ASTORIA DISTRICT

2016 ANNUAL OPERATIONS PLAN

OVERVIEW

This plan describes the activities and outcomes that Oregonians can expect to see on the Clatsop State Forest in 2016.

The Clatsop State Forest is an actively managed forest, valued by many Oregonians for its mixture of environmental, economic, and social benefits. This plan supports this mixture and provides a balance of these benefits as required by Oregon Administrative Rule (OAR 629-035-0020). We strive to manage the forest sustainably, so that the benefits from the forest can be delivered into perpetuity. The forest harvesting is planned at a sustainable level; a level that our computer models suggest can be harvested year after year without reduction.

The forest has a mixture of habitat types for all of Oregon's native wildlife. Recreational opportunities are diverse and high quality, allowing for off-highway vehicles, bicycling, hiking, hunting, horseback riding, and more, striving to minimize user and environmental conflicts in the context of a working forest.

Managing a large public forest has its challenges. In addition to the challenges of providing the opportunities described above, the forest is expected to be financially self-supporting. About two - thirds of the revenues from state forest timber sales go to local counties and other taxing districts, including schools. Oregon Department of Forestry (ODF) uses the remaining third of the revenue to manage the forests and keep them healthy, through activities including fire protection, tree planting, thinning, research and monitoring, recreation services, road maintenance and stream improvement.

Every year in the Clatsop State Forest, we learn new things and find new challenges and opportunities. In preparing this plan, we have consulted with geotechnical specialists, wildlife biologists, fish biologists, aquatic specialists, engineers, adjacent landowners, and a variety of interest groups.

Additionally, ODF has reviewed this AOP with, Clatsop County Commissioners, the Forest Trust Land Advisory Committee (representing the counties that deeded land to ODF), the State Forests Advisory Committee (SFAC - composed of Oregonians representing many interests), and the Oregon Department of Fish and Wildlife. The US Fish and Wildlife Service has had the opportunity to review all Biological Assessments pertaining to the Northern Spotted Owl.

It is through this collaborative approach that we can finalize this AOP as one we are confident will meet the ODF goals; achieving the greatest permanent value for the citizens of Oregon.

During this comment period, the District is monitoring the fiscal year 2015 AOP for final volume to be sold. If the FY15 operations, once prepared, yield more than the planned volume of 73 MMBF, this FY16 AOP will be reduced to accommodate the additional volume. These changes will be made by the final draft of this AOP in June of 2015.

A short summary of activities planned for the coming year:

- Prepare to harvest approximately 73 million board feet of timber volume, through modified clearcut and partial cut harvest, generating revenue of over 23 million dollars. This harvest level is in alignment with longer term plans and modeling to ensure it is sustainable and promotes the development of a mixture of habitat types across the landscape.

- Of the 23 million in revenue Clatsop County will receive approximately two-thirds or 15 million dollars to distribute to various taxing districts within the County. The Department of Forestry will receive the remaining one-third or 8 million dollars.

- Planting 580,000 trees on 1,800 acres within the Clatsop State Forest.

- Protecting streams and water resources through a series of buffers and seasonal restrictions.

- Habitat development projects such as, retaining green trees in clearcut areas, and leaving down wood, all for wildlife benefits in harvest areas and future forests.

- Maintain approximately 900 mile road network that provides access to timber harvest as well as various recreational opportunities.

- Conduct over 6,000 individual surveys for northern spotted owls.

- Survey approximately 60 miles of stream for the presence of fish.

- Conduct approximately 400 individual surveys for the marbled murrelet. (survey planning is ongoing)

- Stream improvement projects. An initial screen suggests that streams near three planned harvest units could benefit from large wood additions to the stream system. These streams will be reviewed further during sale layout to confirm the large wood placement plan.

- Vacate approximately 3.35 miles of existing road to enhance watershed health.

- Operate and maintain the following developed facilities in a safe, clean, and responsible manner:
    - Four campgrounds
    - One dispersed recreation area
    - Eleven dispersed camp sites
    - Two interpretive sites
    - Seven trailhead facilities

- Provide a safe and clean environment for the myriad of dispersed activities that occur across the forest – hunting, camping, angling, sight-seeing, target shooting, swimming, mushroom picking, etc.

- Maintaining, managing, and patrolling the motorized and non-motorized trail networks, striving to protect the trail investments, provide for user safety, address developing trail issues, and protect water quality.

- Continue to provide firewood cutting and special forest products (salal, mushrooms, etc.) permits.

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INTRODUCTION

This annual operations plan (AOP) outlines activities planned on state-owned forestland managed by the Astoria District for Fiscal Year 2016 (FY16), which begins July 1, 2015 and ends June 30, 2016. This document describes how the activities and projects undertaken by the district will achieve the goals, strategies, and objectives of the *NW Oregon Forest Management Plan (FMP)*, and the Astoria D*istrict Implementation Plan (IP).*

In 2014, the Board of Forestry directed the State Forests Division to develop a new forest management plan to replace the current NW Oregon Forest Management Plan. The new plan is under development and may be adopted in the fall of 2015, during the implementation of this annual operating plan. The strategies in the new plan have not been fully developed but will likely be different than those in current forest management plans, and so some planned activities in this annual operating plan may need to be revised to align with the new forest management plan. Some of the changes may be minor, such as a change in the width of a riparian area or in the number and location of green trees retained in clearcuts. Other changes may be more significant, such as changing a partial cut to a clearcut. Finally, the new FMP may result in increased harvest levels. This will be addressed by moving one or more of the Alternate Operations into Primary Operations.

The AOP document is divided into five major categories: Integrated Forest Management; Planning and Information Systems; Public Information and Education; Administration and Appendices.

The proposed operations and activities are planned to be designed, engineered, and submitted for processing during the FY16 time period. Actual on-the-ground operations will likely not occur during FY16 due to the time-lag associated with contract duration, which could be one to three years after auction. In contrast, reforestation, young stand management, recreation management, and planning activities will be carried out during FY2016. A 45-day public comment is being held from March 23, 2015 through May 5, 2015. In the approved final draft of this AOP, Appendix E will outline the changes made after the public comment period.

Accomplishments of forest management activities that occurred under previous AOPs can be found in several reports, including the *State Forester's Annual Report for the Association of Oregon Counties,* the *Common School Forest Lands Annual Report,* and individual district annual reports (these reports also cover the accomplishments of the Fire Protection and Private Forests Programs). These reports are available through the local district office or online.

Integrated Forest Management Operations

Timber Harvest Operations

Overview of Timber Harvest Operations

This AOP contains 15 primary operations comprised of 1,129 acres of partial cut harvests and 1,683 acres of regeneration harvest which includes 56 acres of new road right of way harvest. The operations range in timber volume from 0.95 to 10.1 million board feet (MMBF) and have an estimated gross revenue of approximately $26.8 million dollars. Net revenues are estimated to be $23.3 million dollars. A detailed financial summary is included in Appendix B.

FY 2016 AOP guidance directs the Astoria District to achieve 73 MMBF. At this time, primary operations planned will achieve 74.2 MMBF. This is approximately 1 MMBF over the volume target. We will be monitoring the completion of the FY 2015 sale plan as well as the initiation of the FY 2016 sale plan to ensure we obtain as close to the 73 MMBF as directed. Planned volumes can be seen in Appendix B.

As planned, these operations are estimated to primarily contain conifer species. Hardwoods are not anticipated to make up a significant amount of volume. Operations will be conducted on approximately 2.0% of the district's total acres. Of this 2.0%, approximately 0.8% is partial cut harvest and 1.2% is regeneration harvest.

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

Silvicultural Activity	**IP Annual Objective**		**2016 AOP Objective**
	Low	**High**	
Partial Cut Harvest	605	3,430	1,129
Regeneration Harvest	285	1,850	1,683

Below are definitions of the most common harvest types, followed by more specific examples of the planned operations.

The definitions of the harvest types used to describe timber harvesting on State Forests can be found on the State Forests website under Forest Management and Planning. The most common harvest types can be found below:

Partial Cut Harvest (PC): The intent of a partial cut harvest is to manage the growth and density of an existing stand. A prescription for partial cut may be designed to increase the structural complexity of a stand, maximize volume growth, or capture tree mortality. A stand may be partial cut many times throughout its life. Partial cuts leave 80 or more square feet of basal area per acre on Site Class I, II, or III. The partial cuts in this plan will reduce stand density to a Stand Density Index range of 20 to 45 percent of maximum stand density.

Stands designated for partial cut harvest in this operations plan fit into one or more of the following situations: stands that are currently Closed Single Canopy (CSC) or Understory (UDS) that are on a pathway to more complex structures; stands that need to be maintained as Layered (LYR); or to move stands on a pathway to Older Forest Structure (OFS); or to increase stands future volume/value while capturing mortality and promoting a second cohort of species. These operations thin conifers and hardwoods to maintain vigorous tree growth, retain deeper crowns and allow light onto the forest floor to initiate understory vegetation establishment and growth.

While partial cut prescriptions will increase tree growth, actual growth response in the understory will vary depending on several factors. Some of these factors include, but are not limited to: density of

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

The "non-thinnable" areas that often exist within partial cuts are made up of hardwoods, brushy areas, adequately stocked conifer, a mix of both adequately stocked conifer and hardwoods, or non-merchantable trees. These areas usually range in size from 1 acre to 20 acres. Leaving these areas unthinned contributes to biological diversity across the landscape.

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

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

> **Retention Cut (RT):** These operations leave approximately 33-80 square feet of basal area on Site Class I, II, or III. The residual trees are well distributed across the harvest unit. These operations leave approximately 5-10 wildlife trees and 2-6 snags per acre with preference given to the biggest and best green trees in addition to the trees in riparian areas.
>
> **Modified Clearcut (MC):** Generally, all regeneration harvest referenced in the Pre-Operations reports fall into this classification. These operations leave less than 33 square feet of basal area on Site Class I, II, or III. Harvest will leave an average of 5-10 wildlife trees and 2-6 snags per acre. The leave trees may be scattered across the unit or clumped. Areas of green tree retention are included in harvest areas and are located along the riparian areas, on steep slopes above streams, inoperable areas, and/or in operationally strategic areas.

Stands designated for regeneration harvest in this operations plan fit into one or more of the following situations: over-stocked and dense stands, under-stocked stands, diseased stands, stands that are surplus to the complex structure targets in the desired future condition landscape design, highly marketable stands, and stands in areas that would provide an opening in the landscape to temporarily serve as big game foraging habitat and increase landscape diversity.

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

Structural components may be retained at higher levels in some units and at lower levels in other units. The intent is to achieve the targets outlined in the Forest Management Plan strategies in a given annual operations plan. The estimates used in the pre-operation reports for existing snags and down wood are generally based on SLI data for the sale areas. The estimates of the post harvest expectations are based on ocular estimates, past contracts, monitoring results, or SLI data for that basin. During sale layout, cruise data gives a more recent account of the number of existing snags per acre. It is from the current cruise information that the remaining number of snags needed is tallied. If needed, additional green trees will be marked as wildlife trees for future snag recruitment or trees may be topped or girdled. It is rare that the conifer downwood requirements of 600-900 cubic feet per acre cannot be met, however, this type of situation would be where a higher amount of downwood would be left on another unit in the basin making up for the lower levels in the hardwood stand. A District analysis of downwood and snags is typically done annually to monitor the landscape level goals.

