



Oregon

Kate Brown, Governor

Department of Forestry

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"STEWARDSHIP IN FORESTRY"

June 13, 2019

To: Andy White, Area Director
From: Dan Goody, Astoria District Forester
CC: Liz Dent, State Forests Division Chief
Brian Pew, State Forests Deputy Division Chief
Ron Zilli, State Forests Operations Coordinator

Re: Information Item – Approved Annual Operations Plan for FY 2020

The FY 2020 State Forests Annual Operations Plan (AOP) for the Astoria District has been completed. During my review of this plan, I have found that it conforms to the Oregon Forest Practices Act and is consistent with the 2010 Northwest Oregon State Forest Management Plan, the 2011 District Implementation Plan, the 2020 Annual Operation Planning Standards and Guidance, and the FY 2020 State Forests budget instructions.

During its preparation, this plan was reviewed by technical specialists from within the department, biologists from the Oregon Department of Fish and Wildlife and archeologists from the Oregon Department of Transportation. The draft AOP also underwent a 45-day public comment period. All comments were carefully considered and incorporated where appropriate. All changes that have occurred since the public comment period ended are summarized in Appendix D of the AOP.

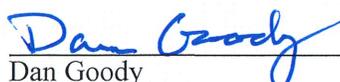
As prepared, this AOP consists of 71.6 MMBF of harvest volume. This volume will be achieved through 690 acres of partial cut harvest and 2,109 acres of regeneration harvest. The operations are estimated to generate gross revenues of approximately \$29,242,965 and net revenues of \$25,296,805 within Clatsop County.

Approval of this plan does not constitute final approval of individual project details. Individual operations are subject to additional review processes at the district and program staff level before implementation. The planned amount and location of all management activities are based on the latest site-specific assessments and estimates of operational, T&E surveys and market variables. Management activity levels may be adjusted and modified to account for any significant changes to these variables. The district has included four alternate operations in this Annual Operations Plan. These alternate operations may be used to replace regular sales that cannot be completed as planned.

The official copy of this AOP will be on file at the district office. Additional copies are available at the State Forests Program office in Salem, and are also available on the ODF web site at:

<http://www.oregon.gov/ODF/Pages/Reports.aspx>

Approved:



Dan Goody
Astoria District Forester

ASTORIA DISTRICT 2020 ANNUAL OPERATIONS PLAN



ASTORIA DISTRICT

2020 ANNUAL OPERATIONS PLAN

OVERVIEW

This plan describes the activities and outcomes that Oregonians can expect to see on the Clatsop State Forest in 2020.

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, fishing, 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.

Over the last several months, ODF requested review and comments on our plan from others, including the Astoria District Recreation Advisory Committee, Oregon Department of Fish and Wildlife, and ODF staff specialist.

A short summary of activities planned for the coming year:

- Prepare timber sales to harvest approximately 71.6 million board feet of timber volume, through modified clearcut and partial cut harvest, generating revenue of \$25.2 million. 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.
- Continue to maintain our current service level meeting the FY20 Budget Instructions.
- Of the \$25.2 million in revenue, Clatsop County will receive approximately two-thirds or \$17.2 million to distribute to various taxing districts within the County. The Department of Forestry will receive the remaining one-third or \$8.7 million.
- Planting approximately 1,162,000 trees on 1,885 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 and snags, all for wildlife benefits in harvest areas and future forests.
- Maintain approximately 950 mile road network that provides access for timber harvest, various recreational opportunities and fire suppression.
- Conduct density surveys for northern spotted owls.
- Conduct approximately 839 individual surveys (final survey numbers not yet decided) for the marbled murrelet.
- Conduct stream improvement projects near several planned harvest units that could benefit from large wood additions to the stream system.
- Vacate or block approximately 1.8 miles of existing road to enhance watershed health.
- Operate and maintain the following developed facilities in a safe, clean, and responsible manner:
 - Five campgrounds
 - One day use recreation area
 - Six designated camp sites
 - Four dispersed camp sites
 - Two interpretive sites
 - Eight trailhead facilities
- Continue with a two-year pilot project instituting a reservation system at Northrup Creek Horse Camp.
- Provide a safe and clean environment for the variety of dispersed activities that occur across the forest – hunting, camping, angling, sight-seeing, target shooting, swimming, mushroom picking, etc.
- Maintaining and patrolling the recreation trail networks, striving to protect trail investments, provide for safety, address trail issues, and protecting water quality.
- Continue to provide public firewood cutting and special forest products (salal, mushrooms, etc.) permits.

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ASTORIA DISTRICT

2020 ANNUAL OPERATIONS PLAN

INTRODUCTION

This annual operations plan (AOP) outlines activities planned on state-owned forestland managed by the Astoria District for Fiscal Year 2020 (FY20), which begins July 1, 2019 and ends June 30, 2020.

