoring

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

The State Forests are actively monitoring past timber sales to check compliance with the Forest Management Plan, the Implementation Plan, and the North Cascade District’s

AOP's. The monitoring has begun in the past year and several past sales are currently being surveyed. The North Cascade District will use the information as needed to obtain the proper desired future condition for each stand.

Noxious Weeds

Noxious weeds are a growing concern on State Lands. The Santiam State Forest has an active treatment project designed to remove or control several know locations of noxious weeds. District staff will continue to monitor and treat these areas as needed. In addition, the District will remain involved with local weed boards and noxious weed committees.

Other Planning Operations

Young stand management planning that will occur during the 2009 fiscal year include the following: vegetation management plans, density management plans, reforestation plan for the 2009 planting season, seed sowing plans, and seed collection plans. These plans will be developed at different times throughout the fiscal year.

Planning will begin in the spring of 2008 for the FY 2009 Annual Operations Plan. These plans will be completed in the spring of 2009. The annual operations plan will provide specific details on the harvest operations that will be set up and auctioned in the 2009 fiscal year. The plan will also provide an overview of the roads and engineering projects, non-commercial forest management operations, recreation management, planning, public information and education and administrative activities that will take place during FY 2009. This plan is developed according to guidance and standards found in the *NWO State Forests Management Plan, Cascade District Implementation Plans, Santiam State Forest Recreation Plan* and the *Oregon Forest Practices Act*.

Public Information and Education

This Annual Operations Plan will undergo a public review. Following that review, a public involvement summary will be added as an Appendix to this document.

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

Forest Education and Interpretation

Overview: The Santiam State Forest Recreation Coordinator has developed a growing Forest Education and Interpretative Program. ODF offers educational programs to local school children both in the classroom and in the forest. Students learn about forest environment, management and ethics with educational hands-on activities. During the past year over 2000 students have participated in education/interpretive programs.

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

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

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

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

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

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

Administration

There are a total of 13 permanent positions, 3 seasonal positions, 1 co-op position, and 1 grant position that comprise the State Forest Team at the Santiam Unit. In addition, the District Forester and Assistant District Forester provide key leadership and support to the program. The organization is structured as follows:

- Management Unit Forester, FUS2
 - Planning Forester, NRS2
 - Operations Forester, NRS2
 - Reforestation Forester, NRS2
 - Foresters (2 positions), NRS1
 - Technician, FMT (shared with Protection)
 - Intern (1 position, Forest Management)
- District Engineer, FUS2
 - Road Specialist, NRS1
 - Recreation Specialist, NRS2
 - Recreation/Education Assistant, FMT (limited duration)
 - Equipment Operator, HMS 2
 - Road Maintenance Assistant, Laborer 2
 - Interns (2 positions; Forest Engineering, Forest Recreation)

The organization will integrate into one functional unit supervised by the Management Unit Forester. The effectiveness of this organizational structure will be evaluated in December 2008. Responsibilities of the Forest Management Unit include forest-level Planning, Stand Level Inventory, Commercial and Noncommercial Forest Management Operations, Young Stand Management, Roads, and Recreation. This unit produces the AOP, timber sale contracts, reforestation and young growth management contracts, conducts stand level inventories, and administers the special forest products and

firewood programs. Transportation plans, road maintenance plans and schedules, and other engineering related plans are completed. The Recreation program produces the plans and contracts needed to develop campgrounds, trails, and associated facilities. The Recreation program personnel coordinate most of the Public information and education done on the District.

The organization fits well within the budget instructions and guidance that is available for next fiscal year at this point in time. The young stand management program is highly cyclical in workload due to the nature of projects such as tree planting, fertilization, and vegetation management. During young growth management operations, additional resources are always needed to cover logistical concerns.