The process of producing an array of forest stand structures across the landscape is a gradual one. A variety of silvicultural practices will be used to actively move the forest towards the desired range of stand structures outlined in the IP (see Table 12 in the IP, page 73).

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

All of the Primary and Alternate harvest operations and many of the other forest management activities have been reviewed by ODF's wildlife biologists, aquatic specialist, geotechnical specialist, road engineer, operations coordinator, fish and wildlife biologists from the Oregon Department of Fish and Wildlife. Information on operations that occur within the provincial circle of a northern spotted owl has been provided to the US Fish and Wildlife Service. Occasionally, operations may contain a resource or activity that needs to be reviewed by another state agency, such as the Department of Agriculture or the Department of State Lands. Written comments from the external resource specialists and the resolution of those comments can be found in Appendix D.

Beginning with this AOP, the ODF is partnering with the Oregon Department of Transportation's (ODOT) State Archaeologist to do a cultural resource review of all the operations planned in this AOP. A screen was done to determine if: any of the operational areas had been previously surveyed for archaeological resources utilizing the State Historic Preservation Office database; an archaeological resource was within the operational area and/or within a quarter mile from the operational area; or the General Land Office (GLO) maps from the 1850's – 1900's contained any insight into historic sites that existed back in those years.

For this AOP, the Archaeological review revealed no resource sites within any of the planned operations or within a quarter mile of any of the planned operations. Our foresters will continue to look out for artifacts during sale layout and report any findings to the ODOT Archeologist for review and recommended protection measures.

Some smaller scale operations targeting infrastructure maintenance may also produce timber volume during the 2016 fiscal year. These small operations are not included as part of the AOP because they affect a very small area, produce little volume or revenue, and do not require significant effort to develop and execute. For example, a sale may be set up to thin the trees in an ODF Campground to remove unsuitable trees, improve safety and improve growing conditions for the remaining trees. Several other sales may remove trees adjacent to main haul roads to allow roads to dry and improve drainage. These sales will be less than $100,000 in value and comply with all policies, rules, and plans.

Minor Landscape Design Modifications

The landscape design is a long term vision of the Desired Future Condition (DFC) for an array of stand structures across the district which will be achieved through a variety of silvicultural prescriptions across diverse stand types.

The District's vision for future development of complex and general stands on the landscape is described and mapped in the Astoria District Implementation Plan. The Landscape Design is composed of stands occupying 30 percent of the district that is to be managed for DFC – Complex structure, either Layered (LYR) or Older Forest Structure (OFS). Management of DFC – Complex structure usually consists of partial cuts only. The DFC of the remaining 70 percent of the district is called General. A DFC of General allows for a variety of management options including both partial cuts and modified clearcuts. The "Harvest Operations – Stand Structure Summary" table in Appendix B provides an overview of the current condition of the Primary Harvest Operations and their anticipated stand structure five to ten years after harvesting has been completed. In addition, this table provides a summary of the DFC of the Primary Harvest Operations.

The development of the landscape design during implementation planning is generally conducted at the stand level, or higher, using the best available information at the time. Recognizing that some minor changes will be necessary during operational planning. Modifications will be described annually in the AOP and documented in Table 1A. Minor changes to a landscape design will not exceed 240 acres in an AOP.

Table 1A. Minor Landscape Design Modifications

Description of Changes	**LYR** Acres	**OFS** Acres
Beginning Acres (2011 IP)	20,699	20,576
Revised Acres (July 1, 2015)	*20,625*	*20,677*

The DFC GIS layer was created using large stand polygons that tend to not match operational boundaries such as roads, streams, and/or ridges. If mapping errors are found to exist, this section of the AOP will describe the change made and why. Since 2011, edits have been made yearly to the DFC either adding or reducing acres but always keeping the percentage of LYR and OFS at 15% of the District acres each.

Two sales in this AOP, Emerald Isle and Quarter Mile, had a small changes made to the DFC in order to accommodate operational boundaries. Additionally, two other changes were made to the DFC for operations occurring in other AOP's. All the minor changes were made due to operational considerations. Both LYR and OFS still equal 15% of the district acres each, totaling a 30% Landscape Design.

Since 2011, the LYR acres have reduced by 74 acres, and the OFS acres have increased by 101 acres.

Harvest Operations within Terrestrial Anchor Sites and Aquatic Anchors

The State Forests' Species of Concern Strategies specifically identifies fish and wildlife species of concern on the Clatsop State Forest. Two of these strategies are incorporating Terrestrial Anchor Sites (TAS) and Aquatic Anchor (AA) sites into the forest.

- **Terrestrial Anchor Sites (TAS):** are areas intended to benefit terrestrial wildlife species of concern; especially those associated with older forest or interior habitat conditions, sensitive to forest fragmentation, or do not readily disperse across younger forest conditions. Management within TAs is intended to develop larger patches of mature forest conditions, to emulate natural small-scale disturbance patterns, and to minimize short-term negative impacts to habitat. Harvest will mostly consist of thinnings but small regeneration harvest areas and/or retention cuts will be used at times to emulate natural small-scale disturbances. ODF biologists will be consulted when patch cuts and/or retention cuts will be used within TA's.

- **Aquatic Anchor (AA):** sites are watersheds where salmon and aquatic amphibian conservation is of concern. Riparian management strategies beyond those described in the FMP will be applied within AAs. In addition, areas designated for the development of complex structure in the Landscape Design are clustered around streams important to fish in the AA.

The Species of Concern Strategies provide long term goals for TAS and AA. Any management activities within those areas are designed to achieve those goals. These strategies have not identified specific limits to the total area that can be harvested within these areas; however, the district and resource specialist will be tracking the harvest trends within these areas.

The TAS comprise approximately 8% of the Astoria District. It's important in selecting stands for harvest and developing prescriptions in these areas to ensure these harvest activities achieve the goals of the TAS. Table 1B summarizes harvest operations within the TAS (proposed in the 2016 AOP) and the cumulative operations in the TAS since the strategy was adopted (AOPs 2012 through 2016).

In this AOP, there will be no harvest within any of the TAS on the Astoria District.

Table 1B. Summary of Harvest Operations within TAS (Acres and Percent)

Acres within TAS	Current AOP (2016)		Cumulative Harvest (Since 2012)	
	Clearcut	Partial Cut	Clearcut	Partial Cut
Entire District (136,993 Ac.)	**1,683**	**1,129**	**5,538**	**6,055**
% of District Acres	1.2%	0.8%	4.0%	4.4%
Buster (4,598 Ac.)	-	-	-	-
% of TAS Acres	-	-	-	-
Plympton (4,075 Ac.)	-	-	-	**70**
% of TAS Acres	-	-	-	1.7%
Sweethome (2,274 Ac.)	-	-	**10**	**121**
% of TAS Acres	-	-	0.4%	5.3%
All TAS (10,947 Ac.)	-	-	**10**	**191**
% of all TAS Acres	0.0%	0.0%	>1%	1.7%

Effective July 1, 2013 (2014 AOP), the AAs comprise approximately 23% of the Astoria district. The AA strategies focus on protection of riparian areas within the AA watersheds. Harvest in these basins require additional stream buffers contributing towards longer term riparian protection. Since the boundaries of these anchors are watersheds, these anchor basins cross lands not managed by ODF. Of the five anchor basins in the Astoria District, two are almost completely on District ownership and three have acreage on other ownerships. In this AOP, 0.6% (194 acres) of all AAs on the Astoria district will be modified clearcut and 0.3% (108 acres) will be partial cut.

Table 1C. Summary of Harvest Operations within AA (acres and percent)

Acres within AA's (Acres listed are ODF Astoria District only)	Current AOP (2016)		Cumulative Harvest (Since FY 2014)	
	Clearcut	Partial Cut	Clearcut	Partial Cut
Entire District (136,993 Ac.)	**1,683**	**1,129**	**4,322**	**4,061**
% of District Acres	1.2%	0.8%	3.1%	3.0%
Northrup Creek (7,207 Ac.)	**170**	**108**	**275**	-
% of ODF Acres	2.4%	1.5%	3.8%	-
Buster Creek (10,874 Ac.)	-	-	**287**	**440**
% of ODF Acres	-	-	2.6%	4.0%
Upper Rock Creek (3,498 Ac.)	-	-	-	-
% of ODF Acres	-	-	-	-
Upper North Fork Nehalem (9,908 Ac.)	**24**	-	**105**	**460**
% of ODF Acres	0.2%	-	1.0%	4.6%
Coal Creek (183 Ac.)	-	-	-	-
% of ODF Acres	-	-	-	-

All Aquatic Anchors	(31,670 Ac.)	**194**	**108**	**837**	**1,008**
	% of ODF Acres	0.6%	0.3%	2.6%	3.2%

Summary of Timber Harvest Operations by Basin

In the following section, the commercial forest management operations planned for FY 2016 will be summarized in the context of the 17 management basins on the Astoria District. ODF and ODFW resource specialists reviewed the FY 2016 operations plan and provided input. Individual pre-operation reports include information on riparian protection and structural components such as snags, down woody debris, and green tree retention (these reports are available upon request). Since the Forest Management Plan strategies provide standards for these components, they are not directly addressed in this AOP. Road concerns and standards are discussed in the Transportation Planning and Harvesting section.

Table 2. Summary of Timber Harvest Operations in each basin. All values are in net acres.

Basin	2016 AOP	
	Partial Cut	Clearcut
Astoria	0	0
Beneke	0	219
Buster	48	431
Crawford	0	0
Davis	291	12
Fishhawk	0	184
Gnat	341	0
Hamilton	0	0
Klaskanine	151	0
Lousignot	0	326
N. Fork Nehalem	0	0
Northrup	0	132
Plympton	144	36
Quartz	0	0
Sager	154	50
Scattered	0	0
Sweethome	0	237

Descriptions of operations occurring in each basin can be found below. In each basin where harvest will be occurring, the expected change in the current condition is noted. Changes in CSC, UDS, LYR and OFS are estimated to occur 5-10 years post-harvest. The harvest occurring in each basin during FY16 is within the anticipated trajectory towards the DFC goal for that basin. The DFC goals for each basin are outlined in the Astoria District Implementation Plan.

ASTORIA BASIN

There are no primary harvest operations planned in this basin for FY 2016.

Boiler Combo (Alternate Operation): This operation is comprised of four modified clearcut units totaling 129 acres and five partial cut units totaling 132 acres. The modified clearcut units range from 38-50 years old.The current condition of the stands are CSC with 18 acres of UDS in Area 1. The DFC for all of the modified clearcuts is General. The partial cut units are approximately 35 years old the majority which are currently in the CSC condition; with Area 6 consisting of 15 acres of LYR. The DFC for the partial cuts is General with the exception of Area 2 which is LYR. Due to the stand age and condition this will be a first entry thinning aimed at maximizing tree growth for the future.

Fleet View Combo (Alternate Operation): This operation consists of one partial cut unit totaling 29 acres and one modified clearcut totaling 105 acres. The partial cut unit is approximately 36 years old and is currently in the CSC condition. The modified clearcut unit is 48 years old with some overlap of stands that are 53 (12 acres) and 99 (9 acres) years old. The current condition is a mixture of LYR and UDS. The DFC for all units in this sale is General.

BENEKE BASIN

Packy: This operation is comprised of three modified clearcuts totaling 219 acres. The stand ages range from 65-71 years old and have a mixture of LYR & UDS conditions. The DFC for all areas is General. The stands will be harvested and replanted with a mixture of conifer species.