The activities in this AOP maintain our current service level. All districts will be working collectively to hold steady a State Forests budget with focused strategic investments in reforestation and recreation. The blueprint for a future workforce finalized and implementation will occur during FY20. The district is still focused on growing our volunteer programs that can help maintain and enhance some services.

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 District Implementation Plan (IP), while implementing this budget direction.

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

The proposed operations and activities are planned to be designed, engineered, and submitted for processing during the FY20 time period. Actual on-the-ground operations will likely not occur during FY20 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, work-order-contracts for some project work associated with primary and alternate timber sales, and planning activities will be carried out during FY2020. This AOP has undergone a 45-day public comment period, which occurred March 18, 2019 through May 2, 2019.

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 at:
<http://www.oregon.gov/ODF/Pages/Reports.aspx>

INTEGRATED FOREST MANAGEMENT

Timber Harvest Operations

Overview of Timber Harvest Operations

This AOP contains 13 primary operations comprised of 690 acres of partial cut harvests and 2,109 acres of regeneration harvest. The operations range in timber volume from 1.5 to 10.3 million board feet (MMBF) and have an estimated gross revenue of approximately \$29.3 million. Net revenues are estimated to be \$25.2 million. A detailed financial summary is included in Appendix A.

FY 2020 AOP guidance directs the Astoria District to achieve 73 MMBF. At this time, primary operations planned will achieve 71.6 MMBF. The District will ensure that as the AOP year progresses, planned versus sold volume is tracked in order to make sure the volume and financial targets are met. Planned volumes for each operation can be seen in Appendix A.

As planned, these operations are estimated to primarily contain conifer species. Hardwoods are anticipated to make up 5% of the total volume. Operations will be conducted on approximately 2% of the district's total acres. Partial cuts account for 25% percent of the harvest while modified clearcuts equate to 75%.

Table 1. Annual Operations Plan objectives compared to Annual Harvest Objectives (AHO) identified in the Astoria District Implementation Plan. All values are acres, except for Volume.

Annual Harvest Objectives	IP Annual Objective		2020 AOP
	Low	High	
Volume (MMBF)			71.6
Partial Cut Harvest	100	2,800	690
Regeneration Harvest	285	2,200	2,109

The objective is to achieve the average of the Annual Harvest Objective (AHO) over the expected duration for the IP. Under normal circumstances, the volume proposed in an AOP will be near the AHO target; however, some events may result in an AOP volume that is farther from the AHO target. These events may consist of, but are not limited to, storm damage, insect and/or disease outbreaks, timber market conditions or other significant events. Alternate timber sales included in this AOP may be sold as primary operations in repose to any of these circumstances.

Table 2 illustrates the planned versus sold volume history over the life of the current Astoria District Implementation Plan (2011). The IP is a ten year plan intended to guide the District through 2021. The volume objective may fluctuate from year to year as long as the average over the ten years is 73 MMBF.

Table 2. Accomplishment of AOP Harvest Volume Compared to IP Annual Objective (MMBF)

Fiscal Year	IP Annual Objective	AOP Planned Volume	AOP Sold Volume	Cumulative Difference from Objective ¹
2012	69.7	69.4	67.7	-2.0
2013	69.7	70.0	73.8	.1
2014	74.4	74.2	75.0	0.6
2015	74.3	73.5	71.4	-2.9
2016	73	73.5	76.8	3.8
2017	73	73.4	73.0	0.0
2018	73	74.1	80.4 ²	7.4
2019 (Current AOP)	73	73.7	--	--
2020 (Draft/Approved AOP)	73	71.6		

1. IP Harvest Objective versus Sold Volume
2. 10.1 MMBF is prepared and awaiting auction.

Structural Habitat Components

Stands designated for regeneration harvest in this operations plan fit into one or more of the following situations: highly marketable stands, 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, 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.

The guidelines for managing structural habitat components described in Landscape Management Strategy 3 in the NW State Forests Management Plan will be followed for the FY20 AOP. Structural habitat components such as green trees, snags and down woody debris (DWD) are considered for all harvest prescriptions; however, most intentional development and retention of structural components is done within regeneration harvest units.

Green tree arrangements for this AOP may include; scattered individual trees, clumps of trees, and trees concentrated in and adjacent to riparian management areas. At this point in the AOP development, discrete locations and configurations for green tree placement is usually not known. The final decision on the location and arrangement of the green trees is made while the sale is being laid out and a professional foresters can take into consideration the final access plan, logging plan, required steam buffers, minor tree species that may be present, unique stand

features, steep slopes, visual considerations, and reforestation considerations, etc. To promote diversity on the landscape a variety of green tree placement strategies will be used. Strategies for retaining snags and down wood are determined using a current condition assessment from forest inventory data or timber cruising data. Then contract provisions are developed when the timber sale is finalized to require additional snags and down wood be retained, if needed, to meet the FMP requirements.”