APPENDICES

A. Summary Tables

B. Pre-Operations Reports

C. Public Involvement

D. Additional Maps

TIMBER HARVEST OPERATIONS - FINANCIAL SUMMARY

District: North Cascade

Fiscal Year: 2009

Date: 06/27/2008

Operation	Payment Type	Fund %		County	Sale Quarter	Net Acres		Volume (MMBF)			Value		
		BOF	CSL			Partial Cut	Clear-cut	Conifer	Hardwoods	Total	Gross	Projects	Net
Green Tweener	Recovery	100%	0%	Marion	1	207	0	1.5	0	1.5	\$400,000	\$35,865	\$364,135
Little Rock Monument	Recovery	100%	0%	Linn	2	259	91	6.9	0	6.9	\$2,416,750	\$25,900	\$2,390,850
Polly Power	Recovery	100%	0%	Marion	3	0	65	1.2	0.1	1.3	\$390,400	\$5,200	\$385,200
Translator Hill	Recovery	100%	0%	Linn	3	211	0	1.8	0	1.8	\$623,000	\$13,900	\$609,100
South Gawley	Recovery	100%	0%	Clackamas	4	0	114	2.7	0.3	3	\$805,400	\$90,000	\$715,400
Total:						677	270	14.1	0.4	14.5	\$4,635,550	\$170,865	\$4,464,685

Alternate Operations

Air Abiqua	Recovery	0%	100%	Marion		55	0	1.1	0	1.1	\$385,000	\$8,700	\$376,300
Lookout Mountain	Recovery	100%	0%	Marion		181	0	0.4	0	0.4	\$86,000	\$11,750	\$74,250
Ruby Slipper	Recovery	62%	38%	Marion		100	0	0.9	0	0.9	\$255,000	\$22,000	\$233,000
Taylor Creek	Recovery	100%	0%	Marion		0	99	2.3	0.1	2.4	\$845,000	\$8,700	\$836,300

TIMBER HARVEST OPERATIONS - FOREST STRUCTURE SUMMARY

District: North Cascade

Fiscal Year 2009

Date: 01/30/2008

Operation	Area	Net Acres			Stand Structure Development Pathway			Structural Components			Comments
		Clearcut	Partial Cut	Total	Current	Post-Harvest	Desired	Down Wood	Green Trees	Snags	
GREEN BASIN											
Green Tweener	I		64	64	UDS	UDS	LYR				
	II		143	143	UDS	UDS	UDS				
MAD CREEK BASIN											
Little Rock Monument	I	0	170	170	UDS	UDS	LYR				
	II	0	31	31	UDS	UDS	CSC				
	III	91		91	UDS	REG	CSC				
SCATTERED BASIN											
Polly Power		65	0	65	UDS	REG	CSC				
ROCK CREEK BASIN											
Little Rock Monument	I		58	58	UDS	UDS	LYR				
Translator Hill	I		99	99	CSC	UDS	CSC				
	II		26	26	LYR	LYR	OFS				
	III		86	86	UDS	UDS	CSC				
BUTTE CREEK BASIN											
South Gawley		114	0	114	UDS	REG	CSC				

Total	270	677	947
Annual Range	180-270	470-900	735-1170

Alternate Operations

Air Abiqua			55	55	LYR/CSC	OFS	OFS				
Lookout Mountain			181	181	UDS/CSC	UDS	OFS/LYR				
Ruby Slipper			100	100	UDS	UDS	OFS				
Taylor Creek		99		99	UDS	REG	CSC				

FOREST ROADS SUMMARY

District: North Cascade

Fiscal Year: 2009

Date: 01/30/2008

Operation	Construction		Improvement		Other Projects	Total Project Costs	Gross Value of Operation	Total Cost as a percent of Gross Value	Comments
	Miles	Cost	Miles	Cost					
Green Tweener	1.0	\$32,865			\$3,000	\$35,865	\$400,000	9%	
Little Rock Monument	0.8	\$18,400			\$6,500	\$25,900	\$2,416,750	1%	
Polly Power	0.34	\$4,200	0.63	\$1,000		\$5,200	\$390,400	1%	
Translator Hill	0.83	\$12,400	0		\$1,500	\$13,900	\$623,000	2%	
South Gawley	0		0		\$90,000	\$90,000	\$805,400	11%	