Tone Deaf (Alternate Operation): This operation consists of three modified clearcut units totaling 166 acres. The stands range from 70-80 years in age and are currently a mixture of the UDS and LYR condition. The DFC is General. The stands will be harvested and replanted with a mixture of conifer species.

BUSTER BASIN

Green Olive: This operation consists of three modified clearcut units totaling 137 acres. The sale areas are approximately 75 years of age and are a mix of CSC and LYR conditions. The DFC for all sale areas is General. The stands will be harvested and replanted with a mixture of conifer species.

Homesteader: This operation consists of one partial cut unit totaling 48 acres and four modified clearcut units totaling 207 acres. Area 1 is a partial cut unit that is approximately 38 years old and currently in the UDS condition. The DFC for this area is General. Due to the stand age and condition this will be a first entry thinning aimed at maximizing tree growth for the future. Areas 2, 3, 4 & 5 are modified clearcuts ranging from 64-114 years of age. The stands within these areas are generally in the LYR condition with a portion of Area 2 being in the UDS condition. The DFC for these areas is General.

Kicken Klines: This operation consists of one modified clearcut totaling 87 acres. The stands are approximately 68 years old and currently in the LYR condition. The DFC for Area 1 is General. The stands will be harvested and replanted with a mixture of conifer species.

Emerald Isle (Alternate Operation): This operation consists of three modified clearcut units totaling 148 acres. The stands range from 74-81 years old and are currently a mixture of LYR and UDS condition. The DFC for all sale areas is General. The stands will be harvested and replanted with a mixture of conifer species.

This operation is within the Buster Creek Aquatic Anchor (AA). As a result, all Type F, and large and medium Type N streams within the AA will have a 100 foot no-harvest buffer and all small, perennial, debris flow-prone, and high-energy Type N streams within the AA will have a 50 foot no-harvest buffer.

CRAWFORD BASIN

There are no primary operations planned in this basin for FY 2016.

Crawfish Corner (Alternate Operation): This operation consists of two partial cut units totaling 115 acres and one modified clearcut totaling 31 acres. The partial cut units are approximately 35 years old and are currently in the LYR and UDS condition. Due to the stand age and condition this will be a first entry thinning aimed at maximizing tree growth for the future. The DFC for both areas is General. The modified clearcut is approximately 77 years old and in the UDS condition. The stands will be harvested and replanted with a mixture of conifer species. The DFC for this area is General.

DAVIS BASIN

Petersen Heights: This operation consists of one modified clearcut totaling 12 acres and two partial cuts totaling 291 acres. Area 2 is a modified clearcut that is approximately 48 years of age. The current condition is UDS with a DFC of General. Areas 1 and 3 are partial cut units approximately 50 years old. Area 1 has a current condition of UDS and Area 3 has a current condition of CSC and UDS. Both sale areas have a DFC of General.

FISHHAWK BASIN

Greasy Hawk: This sale consists of three modified clearcuts totaling 184 acres. The stands in this sale are approximately 77-78 years old. Area 1 is currently a mix of the LYR and UDS conditions, while Areas 2 & 3 are currently LYR. The DFC for all areas is General.

GNAT BASIN

Frosty Shingle: (16 Acres of Area 1 are within Gnat Basin) This operation consists of one partial cut unit totaling 160 acres and one modified clearcut unit totaling 36 acres. Area 1 is a partial cut unit that is approximately 57 years of age and is currently in the UDS condition. The DFC for Area 1 is General. Area 2 is a modified clearcut unit approximately 58 years of age and currently in the UDS condition. The DFC for Area 2 is General.

This operation is partially within the Northrup Creek Aquatic Anchor (AA). As a result, all Type F, and large and medium Type N streams within the AA will have a 100 foot no-harvest buffer and all small, perennial, debris flow-prone, and high-energy Type N streams within the AA will have a 50 foot no-harvest buffer.

Boot Scoot (Alternate Operation): This operation consists of one modified clearcut unit totaling 95 acres. The stands are approximately 47 years old and are currently in the UDS condition. The DFC is General. The stands will be harvested and replanted with a mixture of conifer species.

Noisy Thin: This operation consists of three partial cut units totaling 325 acres. The stands range from 36-38 years of age and are in the UDS and CSC condition. The DFC for all the areas is General. Due to the stand age and condition this will be a first entry thinning aimed at maximizing tree growth for the future.

HAMILTON BASIN

There is no harvest planned in this basin for FY 2016.

KLASKANINE BASIN

South Fork Thin: This operation consists of two partial cut units totaling 151 acres. The stands are approximately 30 years of age and are a mix of CSC and UDS. The DFC for all sale areas is General. Due to the stand age and condition this will be a first entry thinning aimed at maximizing tree growth for the future.

LOUSIGNOT BASIN

King Louis: This operation consists of four modified clearcut units totaling 178 acres. The stands range between 66-77 years old and are all in the UDS condition. The DFC for all sale areas is General. The stands will be harvested and replanted with a mixture of conifer species.

This operation has been identified by ODFW as having potential for an opportunistic stream enhancement project. The ODF will work with ODFW during sale layout to determine if the project will be feasible as well as work out individual details of the instream work.

Lost Pony: This operation consists of two modified clearcut units totaling 148 acres. The stands are generally approximately 71-85 years old. The current condition is a mix of CSC and UDS. The DFC for all stands within the sale is General. The stands will be harvested and replanted with a mixture of conifer species.

This operation has been identified by ODFW as having potential for an opportunistic stream enhancement project. The ODF will work with ODFW during sale layout to determine if the project will be feasible as well as work out individual details of the instream work.

NORTH FORK NEHALEM BASIN

There is no harvest planned in this basin for FY 2016.

NORTHRUP BASIN

Nowhere Land: The operation consists of two modified clearcut units totaling 132 acres. The sale areas range from 74-77 years of age and are currently in the UDS condition. The DFC of these stands are General. After harvest, these stands will be replanted with a mixture of species to allow for a variety of future management options.

All sale areas for this operation are within the Northrup Creek Aquatic Anchor. As a result, all Type F, and large and medium Type N streams will have a 100 foot no-harvest buffer and all small, perennial, debris flow-prone, and high-energy Type N streams will have a 50 foot no-harvest buffer.

PLYMPTON BASIN

Frosty Shingle: (180 Acres of this sale are within Plympton Basin) This operation consists of one partial cut unit totaling 160 acres and one modified clearcut unit totaling 36 acres. Area 1 is a partial cut unit that is approximately 57 years of age and is currently in the UDS condition. The DFC for Area 1 is General. Area 2 is a modified clearcut unit approximately 58 years of age and currently in the UDS condition. The DFC for Area 2 is General.

This operation is partially within the Northrup Creek Aquatic Anchor (AA). As a result, all Type F, and large and medium Type N streams within the AA will have a 100 foot no-harvest buffer and all small, perennial, debris flow-prone, and high-energy Type N streams within the AA will have a 50 foot no-harvest buffer.

QUARTZ BASIN

There are no primary operations planned in this basin for FY 2016.

Fire & Ice (Alternate Operation): This operation consists of two modified clearcut units totaling 87 acres. The ages range from 53-63 years old and are currently in the LYR & UDS condition. The DFC of these stands are General. After harvest, these stands will be replanted with a mixture of species to allow for a variety of future management options.

SAGER BASIN

Meier Mainline Combo: This operation consists of one modified clearcut totaling 50 acres and three partial cut units totaling 154 acres. Area 4 is a modified clearcut approximately 94 years of age. The stand is currently in the UDS condition and has a DFC of General. Areas 1, 2, and 3 are partial cut units that are approximately 39 years of age. Due to the stand age and condition this will be a first

entry thinning aimed at maximizing tree growth for the future. The stands are currently in the UDS condition and have a DFC of General.

Tall N Small (Alternate Operation): This operation consists of four partial cut units totaling 176 acres and four modified clearcut units totaling 193 acres. The partial cut units are approximately 36 years old and currently in the UDS condition. Due to the stand age and condition this will be a first entry thinning aimed at maximizing tree growth for the future. The DFC for all the partial cuts is General. The modified clearcuts range from 70-79 years old and are currently in the UDS condition with the exception of Area 5 which is LYR. The DFC of these stands are General. After harvest, these stands will be replanted with a mixture of species to allow for a variety of future management options.

SCATTERED BASIN

There is no harvest planned in this basin for FY 2016.

SWEETHOME BASIN

Quarter Mile: This operation consists of three modified clearcut totaling 192 acres. The stand ages range from 61-73 years old and the current condition is UDS with 24 acres in Area 1 currently LYR. The DFC for all stands is General.

This operation has been identified by ODFW as having potential for an opportunistic stream enhancement project. The ODF will work with ODFW during sale layout to determine if the project will be feasible as well as work out individual details of the instream work.

Small Fry: This operation consists of seven small modified clearcuts totaling 45 acres. The stand ages range from 43-73 years old and the current condition is a mix of UDS, LYR and CSC. The operation is designed to align previous harvest boundaries with roads, ridges and streams to make future management boundaries more logical. The DFC is General. After harvest, these stands will be replanted with a mixture of species to allow for a variety of future management options.

This operation is partially within the Upper North Fork Nehalem Aquatic Anchor (AA). As a result, all Type F, and large and medium Type N streams within the AA will have a 100 foot no-harvest buffer and all small, perennial, debris flow-prone, and high-energy Type N streams within the AA will have a 50 foot no-harvest buffer.

Rocky Top (Alternate Operation): This operation consists of one modified clear cut unit totaling 85 acres. The stand is approximately 73 years old and is currently in the LYR condition. The DFC is General. After harvest, these stands will be replanted with a mixture of species to allow for a variety of future management options.

This operation is within the Upper North Fork Nehalem Aquatic Anchor (AA). As a result, all Type F, and large and medium Type N streams within the AA will have a 100 foot no-harvest buffer and all small, perennial, debris flow-prone, and high-energy Type N streams within the AA will have a 50 foot no-harvest buffer.

Forest Roads Management

Overview

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

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

Additionally, Board of Forestry Performance Measures, adopted in 2008 set targets for the State Forests Division to achieve. Performance Measure 5 was specific to road management and is described as follows:

The Board of Forestry Performance Measure #5 directs that the Clatsop State Forest will:

Reduce the miles of hydrologically connected roads to less than 15 percent of the road network within the next ten years, and maintain or improve that level of reduction for the following ten years. Reduce the number of road crossings that are barriers to fish passage to less than 2 percent within the next ten years, and maintain or improve that level of reduction for the subsequent ten years.

Project work associated with these sales is anticipated to further the intent of Performance Measure 5:

- Greasy Hawk
- Green Olive
- Homesteader
- King Louis
- Lost Pony
- Meier Mainline Combo
- Noisy Thin
- Nowhere Land
- Packy
- Petersen Heights
- Quarter Mile
- South Fork Thin

Exact details of each project, such as cross drain locations, are not known at this time and will be further refined upon sale and project field layout.

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

Road Construction

The planned harvest operations in this AOP anticipate the construction of 14.3 miles of Spur roads. Approximately 15% or 2.1 miles are planned to be native earth (dirt) roads. All dirt spurs will be blocked or vacated upon completion of road use. In addition to the blocked dirt spurs, there will be 0.80 miles of spurs vacated.

Therefore, this Operations Plan will increase the amount of active roads by an estimated 11.4 net miles.

Road Improvement

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

- Approximately 46.7 miles of Collector and 22.4 miles of Spur roads are identified for improvement with planned operations.