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.

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).

Stand structures consist of Regeneration (REG), Closed Single Canopy (CSC), Understory (UDS), Layered (LYR), and Older Forest Structure (OFS). Non forested parts of the forest are labeled (NON or NF). Structure definitions can be found in the Northwest Oregon State Forests Management Plan beginning on page 4-13.

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, and 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 can be found in Appendix C.

Oregon Department of Transportation’s (ODOT) State Archaeologist conducted 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. There was, however, one operation where remnants of a trail and/or structure remains may exist. The locations of these are not exactly known or mapped. Our foresters will continue to look out for artifacts during sale layout.

Some smaller scale operations targeting infrastructure maintenance may also produce timber volume during the 2020 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.

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 thinning's 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 3 summarizes harvest operations within the TAS since the strategy was adopted (AOPs 2012 through 2020).

Table 3. Summary of Harvest Operations within TAS (Acres and Percent)

Terrestrial Anchor Site (TAS)	Current AOP (FY 2020) Planned Harvest		Cumulative Harvest (FY 2012 AOP to Present)	
	Clearcut	Partial Cut	Clearcut	Partial Cut
Buster	0	0		
% of Acres	0.0%	0.0%		
Plympton	0	0	1.3	70.0
% of Acres	0.0%	0.0%		1.7%
Sweethome	0	0	10	360
% of Acres	0.0%	0.0%	0.4%	15.7%
All TAS	0	0	17.7	432.7
% of Acres	0.0%	0.0%	0.2%	3.9%
Entire District	0	0		
% of Acres	0.0%	0.0%		

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, 2.5% (778 acres) of all AAs on the Astoria district will be modified clearcut.

Table 4. Summary of Harvest Operations within AA (acres and percent)

Aquatic Anchors (AA)	Current AOP (FY 2020) Planned Harvest		Cumulative Harvest (FY 2014 AOP to Present)	
	Clearcut	Partial Cut	Clearcut	Partial Cut
Northrup Creek (7,207 Ac.)	214	0	877	
% of Acres	3.0%	0.0%	12.2%	
Buster Creek (10,874 Ac.)	501	0	1,258	440
% of Acres	4.6%	0.0%	11.6%	4.0%
Upper Rock Creek (3,498 Ac.)	0	0	271	
% of Acres	0.0%	0.0%	7.8%	
Upper North Fork Nehalem (9,908 Ac.)	10	272	670	929
% of Acres	0.1%	2.7%	6.7%	9.4%
Coal Creek (183 Ac.)	0	0		
% of Acres	0.0%	0.0%		

Summary of Timber Harvest Operations by Basin

In the following section, the commercial forest management operations planned for FY 2020 will be summarized in the context of the 17 management basins on the Astoria District. ODF and ODFW resource specialists reviewed the FY 2020 operations plan and provided input. 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 5. Summary of Timber Harvest Operations in each Management Basin. All values are in net acres.

Management Basin	Partial Cut	Clearcut
Astoria	0	0
Beneke	0	134
Buster	0	556
Crawford	0	0
Davis	38	239
Fishhawk	0	328
Gnat	79	105
Hamilton	0	0
Klaskanine	0	0
Lousignot	0	0
N. Fork Nehalem	573	142
Northrup	0	215
Plympton	0	0
Quartz	0	67
Sager	0	246
Scattered	0	77
Sweethome	0	0
Total	690	2,109

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.

ASTORIA BASIN

There are no harvest operations planned in this basin for FY 2020.

BENEKE BASIN

Saba Jabi [Alternate Sale] – This operation consists of two modified clearcuts totaling 184 acres. Area 1 is a mix of UDS and LYR condition and Area 2 is in a UDS condition. Area 1 is 83 years old and Area 2 has a range of 59-83 years old. After harvest this unit will be replanted with a mixture of conifer species, allowing for a variety of future management options. The DFC for all stands is General.

The Majority of Area 1 is within the Beneke Basin with a small portion of the western portions of the unit in the Hamilton Basin

The majority of Area 2 is within the Hamilton basin with a small portion of the eastern portion of the unit in the Beneke Basin

Trails End – This operation consists of two modified clearcuts totaling 134 acres. The stands are currently in the UDS condition with the age range of 72-82 years. After harvest this unit will be replanted with a mixture of conifer species, allowing for a variety of future management options. The DFC for all stands is General. This sale was moved from the FY19 AOP to FY20.