Total:	\$170,865	\$4,635,550	4%
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Alternate Operations

Air Abiqua	0.4	\$6,000	1.21	\$2,800		\$8,700	\$385,000	2%	
Lookout Mountain	1.1	\$11,750				\$11,750	\$86,000	14%	
Ruby Slipper	0.64	\$18,000			\$4,000	\$22,000	\$255,000	9%	
Taylor Creek	0		0		\$8,700	\$8,700	\$845,000	1%	

Road Projects Not Associated with Commercial Forest Management Operations

NONE

					\$0
					\$0
					\$0

Reforestation and Young Stand Management Report

District: North Cascade

Fiscal Year: 2009

06/27/2008

Management Activity	Board of Forestry			Common School Forest Lands			District	
	Acres Planned	Average Cost*/Acre	BOF Cost	Acres Planned	Average Cost*/Acre	CSL Cost	Total Acres	Total Cost
Initial Planting	205	\$235.16	\$48,207.80	0	\$100.00	\$0.00	205	\$48,207.80
Interplanting	150	\$107.20	\$16,080.00	0	\$70.00	\$0.00	150	\$16,080.00
Underplanting	0	\$114.00	\$0.00	0	\$80.00	\$0.00	0	\$0.00
Tree Protection-Barriers	60	\$218.00	\$13,080.00	0	\$218.00	\$0.00	60	\$13,080.00
Tree Protection-Direct Control	0	\$0.00	\$0.00	0	\$0.00	\$0.00	0	\$0.00
Site Prep-Chemical- Aerial	0	\$0.00	\$0.00	0	\$0.00	\$0.00	0	\$0.00
Site Prep-Chemical- Hand	150	\$170.00	\$25,500.00	0	\$170.00	\$0.00	150	\$25,500.00
Site Prep -Slash Burning	607	\$97.00	\$58,879.00	0	\$97.00	\$0.00	607	\$58,879.00
Site Prep -Mechanical	17	\$85.00	\$1,445.00	0	\$85.00	\$0.00	17	\$1,445.00
Fertilization	0	\$130.00	\$0.00	0	\$130.00	\$0.00	0	\$0.00
Noxious weeds	100	\$60.00	\$6,000.00	0	\$60.00	\$0.00	100	\$6,000.00
Release-Chemical- Aerial	0	\$100.00	\$0.00	0	\$0.00	\$0.00	0	\$0.00
Release,-Chemical-Hand	79	\$170.00	\$13,430.00	0	\$170.00	\$0.00	79	\$13,430.00
Release-Mechanical-Hand	0	\$0.00	\$0.00	0	\$0.00	\$0.00	0	\$0.00
Precommercial Thinning	250	\$100.00	\$25,000.00	0	\$100.00	\$0.00	250	\$25,000.00
Pruning	0	\$0.00	\$0.00	0	\$0.00	\$0.00	0	\$0.00
Other	0	\$0.00	\$0.00	0	\$0.00	\$0.00	0	\$0.00
Totals	1,618	--	\$207,621.80	0	--	\$0.00	1,618	\$207,621.80

*Planting costs include all costs including seedlings

RECREATION MANAGEMENT SUMMARY

District: North Cascade Fiscal Year: 2009

Date: 1/30/08

Operation	Unit of Measure	Current	Construction Projects	Construction Cost (Funding)		Improvement Projects	Improvement Cost (Funding)		Total Cost	Comments
				ODF	Other		ODF	Other		
Facilities										
Campsites	Sites	24	1	5000		4	2000		\$7,000	
Day Use Areas		3				2	46000		\$46,000	
Trailheads		9				1	1500		\$1,500	
Interpretive Sites		2							\$0	
(Other)	Sites								\$0	
Trails										
Non-Motorized	Miles	28.0	6.0	39500.0					\$39,500	
Motorized	Miles	2.0	3.0	4750.0					\$4,750	

Total: \$98,750

Note: This table reflects project work only. It does not reflect the total recreation/education budget for AOP 09, which includes maintenance, supplies and other operating expenses.