Road Access Management

Approximately 2.9 miles of roads are identified for closure and/or permanent vacating with these operations, as follows:

- Homesteader: Road closure includes approximately 0.5 mile of dirt spur road.
- Kicken Klines: Road closure includes approximately 0.5 mile of dirt spur road.
- Meier Mainline Combo: Road closure includes approximately 0.9 mile of dirt spur road.
- Packy: Road closure includes approximately 0.2 mile of dirt spur road.
- Small Fry: Road closure includes approximately 0.8 mile of rocked spur road.

Old abandoned or legacy type roads found during sale layout will be evaluated for vacating.

Other Road Management Activities

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

- Greasy Hawk
- Homesteader
- King Louis
- Lost Pony

Road Maintenance

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

- Timber Sale Contracts: Approximately 124 miles of active road maintenance (associated with FY 2016 hauling operations and road use) is planned within timber sale contracts.
- Approximately 45 miles of mechanical road brushing and spraying is planned for State Forest roads in this operations plan.

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

Land Surveying

Land surveying may be necessary for the following timber sales:

- Green Olive
- Kicken Klines
- Packy

Young Stand Management

The young stand management program applies various silvicultural treatments to create diverse management options for forest development.

These applications include site preparation, fertilization, planting, interplanting, underplanting, rehabilitation, vegetation management, invasive species control, tree protection, pre-commercial thinning, and pruning. To meet the objectives of the Northwest Oregon Forest Management Plan, specific prescriptions of the above applications must be developed for each set of forest and environmental conditions.

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

The utilization of South Fork crews has become essential to the success of young stand management on the Clatsop State Forest. Activities such as tree protection (trapping, bud capping and tubing), noxious weed control, mechanical hand release, and seed collection will be accomplished by South Fork inmate crews. Budget reductions have streamlined the ODF funded activities to the minimum amount necessary to meet the long term goals and objectives of the State Forest's Management Program. In past years, American Recovery and Reinvestment Act (ARRA) funding has been utilized to accomplish such tasks as pre-commercial thinning and invasive weed treatment. Funding for the ARRA program is no longer available. South Fork crews will continue to be utilized, when possible, to conduct additional activities that may not be funded during tough financial times.

See the Young Stand Management Table in the Appendix B for an itemized list of what is planned in FY2016.

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

Site Preparation

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

(1) Herbicides applied by helicopter, or by ground methods, target site specific vegetation species that will aggressively compete with the newly planted trees. In FY 2016, there are 1,600 acres proposed for site preparation through a combination of hand and aerial application using contract and South Fork crews.

(2) Dense slash concentrations created during timber harvest will be mechanically piled and burned during the fall season to improve and open planting areas. Approximately 400 acres are proposed for mechanical site preparation and pile burning.

Planting

Planting is comprised of matching the appropriate species and stock type to the planting site. Forest health strategies are addressed on a site specific basis when the planting plan is developed. Site specific prescriptions consider target species, Swiss Needle Cast risk, *Phellinus weirii* (laminated root

rot) presence, protection of water quality, required stocking guidelines, natural advanced regeneration, and the desired future condition of the stand. To accomplish this, a mixture of species are planted to provide for a healthy, productive, and sustainable forest ecosystem over time. This strategy provides for diverse habitats for wildlife and biodiversity while offering a full range of social, economic, and environmental benefits for future generations.

The planting plan anticipates 1,600 acres of initial planting and 200 acres of interplanting in regeneration harvest units. A mixture of the following species will be planted based upon the site characteristics: western hemlock, Douglas-fir, noble fir, grand fir, Sitka spruce, red alder and western redcedar. Stocking densities are site specific and natural regeneration is considered when establishing a new stand.

Vegetation Management

Vegetation management activities focus on releasing existing conifer or hardwood stands, which have been overtopped by competing vegetation, or controlling roadside brush encroachment. Various prescriptions focus on ensuring that newly established stands are kept in a healthy condition, so the forest stand will continue to grow to its biological and economical potential. In young stand management, the plan includes 1,400 acres of chemical release through aerial and hand chemical application using contract and South Fork crews, and 500 acres of mechanical hand release using South Fork crews.

Roadside vegetation management is intended to maintain visibility for public and employee safety when driving the forest road network and to protect the economic investment made to our road system. This AOP will complete approximately 300 miles of roadside herbicide treatment.

Tree Protection

This activity is designed to protect young stands from being foraged by big game species, or Mountain Beaver. Site specific prescriptions are utilized to protect trees from damage, so the forest stands can develop into their desired future condition. The District plans to trap mountain beavers on 1,000 acres and install and maintain tree protection barriers (bud capping and/or tubes) on 600 acres.

Pre-commercial Thinning

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

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

During this AOP, 300 acres of stands are scheduled for PCT.

Invasive/Noxious Weed Management

Approximately 200 acres of invasive/noxious weed treatment is expected to be accomplished by District staff and/or South Fork Crews. Planned invasive weed treatment will focus on continuing the

past ARRA work in the Astoria Basin and addressing small populations of Scotch Broom identified along roadside ditches, landings, and in units, as resources allow.

Pruning

There are currently no areas planned or identified for pruning for FY2016.

Fertilization

There are currently no areas planned or identified for fertilization for FY2016.

Stocking Surveys

Stocking surveys will be conducted on young conifer stands to determine stocking levels in the one year old and three year old stands. Approximately 3,500 acres of stocking surveys will be conducted on these types of stands in FY2016.

Recreation Management

Overview of Recreation Management

Recreation activities are diverse on the Clatsop State Forest, with dispersed use throughout the forest. Activities include family camping, group camping, hunting, target shooting, fishing, hiking, all terrain vehicle (ATV) riding, horseback riding, mountain biking, nature study, and sightseeing. Due to agency budget constraints, the primary focus of the District Recreation Program will be directed at base level maintenance of existing infrastructure and trails.

Utilizing the South Fork Inmate Camp for maintenance and repairs of recreation facilities is a critical component of achieving the FY2016 objectives of the District recreation program.

In fiscal year 2015, District staff received proposals from two user groups for the development of two new recreation opportunities. The first was from Pacific Trail Riders, they proposed a Class II (4x4, jeep) trail system within the Nicolai Mountain OHV Riding Area. The second was a proposal from the North Coast Chapter of Oregon Equestrian Trails. This user group proposed the construction of several equestrian challenge obstacles at the Northrup Creek Horse Camp. Both of these opportunities have been approved by the State Forests Division. The organizations that proposed the developments have entered into ODF Adopt-a-Trail agreements for conducting the construction and maintenance. Construction has begun at Nicolai Mountain OHV Riding Area and will continue during this AOP. Construction of equestrian challenge obstacles may begin during this AOP.

Planning

Planning for development of designated ATV trails for the Nicolai Mountain OHV Riding Area will be limited through this annual operations plan. Some degree of modification of the original riding area is anticipated based on acquired new information as trail objectives are accomplished. The overall goal during this planning period is to identify and assess what OHV use is ongoing. The information gathered will be used to inform and support future management decisions.

Motorized Recreation Operations/Maintenance

Within the Nicolai Mountain Off Highway Riding Area there are approximately 25 miles of Off Highway Vehicle (OHV) trails, with an 820 foot learner's loop at the Shingle Mill Staging Area. ODF continues to receive funding from Oregon Parks and Recreation Department (OPRD) for funding District OHV positions and facility operation and maintenance costs.

ODF continues to work collaboratively with the District Recreation Advisory Committee and local ATV users to develop the Nicolai Mountain OHV Riding Area. In February, 2015; the Astoria District was included in a grant application to OPRD for the partial funding of an excavator. This tool will allow for more efficient trail maintenance operations if the grant is awarded.

For FY2016 the Astoria District will complete the following OHV projects:

- Continued maintenance of existing designated trails.
- Identify and construct minor trail re-routes.
- Purchase small excavator. (Pending grant approval)
- Continue inventory and GPS mapping of dispersed ATV trails.
- Vacate ATV trails that cause resource damage or direct riders onto private ownership as appropriate.
- Continue to work with existing ATV user groups and develop new working relationships as available.
- Continue collaborative work with 4x4 user groups to develop opportunities for 4x4 use. (This work was planned in the FY2015 AOP, but is not yet completed).

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

Facilities

The Astoria District is responsible for operation and maintenance of four fee campgrounds, one dispersed recreation area, and eleven designated dispersed sites, two interpretive sites, and seven designated trailheads.

- Gnat Creek Campground
- Henry Rierson Spruce Run Campground
- Beaver Eddy Campground
- Northrup Creek Horse Camp
- Lost Lake dispersed recreation area (proposed day use area)
- Lower Nehalem dispersed sites (three)
- North Fork Nehalem dispersed sites (two)
- Nicolai Mountain dispersed sites (two)
- Kerry Road dispersed sites (two)
- Plympton Ridge dispersed sites (two)
- Shingle Mill OHV Staging Area and Trailhead
- Hunt Creek OHV Trailhead
- Astoria District Demonstration Forest
- Chet Reed Arboretum
- Gnat Creek Trailhead
- Bloom Lake Trailhead
- Soapstone Lake Trailhead
- Diane Berry Equestrian Trailhead
- Spruce Run Creek Trailhead
- Demonstration Forest Trailhead

Activities associated with facility operation and maintenance includes:

- Campground host recruitment and supervision
- Coordination of daily maintenance activity by South Fork Inmate Camp
- Scheduling of garbage and recycling services, vault toilet pumping, well maintenance
- Well water testing
- Sign and information board management
- Fee collection
- Public contacts/use management

- Public Use monitoring
- Assessment and coordination of facility repairs
- Firewood sales
- Lost and Found program

During this AOP a new torch-down roof is scheduled to be installed on the flush toilet building at Henry Rierson Spruce Run Campground. Work will also continue on the repair and retrofitting of our campground kiosk structures to repair rot issues.

Trail re-routes and associated maintenance has been steadily increasing on the District. Currently, there are approximately 20 miles of designated non-motorized trails on the District.

Trail maintenance (non-motorized):

- Gnat Creek Trail – Four miles
- Bloom Lake Trail – Two miles
- Soapstone Lake Trail – Two miles
- Demonstration Forest Trail – One mile
- Northrup Equestrian Trails – Eight miles
- Spruce Run Creek – Three miles

Resource Specialists or Contract Service Providers:

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

- Public/user group clubs and organizations.
- Clatsop Recreation Advisory Committee.
- South Fork Inmate Camp provides grounds/facilities construction and maintenance support.
- ODFW: Consulted on wildlife and fisheries issues.
- Forest Management, Forest Roads, Reforestation and Administration Staff for integration with other planned management activities and staff support.
- Support from Oregon Parks and Recreation Department for continued ATV program development.

Other Recreation Management Activities

General Projects

As time and resources permit, recreation staff will continue to update and refine existing technical tools used to manage the recreation program. These efforts will include: updating the GIS trails layer for the District and on-line maps, improving trail signage, identifying and GPS locating dispersed recreation sites across the forest, and refining the conceptual “District vision” for recreation on the Clatsop State Forest.

Volunteer Efforts

In 2014, the Clatsop State Forest had over 1,061 hours of volunteer work consisting of trail volunteers (Oregon Equestrian Trails), camp-host programs, and various recreational committee member participants. The District Recreation Staff will continue to develop a working relationship with local clubs and organizations, and promote volunteerism on the forest.

Law Enforcement

Law enforcement for the District ATV program is provided by the Clatsop County Sheriff’s Office which has one officer dedicated approximately half time to ATV enforcement. Law enforcement for other district general recreation will be provided by a seasonal law enforcement officer during the heavy recreation use season.

Land Exchange

The District does not anticipate any land exchanges to occur in FY16. The District would like to update our Land Exchange and Acquisition Plan if time and support to do so is obtained.

Other Integrated Forest Management Operations

Public Woodcutting

Purpose: The primary objective of the District Firewood Cutting Program is to provide a source of firewood from State Forests to the public for personal use and secondarily to reduce fuel hazards, improve visibility along roads, and provide a recreational opportunity. The District's Firewood Cutting Program is primarily 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.

State Forests are managed for multiple benefits, and snags, downed wood and stumps are important habitat components under our Forest Management Plan. Permittees should follow the permit instructions, review the permit and district maps, and consult with ODF personnel to ensure they remain on State Forests land. Property lines are frequently unmarked and ODF firewood permits are only valid on State Forests land. Harvesting firewood without the landowner's permission is trespass.

Firewood is a high-risk vector for wood-boring insects, such as emerald ash borer and Asian longhorned beetle, two species responsible for widespread defoliation of forests in Midwest and Eastern states. The Oregon Invasive Weed Council and ODF encourage people to obtain their firewood in a place as close as possible to the place where it will be burned. Recreationists have a role in protecting the forests by not moving firewood great distances.

Permit Fee: The permit fee is $20 for two cords of firewood and is not transferrable to another party.

When: Wood permits will be issued for three week periods and they are available Monday-Friday during business hours, outside of fire season. Fire season is generally from July 1st through October 15th.

Who: An unlimited number of personal firewood cutting permits will be issued to the public, with a limit of 5 permits per individual or household within a calendar year. The permit cannot be used to sell firewood to another party, or to manufacture wood products for resale. Firewood cutting permits will be sold and administered to public employees under the same processes used by the public. Oregon Department of Forestry does not guarantee the quality or availability of wood when issuing firewood cutting permits, as such, permit fees will not be refunded. Exceptions to the two cord limit may be made for non-profit organizations, with prior district authorization.

Where: Designated firewood cutting areas will be by Forest Management Basins and will be marked on the permit map, which excludes active and sold timber sales, recreation sites, planned operations, and any ecologically sensitive areas. There is no guarantee that units or travel routes will be posted in the field.

How: Revenue from permit fees will be used to reimburse administration of the firewood cutting program. Enforcement of firewood cutting permits will be accomplished by contracted law enforcement officers and following the Firewood Cutting Guidance described in 12.2.G1.2.2. Additional firewood cutting permit requirements and guidelines are provided with the permit.

During the FY2016, it is estimated that the Astoria District will issue approximately 1,000 woodcutting permits.

Special Forest Products

The Astoria District currently administers a Special Forest Products program which consists of issuing Commercial Use Permits to individuals who wish to collect larger quantities of various forest products with the intent for the products to be re-sold. There is a fee charged to individuals for a Commercial Use Permit, which is based on the type of forest product and quantity. Revenues during FY2014 yielded approximately $20,000 from the sale of 64 permits. It is anticipated that FY2015 and FY2016 will yield approximately the same results. Special Forest Products include: mushrooms, salal, moss, and ferns. Additionally, the public has the ability to gather smaller quantities of these forest products, free of charge, for personal use.

Planning (and Information Systems)

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

Stand Level Inventory and Other Vegetation Inventories

Since 2001, the Astoria District has conducted a rigorous Stand Level Inventory (SLI) regime yielding 56% of the Districts stands and 74% of the district acres inventoried to date. This year the District, thru a Salem inventory contract, is anticipating to have 50 stands inventoried in an effort to update our inventory with current information. Many of the stands inventoried in the early 2000's have been operated in and need to be re-inventoried to obtain post-harvest condition.

Fish and Wildlife Surveys

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

Fish Distribution Surveys: Streams are classified in part as supporting fish (Type F) or not supporting fish (Type N). Riparian protection measures depend in part on the presence of fish. Fish distribution information varies across the district. Many streams have been surveyed with electro fishing techniques that established the upper extent of fish use. However many very small streams have not yet been surveyed for fish presence. These streams will be evaluated with either an electro-fishing method (through contractual arrangements with private consultants or support from ODFW) or with a Physical Habitat Survey. The physical methodology was developed in conjunction with Oregon Department of Fish and Wildlife. In 2015 the Astoria District has contracted to conduct 61 miles of electro fishing surveys to determine fish presence.

The Astoria District will continue its northern spotted owl (NSO) survey program, in order to effectively comply with federal and state Endangered Species Acts and to contribute to the Forest Management Plan (FMP) goals. Survey requirements for each sale are determined in accordance with the State Forest Division Northern Spotted Owl Policy, Procedures, and Guidance (January 2012).

A private contractor will continue the annual surveying for northern spotted owls near planned operations and to monitor the status of occupied sites. It is estimated that this will entail approximately 1,000 survey stations; each station is called for the NSO 6 times over the survey season yielding 6,000 individual nighttime surveys conducted. Approximately 4 daytime follow-up surveys are expected to follow up any NSO detection during the night calling.

In FY2016, the district will continue its marbled murrelet survey program in order to comply with federal and state Endangered Species Acts and to contribute to Forest Management Plan goals. Survey requirements are determined in accordance with ODF Policy & Guidance. Operations fall into either

the Operational Survey Zone or the Systematic Survey Zone. The Operational Survey Zone is closest to the coast where all known occupied sites are located. East of the Operational Survey Zone is the Systematic Survey Zone, where high quality potential murrelet habitat is being surveyed systematically and operational surveys are not being conducted.

Table 3. Summary of Surveys for Threatened and Endangered Species

Operation	Species[1] (NSO/MM)	Survey Years[2]	BA[3] Required	Special Considerations
Frosty Shingle	NSO	'13-'14	No	
Frosty Shingle	MM	N/A	No	Systematic Survey Zone
Greasy Hawk	NSO	'13-'14	No	
Greasy Hawk	MM	N/A	No	Systematic Survey Zone
Green Olive	NSO	'13-'14	No	
Green Olive	MM	N/A	No	Systematic Survey Zone
Homesteader	NSO	'12-'14	No	
Homesteader	MM	N/A	No	Systematic Survey Zone
Kicken Klines	NSO	'14-'15	No	
Kicken Klines	MM	N/A	No	Systematic Survey Zone
King Louis	NSO	'13-'14	No	
King Louis	MM	N/A	No	Systematic Survey Zone
Lost Pony	NSO	'13-'14	No	
Lost Pony	MM	N/A	No	Systematic Survey Zone
Meier Mainline Combo	NSO	'13-'14	No	
Meier Mainline Combo	MM	N/A	No	Systematic Survey Zone
Noisy Thin	NSO	N/A	No	Sale Areas non-suitable for NSO
Noisy Thin	MM	N/A	No	Systematic Survey Zone
Nowhere Land	NSO	'13-'14	No	
Nowhere Land	MM	N/A	No	Systematic Survey Zone
Packy	NSO	'13-'14	No	
Packy	MM	N/A	No	Systematic Survey Zone
Petersen Heights	NSO	'13-'14	No	
Petersen Heights	MM	N/A	No	Systematic Survey Zone
Quarter Mile	NSO	'13-'15	No	
Quarter Mile	MM	'12-'14	No	
Small Fry	NSO	'14-'15	No	
Small Fry	MM	'14-'15	No	
South Fork Thin	NSO	N/A	No	Sale Areas non-suitable for NSO
South Fork Thin	MM	N/A	No	No habitat in or within 100 m from sale areas.

[1] Surveys are conducted according to accepted protocols when habitat for the specific species is determined to be present. NSO – northern spotted owl, MM – marbled murrelet.

[2] Years that surveys have been completed or are planned.

[3] A Biologic Assessment is required for this operation due to the presence of NSO or MM in the vicinity of the operation.

Aquatic and Riparian Resources

Restoration Goals and Identification Process: The overarching principles for fish habitat restoration are described in the Forest Management Plan. Landscape and site-specific strategies will improve levels of aquatic function in the short term to meet the immediate habitat needs of depressed species and place

aquatic habitats on a trajectory toward desired conditions. At the same time actions are carried out to restore the ecological processes and functions that create and maintain self-sustaining habitats over the long term. Restoration strategies include: completing assessments to identify limiting factors and identify, design, and implement projects to remedy identified problems. Projects should mimic natural process, use multidisciplinary approach, and consider site-specific as well as watershed scale processes and disturbance regimes. Projects will be designed to re-establish natural physical and biological processes. The district's approach to restoration planning is further refined in the Implementation Plan. The types of projects in order of priority are: (1) Fish Passage, (2) Road Decommission or Hydrologic Disconnection, (3) Instream Habitat Projects, (4) Alternative Plans to Manage Riparian Areas, and (5) Beaver Relocation. More information on these project types and rationale for priorities is provided in the district IP.

Projects can be implemented *opportunistically* (when operating near streams that would benefit from restoration efforts) or with a more complex and typically *larger scale* approach both of which will be evaluated for ecological benefits. For the Astoria District the goals are to:

- Implement 2-5 larger scale projects over a 10-year period if resources and partners are available.
- Implement 2-3 opportunistic projects per year if resources and partners are available.
- Contribute to fish passage improvement and hydrologic disconnection**.**

There are stream enhancement opportunities identified in association with sales in this sale plan.

- Potential log placement on King Louis, Lost Pony and Quarter Mile.

A larger scale project is planned in the Quartz Basin and the adjacent McGregor Basin, which is managed by the Forest Grove District,that prescribes wood placement and riparian plantings in Upper Rock Creek. This project is being coordinated by the Upper Nehalem Watershed Council and involves the following landowners: ODF, ODOT, and Weyerhaeuser. ODF will be supplying many of the trees that will be used to create the stream enhancement structures. This project is expected to occur between July and September 1 which corresponds with the in-water work period for this stream reach.

Before determining if these potential projects will go into a full planning process, more field review is needed. For stream restoration the ODF Aquatic and Riparian Specialist and the ODFW District Fish Biologist will perform a field evaluation to make sure that the stream will benefit from the proposed project and meets screening criteria (see below). This evaluation will also include reviewing findings, recommendations, modeled conditions, and fish species distribution from available sources such as watershed analyses, ODFW aquatic inventories and fish distribution data, intrinsic potential models, and federal/state recovery and restoration implementation plans where available.

Some screening criteria used to help determine if a potential stream wood placement project should be further considered include:

- Good access to stream (e.g. either cable over stream or road/tractor ground near stream).
- Trees of sufficient size (meet ODFW diameter and length criteria) or with root wad attached are available in the harvest area.
- Operation is adjacent to a salmon or steelhead stream.
- Operation is adjacent to stream with an active channel width between 10 and 20 feet.
- Wider channels may work, but are more challenging because of the length of wood required (2 times channel width). Projects in narrower channels can work as well, but are considered a lower priority-especially if the stream is steep and only contains cutthroat trout.
- Personnel are available to administer implementation of the project.
- Address 1 or more of the habitat restoration priorities.

Restoration accomplishments are reported to OWEB using the OWRI electronic filing process and reported by ODF annually in our report to the counties, Board of Forestry, and DSL.

Aquatic and Riparian Conditions: Watershed assessments have been completed on 11 basins on this district. In addition the Oregon Department of Fish and Wildlife completed Fish Habitat Assessments and summarized the findings by district (ODFW 2005-2006). Limiting factors have largely been identified in the ODFW conservation strategy, the 2005 State of Oregon Coastal Coho Assessment

(OCCA) (State of Oregon 2005), and ODF watershed analyses. Common limiting factors include: a lack of large wood in streams, increased fine sediment in riffles, a lack of complex pool habitat, and a need for more off-channel habitat. The task during this AOP is to identify, design, and implement projects to address the limiting factors either through opportunistic projects (e.g. harvest units adjacent to streams that meet certain criteria) or through larger, multi-collaborator, diversely funded projects.

Major streams that drain these forest lands on the Astoria District are: Gnat Creek, Plympton Creek, and the Klaskanine River, which flow into the Columbia River; and the Nehalem, North Fork Nehalem, and Necanicum Rivers, which flow directly into the Pacific Ocean. Some of the larger streams that feed the Nehalem and North Fork Nehalem Rivers include: Fishhawk Creek, Beneke Creek, Northrup Creek, Sager Creek, Buster Creek, Humbug Creek, Fall Creek, and Sweethome Creek. These major watershed basins define the basin planning areas in the section entitled “Management Basins”. There are several shallow lakes on state forest lands, the largest of which is Lost Lake. Beaver ponds and other wetlands are scattered throughout the district. The Fishhawk Basin contributes to the Fishhawk Lake community water system. Some springs in the Osweg Creek Area of the Buster Basin, supplies the community water for the Elderberry Area residents.

Several strategies, described in the Forest Management Plan dictate protection measures designed to protect, maintain, and restore aquatic and riparian functions. These strategies are employed during harvest activities and include but are not limited to, leaving trees adjacent to streams to protect stream temperature, provide nutrients, protect stream banks, and eventually provide wood to improve fish habitat. Best management practices for road construction, reconstruction, and maintenance minimize impacts to water quality. Aquatic Anchors have been established on five watersheds where additional aquatic conservation measures are applied. The Aquatic Anchors include: Buster Creek, Upper North Fork Nehalem River, Upper Rock Creek, Coal Creek, and Northrup Creek.

Public Information and Education

A number of district employees annually participate in the local school Career Day, Sixth Grade Forestry Tour and Field Day, demonstration forest tours, Clatsop County Fair booth, State Fair booth, Society of American Forestry meetings and tours, and many public school presentations. The district has representatives who attend local watershed council meetings, including the Upper Nehalem Watershed, and the Nicolai-Wickiup Watershed. The Assistant District Forester is on the Board of Directors of the North Coast Watershed Association and the District Forester is an elected officer on the Clatsop Forest Economic Development Committee (CFEDC).

Administration

The State Forest Program in the Astoria District is organized into four separate functional work units. They are managed by a Unit Forester or Unit Supervisor/Manager, and directly supervised by the Assistant District Forester (Operations Manager). The four work units include:

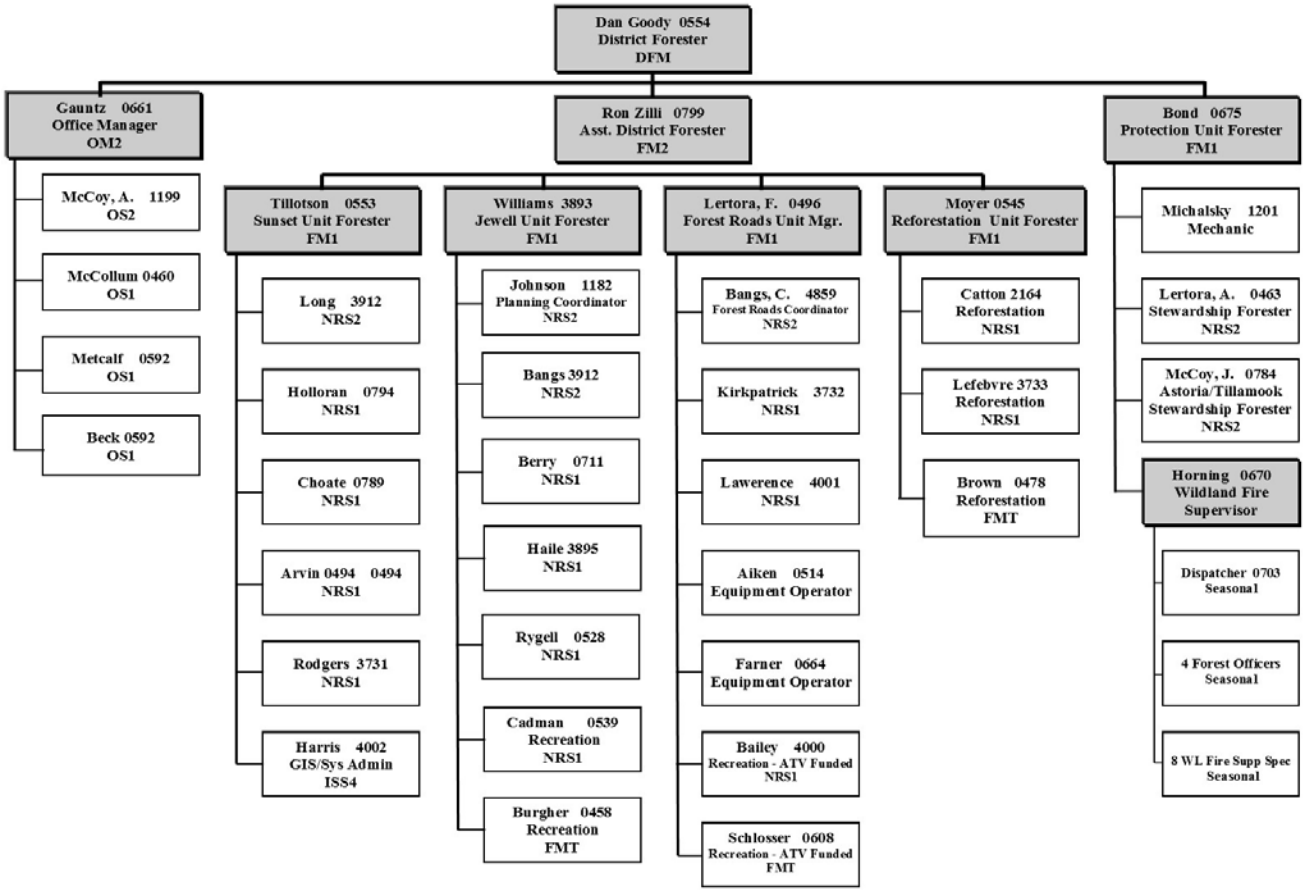
Administration includes the District Forester, Assistant District Forester, Office Manager and clerical staff. The administrative function provides policy and planning direction, budgeting, coordination between units and programs, oversight to the field units, public contact and clerical support. The office manager and clerical staff are split funded from all programs they are involved in.

The **Forest Roads Unit** is responsible for the road and project support, establishment and maintenance of property line surveys, and supervision of the district road maintenance crew. The Forest Roads Unit is also responsible for the management of the motorized recreation, which includes: an ATV Specialist and an ATV Technician. The ATV positions are funded through Oregon Parks and Recreation funds.

The **Forest Management Units**, include the Jewell Unit (central Clatsop County) and the Sunset Unit (remaining state forest lands along the western and northern portions of Clatsop County). They are responsible for the planning, preparation and administration of all State Forest timber sales. The Jewell Unit Forester is responsible for the management of the District's non-motorized recreation facilities and trails, which includes the management of one Recreation Specialist and one Recreation Technician. Both recreation positions are funded through State Forest Development Funds.

The **Reforestation Unit** is responsible for young stand management. The reforestation unit consists of a Reforestation Unit Forester, two Reforestation Foresters, and a seasonal Reforestation Technician.

DISTRICT ORGANIZATION CHART
January 2015



APPENDIXES

A. Forest Land Management Classification Changes

No Forest Land Management Classification Changes occurred this AOP

This appendix describes (minor/major) changes to the State Forests' Forest Land Management Classification maps, including maps of the specific changes.

B. Summary Tables

a. **Harvest Operations – Financial Summary**
b. **Harvest Operations – Forest Resource Summary**
c. **Harvest Operations – Stand Structure Summary**
d. **Forest Road Management Summary**
e. **Reforestation and Young Stand Management Summary**
f. **Recreation Management Summary**

C. Maps

a. **Harvest Operations Vicinity Map**
b. **Include other maps that support the AOP**

D. Consultations with Other State Agencies

This appendix summarizes the results of consultations with the Oregon Department of Fish and Wildlife and other agencies, as appropriate. This appendix contains any written comments that we received from state agencies.

E. Public Involvement and Summary of Changes

Approved AOP Only

This appendix describes the results of the public involvement process of this AOP and will be added prior to its approval.

F. Pre-Operations Reports

Pre-Operations Reports are available from the district upon request.

Appendix B - Summary Tables

TIMBER HARVEST OPERATIONS - FINANCIAL SUMMARY

District: Astoria **Fiscal Year:** 2016 **Date:** 12/19/2014

Primary Operation	Fund %		County	Sale Quarter	Net Acres		Volume (MMBF)			Value		
	BOF	CSL			Partial Cut	Clear-cut	Conifer	Hard-woods	Total	Gross	Projects	Net
Frosty Shingle	100%	0%	Clatsop	4	160	38	2.17	0.00	2.17	$701,800	$51,200	$650,600
Greasy Hawk	100%	0%	Clatsop	2	0	187	8.46	0.45	8.91	$3,684,475	$310,800	$3,373,675
Green Olive	100%	0%	Clatsop	1	0	138	4.36	0.00	4.36	$1,526,700	$227,200	$1,299,500
Homesteader	100%	0%	Clatsop	3	48	211	8.96	1.16	10.12	$3,542,350	$435,550	$3,106,800
Kicken Klines	100%	0%	Clatsop	1	0	89	2.43	0.35	2.78	$967,750	$46,450	$921,300
King Louis	100%	0%	Clatsop	3	0	179	6.45	0.29	6.74	$2,359,000	$349,200	$2,009,800
Lost Pony	100%	0%	Clatsop	4	0	149	6.81	0.00	6.81	$2,382,100	$416,400	$1,965,700
Meier Mainline Combo	100%	0%	Clatsop	2	154	59	4.56	0.00	4.56	$1,597,400	$201,890	$1,395,510
Noisy Thin	100%	0%	Clatsop	3	325	4	2.69	0.00	2.69	$878,625	$211,600	$667,025
Nowhere Land	100%	0%	Clatsop	1	0	132	4.91	0.55	5.46	$2,046,000	$169,363	$1,876,637
Packy	100%	0%	Clatsop	2	0	222	6.43	0.23	6.66	$2,331,000	$327,020	$2,003,980
Petersen Heights	100%	0%	Clatsop	3	291	18	2.63	0.00	2.63	$735,300	$194,500	$540,800
Quarter Mile	100%	0%	Clatsop	2	0	206	6.44	1.61	8.04	$3,098,100	$290,860	$2,807,240
Small Fry	100%	0%	Clatsop	1	0	49	1.16	0.24	1.40	$642,195	$133,880	$508,315
South Fork Thin	100%	0%	Clatsop	1	151	2	0.95	0.00	0.95	$284,600	$74,800	$209,800
				Total:	1,129	1,683	69.40	4.87	74.27	$26,777,395	$3,440,713	$23,336,682
Alternate Operations												
Boiler Combo	100%	0%	Clatsop	Alt.	132	135	4.04	0	4.04	$1,249,871	$237,410	$1,012,461
Boot Scoot	100%	0%	Clatsop	Alt.	0	95	2.65	0	2.65	$795,144	$45,900	$749,244
Crawfish Corner	100%	0%	Clatsop	Alt.	115	32	1.91	0	1.91	$668,150	$130,120	$538,030
Emerald Isle	100%	0%	Clatsop	Alt.	0	155	7.16	0	7.16	$2,504,250	$409,680	$2,094,570
Fire & Ice	100%	0%	Clatsop	Alt.	0	88	2.73	0	2.73	$955,500	$97,060	$858,440
Fleet View Combo	100%	0%	Clatsop	Alt.	29	105	3.36	0	3.36	$1,174,659	$60,840	$1,113,819
Rocky Top	100%	0%	Clatsop	Alt.	0	86	3.76	0	3.76	$1,127,676	$161,800	$965,876
Tall & Small	100%	0%	Clatsop	Alt.	176	196	9.46	0	9.46	$3,309,250	$145,820	$3,163,430
Tone Deaf	100%	0%	Clatsop	Alt.	0	168	7.12	0	7.12	$2,492,000	$50,640	$2,441,360
				Total:	452	1,060	42.17	0	42.17	$14,276,500	$1,339,270	$12,937,230

Appendix B - Summary Tables

PRIMARY HARVEST OPERATIONS - FOREST RESOURCE SUMMARY

District: **Astoria** **Fiscal Year** 2016 **Date:** 12/10/2014

This table lists Forest Resources and other issues addressed within Pre-Operations Report due to their presence within or near harvest operations

Primary Harvest Operations	Unit (Optional)	Forest Health Issues [1]	Invasive Species	LYR/OFS Structures [2]	Landscape Design LYR/OFS [3]	Install/Replace Culverts on Fish Bearing / Perennial Streams	Harvesting within 100' of Fish Bearing Stream	Domestic Water Source	Potential Stream Habitat Improvement [4]	Within Aquatic Anchor	Within Terrestrial Anchor	Operating within a NSO Provincial Circle	Within 1/4 mile of MMMA	T&E Fish Adjacent to Harvest Unit / Haul Route [5]	T&E Plants	Geotechnical Issues Needing Field Review	Recreation Sites	Cultural Resources	Scenic Resources	Other Resources or Issues
Meier Mainline Combo			x						x					x		x			x	x
King Louis			x						x					x		x				x
Lost Pony			x						x					x		x				
Green Olive				x										x						
Packy			x	x		x			x					x		x				
Homesteader				x					x					x					x	
Nowhere Land			x							x				x			x		x	
Kicken Klines			x	x				x	x					x						
South Fork Thin			x				x						x						x	
Noisy Thin			x				x							x			x		x	
Frosty Shingle			x			x				x				x			x			x
Greasy Hawk			x	x		x								x		x				
Petersen Heights			x				x							x						
Quarter Mile									x				x	x			x		x	
Small Fry				x					x	x			x	x		x				

[1] A 'x' (in any column) indicates yes the resource or other issue occurs within or near the harvest operation and is addressed by the Pre-Operations Report

[2] A 'x' indicates the harvest operation contains stands that are currently in a Layered or Older Forest Stand Structure

[3] A 'x' indicate that the operation contains areas that have been designated for the development of complex forest stands (LYR/OFS)

[4] The final decision on these projects will occur during sale preparation and inconsultation with ODFW.

[5] This table lists harvest operations (units or log haul routes) that are adjacent to streams that are known to contain T&E fish. The Pre-Operation Report identifies whether T&E fish are present in the basin.

Appendix B - Summary Tables

ALTERNATE HARVEST OPERATIONS - FOREST RESOURCE SUMMARY

This table lists Forest Resources and other issues addressed within Pre-Operations Report due to their presence within or near harvest operations

Alternate Harvest Operations	Unit (Optional)	Forest Health Issues [1]	Invasive Species	LYR/OFS Structures [2]	Landscape Design LYR/OFS [3]	Install/Replace Culverts on Fish Bearing / Perennial Streams	Harvesting within 100' of Fish Bearing Stream	Domestic Water Source	Potential Stream Habitat Improvement [4]	Within Aquatic Anchor	Within Terrestrial Anchor	Operating within a NSO Provincial Circle	Within 1/4 mile of MMMA	T&E Fish Adjacent to Harvest Unit / Haul Route [5]	T&E Plants	Geotechnical Issues Needing Field Review	Recreation Sites	Cultural Resources	Scenic Resources	Other Resources or Issues
Boiler Combo			x	x	x		x		x					x		x			x	x
Boot Scoot			x						x					x			x			
Crawfish Corner				x					x											
Emerald Isle				x					x	x				x						
Fire & Ice			x	x										x			x			
Fleet View Combo			x	x			x	x	x					x		x			x	
Rocky Top		x	x	x					x	x				x		x				
Tall & Small			x	x					x					x		x				
Tone Deaf				x					x											

[1] A 'x' (in any column) indicates yes the resource or other issue occurs within or near the harvest operation and is addressed by the Pre-Operations Report

[2] A 'x' indicates the harvest operation contains stands that are currently in a Layered or Older Forest Stand Structure

[3] A 'x' indicate that the operation contains areas that have been designated for the development of complex forest stands (LYR/OFS)

[4] The final decision on these projects will occur during sale preparation and inconsultation with ODFW.

[5] This table lists harvest operations (units or log haul routes) that are adjacent to streams that are known to contain T&E fish. The Pre-Operation Report identifies whether T&E fish are present in the basin.

Appendix B - Summary Tables

TIMBER HARVEST OPERATIONS - FOREST STRUCTURE SUMMARY

District: Astoria **Fiscal Year** 2016 **Date:** 01/14/2015

Current Structure		Post Harvest Structure					Desired Future Condition		
	Total	REG	CSC	UDS	LYR	OFS	GEN	LYR	OFS
REG									
CSC	282	32		250			282		
UDS	1,771	904		867			1,771		
LYR	703	703					703		
OFS									
Total	2,756	1,639	0	1,117	0	0	2,756	0	0

Appendix B - Summary Tables

TABLE A3: FOREST ROADS SUMMARY

District: Astoria **Fiscal Year: 2016** **Date: 12/19/2014**

Primary Operations	Construction		Improvement		Other Projects	Total Project Costs	Gross Value of Operation	Total Cost as a percent of Gross Value	Comments
	Miles	Cost	Miles	Cost					
Frosty Shingle	0.50	$26,000	0.80	$16,800	$8,400	$51,200	$701,800	7.3%	
Greasy Hawk	0.90	$46,800	1.80	$48,600	$215,400	$310,800	$3,684,475	8.4%	
Green Olive	0.20	$10,400	10.40	$213,600	$3,200	$227,200	$1,526,700	14.9%	
Homesteader	0.90	$32,300	7.90	$213,300	$189,950	$435,550	$3,542,350	12.3%	
Kicken Klines	0.50	$11,500	1.70	$25,500	$9,450	$46,450	$967,750	4.8%	
King Louis	0.30	$15,600	7.00	$143,400	$190,200	$349,200	$2,359,000	14.8%	
Lost Pony	0.20	$10,400	5.30	$127,500	$278,500	$416,400	$2,382,100	17.5%	
Meier Mainline Combo	1.70	$69,500	5.50	$113,700	$18,690	$201,890	$1,597,400	12.6%	
Noisy Thin	1.00	$52,000	8.40	$142,800	$16,800	$211,600	$878,625	24.1%	
Nowhere Land	0.40	$20,800	1.20	$68,900	$79,663	$169,363	$2,046,000	8.3%	
Packy	0.60	$25,400	12.40	$276,000	$25,620	$327,020	$2,331,000	14.0%	
Petersen Heights	1.60	$83,200	3.20	$75,600	$35,700	$194,500	$735,300	26.5%	
Quarter Mile	3.90	$202,800	0.80	$21,600	$66,460	$290,860	$3,098,100	9.4%	
Small Fry	1.10	$73,400	1.90	$28,500	$31,980	$133,880	$642,195	20.8%	
South Fork Thin	0.50	$26,000	1.20	$32,400	$16,400	$74,800	$284,600	26.3%	
						$3,440,713	**$26,777,395**	12.8%	
Alternate Operations									
Boiler Combo	2.10	$94,110	7.20	$129,000	$14,300	$237,410	$1,249,871	19.0%	
Boot Scoot	0.00	$0	1.80	$27,000	$18,900	$45,900	$795,144	5.8%	
Crawfish Corner	0.40	$26,200	4.70	$90,900	$13,020	$130,120	$668,150	19.5%	
Emerald Isle	0.90	$41,000	9.10	$218,100	$179,700	$438,800	$2,504,250	17.5%	
Fire & Ice	0.40	$20,800	3.60	$54,000	$22,260	$97,060	$955,500	10.2%	
Fleet View Combo	0.00	$0	1.60	$43,200	$17,640	$60,840	$1,174,659	5.2%	
Rocky Top	0.40	$20,800	0.10	$2,700	$138,300	$161,800	$1,127,676	14.3%	
Tall N Small	0.20	$10,400	6.90	$103,500	$31,920	$145,820	$3,309,250	4.4%	
Tone Deaf	0.30	$15,600	1.20	$21,600	$13,440	$50,640	$2,492,000	2.0%	
						$1,368,390	**$14,276,500**	9.6%	
Road Projects Not Associated with Commercial Forest Management Operations									
						$0			
						$0			
						$0			

Appendix B - Summary Tables

REFORESTATION AND YOUNG STAND MANAGEMENT SUMMARY

District: Astoria **Fiscal Year:** 2016 **Date:** 02/19/2015

ODF Funded Activities	Board of Forestry			Common School Forest Lands			District	
Management Activity	Acres Planned	Average Cost*/Acre	BOF Cost	Acres Planned	Average Cost*/Acre	CSL Cost	Total Acres	Total Cost
Initial Planting*	1,600	$240	$384,000					
Interplanting	200	$181	$36,200					
Underplanting	0							
Tree Protection-Barriers**	600	$147	$88,200					
Tree Protection-Direct Control (trapping)**	1,000	$147	$147,000					
Site Prep-Chemical- Aerial	1,200	$60	$72,000					
Site Prep-Chemical-Hand(S. Fork)**	400	$189	$75,600					
Site Prep -Mechanical***	400	$150	$60,000					
Fertilization	0							
Noxious weeds**	200	$150	$30,000					
Release-Chemical- Aerial	1,200	$60	$72,000					
Release,-Chemical-Hand**	200	$189	$37,800					
Release-Mechanical-Hand**	500	$150	$75,000					
Precommercial Thinning**	300	$90	$27,000					
Pruning	0							
Roadside Herbicide Spraying	300 miles	$170	$51,000					
Other Seed Collection** (Grand fir)			$10,000					
Totals	**7,800**	**--**	**$1,165,800**	**0**	**--**	**$0.00**	**0**	**$0.00**

*Planting costs include all costs including seedlings

** South Fork inmate crews will perform these activities.

*** Activity accomplished in conjuction with timber sale harvesting contrats which is later burned by ODF District staff

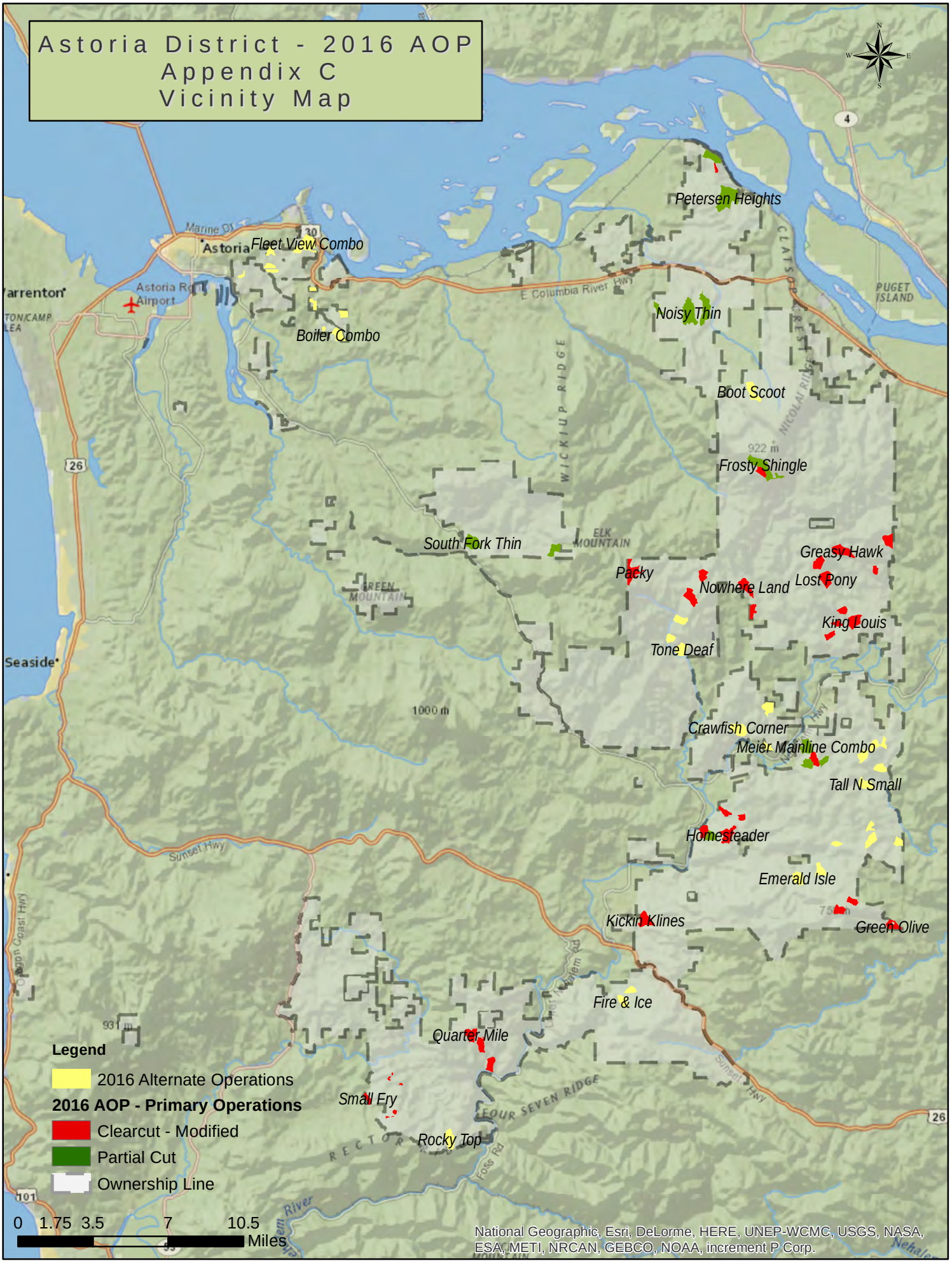
Appendix B - Summary Tables

RECREATION MANAGEMENT SUMMARY

District: Astoria **Fiscal Year:** 2016 **Date :** 02/20/2016

Operation	Construction Projects	Construction Cost (Funding)		Improvement Projects	Improvement Cost (Funding)		Operations and Maintenance Projects	Operations/Maint. (Funding)		Total Costs	Comments
		ODF	Other		ODF	Other		ODF	Other		
Facilities											
Campgrounds											
Henry Rierson Spruce Run							$20,000	$20,000		$20,000	Roof Repair/Sewer & Sanitary Service/Maintenance
Northrup Creek Horse Camp							$2,500	$2,500		$2,500	Sewer & Sanitary Service/Maintenance
Gnat Creek Campground							$3,000	$3,000		$3,000	Sewer & Sanitary Service/Maintenance
Beaver Eddy							$3,000	$3,000		$3,000	Sewer & Sanitary Service/Maintenance
										$0	
Designated Dispersed Campsites											
Misc. Improvements							$2,000	$2,000		$2,000	
*Viewpoint Quarry							$2,000		$2,000	$2,000	Sewer & Sanitary Service/Maintenance
*Kerry Road							$2,000		$2,000	$2,000	Sewer & Sanitary Service/Maintenance
*Plympton Ridge Road							$2,000		$2,000	$2,000	Sewer & Sanitary Service/Maintenance
										$0	
Day Use Areas											
Lost Lake	$5,000	$5,000					$4,500	$4,500		$9,500	Kiosk Const./Sewer & Sanitary Service/Maintenance
*Shingle Mill OHV Staging Area							$1,000		$1,000	$1,000	Sewer & Sanitary Service/Maintenance
										$0	
										$0	
										$0	
Trailheads											
Bloom Lake							$250	$250		$250	Maintenance
Soapstone							$250	$250		$250	Maintenance
Interpretive Sites											
Demonstration Forest							$2,500	$2,500		$2,500	Interpretive Signs
										$0	
Trails											
Non-Motorized							$0	$0		$0	Maint. to be conducted by South Fork
*Motorized							$8,000		$8,000	$8,000	Maint. by Staff and South Fork.
Other Operations											
Law Enforcement							$30,000	$30,000		$30,000	Clatsop County Sheriff's Contract
Clatsop Recreation Brochures							$3,000	$3,000		$3,000	Update/Printing of CSF Rec. Brochures
Dumpsites Cleanup							$1,500	$1,500		$1,500	Annual & Misc. Forest Cleanup
Special Projects							$5,000	$5,000		$5,000	Kiosk Repairs & Maintenance
Misc. Maintenance Supplies & Repairs							$3,000	$3,000		$3,000	Misc. Supplies/CG Envelopes/Etc.
								District Total		$85,500	
								Other Total		$15,000	
									TOTAL	**$100,500**	

*Motorized recreation costs are funded through OPRD transfer funds.


Astoria District - 2016 AOP
Appendix C
Vicinity Map
Petersen Heights
Fleet View Combo
Astoria
Boiler Combo
Noisy Thin
Boot Scoot
Frosty Shingle
South Fork Thin
Greasy Hawk
Packy
Lost Pony
Nowhere Land
King Louis
Tone Deaf
Crawfish Corner
Meier Mainline Combo
Tall N Small
Homesteader
Emerald Isle
Kickin Klines
Green Olive
Fire & Ice
Quarter Mile
Small Fry
Rocky Top
Legend
2016 Alternate Operations
2016 AOP - Primary Operations
Clearcut - Modified
Partial Cut
Ownership Line
0 1.75 3.5 7 10.5
Miles
National Geographic, Esri, DeLorme, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.

Appendix D – Consultations with Other State Agencies

The Annual Operations Plan is prepared in a preliminary form by District Staff two years in advance of it becoming finalized. During this time the District reviews the plan with Department Staff Specialists as well as Staff from The Oregon Department of Fish and Wildlife (ODFW) and the Oregon Department of Transportation (ODOT).

This Appendix summarizes results of consultations with the ODFW, and ODOT.

Oregon Department of Fish and Wildlife – District Wildlife Biologist Review:

Email from Herman Biederbeck, ODFW District Wildlife Biologist, on January 23, 2015:

General

- Optimal green tree (GT) placement for wildlife is scattered or clumped distribution in the upland portions of the harvest units; this is especially true for GTs left in lieu of created down wood or snags. RMA prescriptions for GTs should stand alone in their adequacy, and not need additional GTs for augmentation. Green trees in GTRAs offer minimal value to wildlife unless protecting sensitive wildlife sites (e.g. nests) from wind-throw or edge effects.

- If larger diameter trees are in the stand that is deficient in hard snags, consider creating snags (topping is best method) rather than leaving extra green trees scattered or clumped in the harvest unit.

- It is good to see that the majority of dirt spurs in this AOP are slated for physical closure after use. Consider the same for rocked spurs, especially if they have no immediate need in further management and/or maintenance (e.g. culverts). If new spur roads have immediate further needs, consider closing them physically in later AOPs to keep open road densities down.

Sale Specific - All 24 sales were listed with one or more of the following comments:

- Avoid GTs and CSNs in RMAs and GTRAs
- Recommend closing new rocked spurs
- Good to see dirt spurs slated for blocking
- Recommend closing new rocked and all dirt spurs
- Avoid GTs and CSNs in and adjacent to RMAs and within GTRAs
- Good to see dirt spurs slated for blocking
- Good to see dirt spurs slated for blocking
- Placement of GTs should be avoided in and adjacent to RMAs and within GTRAs

ODF Response:

Herman –

Thanks for your time in reviewing the 2016 Astoria District AOP. We appreciate your comments regarding wildlife tree placement and road closure/management. During the time we write the pre-operations reports we fill out Table 7. Structural Components with the best information that we have at the time. Several years later, we begin sale layout and get to further refine wildlife tree placement within the operation. We strive to do as you suggest: scatter and/or clump wildlife trees. It is difficult to fill out Table 7 without knowing the nuances of the stand; thus we tend keep all or most options open when writing the pre-operations report.

Closing dirt spurs is something we do quite often; all dirt spurs constructed for logging purposes get water barred and blocked after the operation is complete. Closing rocked roads is not as common because of the investment that has been made when building and rocking the road. Once the investment is made we aim to keep the road in good working order. Typically the new roads we build

are short spurs, however, when a longer dead end spur road is constructed in an area that had not been roaded previously, we do consider closing those roads upon completion of firewood cutting and reforestation efforts. In this AOP we are considering blocking new roads for the Emerald Isle and Nowhere Land operations. During sale layout we will finalize the transportation plan and see if closing these roads are feasible.

Oregon Department of Fish and Wildlife – Fish Biologist Review:

Troy Laws, ODFW Fish Biologist, in collaboration with ODF Riparian and Aquatic Specialist, Mark A. Meleason, submitted a list of primary operations where stream enhancement project(s) could be opportunistically planned. The ODF will work with Troy and Mark during sale layout to determine if the project will be feasible as well as work out individual details of each in stream project. Three operations were listed as their top priorities for stream enhancement projects: King Louis, Lost Pony, and Quarter Mile.

Oregon Department of Transportation - Archeological Review:

Archaeologists from the Oregon Department of Transportation (ODOT) have reviewed the proposed timber harvests, road construction and recreation projects to review potential impacts to cultural resources. No known historical or archaeological sites were found during this review. However, ODOT's review of historic maps and other information indicates there was human activity near some of our planned operation that could have led to the presence of cultural artifacts today.

The following areas (listed by the historic activity) will be reviewed on the ground prior to sale or project layout to determine if any cultural artifacts are present:

Potential Adjacent Trail or Military Wagon Road: King Louis, Lost Pony, Plympton East, Woody Woodpecker, Quarter Mile, Rector Quad, Greasy Hawk, Boiler Combo,

Potential Cabin: Quarter Mile