BUSTER BASIN

Green Gold– This operation consists of five modified clearcut units totaling 396 and new construction right-of-way totaling one acre. Areas 1, 3, and 4 have a current stand structure of UDS Area 2 is a mixture of UDS and LYR, and Area 5 has a current stand structure of LYR. All areas are between 72-85 years old. After harvest these units will be replanted with a mixture of conifer species, allowing for a variety of future management options. The DFC for all stands is General.

Areas 1, 2, and 3 are 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.

Imperial Walker – This operation consists of three modified clearcut units totaling 223 and new construction right-of-way totaling five acres. Areas 1 and 3 have a current stand structure of UDS. Area 2 is a mixture of UDS and LYR. All areas are between 78-81 years old. After harvest these units will be replanted with a mixture of conifer species, allowing for a variety of future management options. The DFC for all stands is General.

Areas 2, 3, and portions of Area 1 are 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.

Portions of Area 1 are within the Sager Basin.

Sage Grass [Alternate sale] – This operation consists of two modified clearcut units totaling 111. Both areas have a current condition of UDS and are between 81-83 years old. After harvest these units will be replanted with a mixture of conifer species, allowing for a variety of future management options. The DFC for all stands is General.

Area 1 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.

Area 2 is within the Sager Basin.

CRAWFORD BASIN

There are no primary harvest operations planned in this basin for FY 2020.

DAVIS BASIN

Fertile Gnat – This operation consists of six modified clearcut units totaling 236 acres, one partial cut unit totaling 38 acres, and new construction right-of-way totaling 3 acres. The modified clearcut units are currently in UDS and LYR condition and are from 33 to 63 years old and a small portion of area 4 is 88 years old. The partial cut unit is currently in CSC condition and is 44 years old. This unit is planned to have a moderate thinning in order to promote growth and to recover volume loss due to competition mortality. All stands have a DFC of General.

FISHHAWK BASIN

Clean Slate – This operation consists of four modified clearcut units totaling 256 acres. The stands are currently in the UDS condition and are 76–83 years old. After harvest these units will be replanted with a mixture of conifer species, allowing for a variety of future management options. The DFC for all the stands is General.

Approximately 41 acres of the sale are within the Fishhawk Basin.

Approximately 215 acres of the sale are within the Northrup Basin.

All or portions of the project work for this sale may be completed through a work order contract.

Wookie – This operation consists of three modified clearcut units totaling 286 acres and new construction right-of-way totaling one acre. The stands are currently a mixed UDS and LYR condition. Stand ages range from 73 to 79. After harvest these units will be replanted with a mixture of conifer species, allowing for a variety of future management options. The DFC for these stands is General.

Plympton East Area 2 [Alternate Sale] – This operation consists of one modified clearcut totaling 42 acres, one partial cut totaling 39 acres. The modified clearcut unit is showing as LYR in the inventory, although past blow down has altered the stand significantly. The age for this stand is approximately 77 years. This harvest will be done in order to re-establish the stand and to release the vigorously growing hemlock understory. The DFC for this stand is General. The partial cut unit is also currently in the LYR condition and is approximately 77 years old. This stand will be thinned to continue promote the DFC of LYR. (Area 1 of this operation is within the Plympton Basin)

The partial cut unit also overlaps the edge of the Plympton NSO Circle. The thinning will be done in order to continue to promote NSO habitat. Per policy, a Biological Assessment will be done by the NWOA Biologist as part of the planning process in order to assess risk to the site.

GNAT BASIN

The Big Noisy – This operation consists of three modified clearcuts totaling 104 acres, two partial cut units totaling 79 acres and new construction right-of-way totaling one acre. The modified clearcut units are primarily LYR and UDS. The stands range from 55-82 years old. After harvest these units will be replanted with a mixture of conifer species, allowing for a variety of future management options. The partial cut units are primarily in the UDS condition. The ages range

from 34-68 years. The DFC for these areas is mostly General with four acres of DFC LYR in area 4.

Rocky (Alternate Sale) – This operation consist of two modified clearcuts totaling 146 acres. The sale areas are in LYR condition and are 68-93 years old. After harvest, areas of advanced reprod are expected to remain intact while the remaining portions of the harvest units will be replanted with a mixture of conifer species, allowing for a variety of future management options. The DFC for all the stands is General.

HAMILTON BASIN

Saba Jabi [Alternate Sale] – This operation consists of two modified clearcuts totaling 184 acres. Area 1 is a mix of UDS and LYR condition and Area 2 is in a UDS condition. Area 1 is 83 years old and Area 2 has a range of 59-83 years old. After harvest this unit will be replanted with a mixture of conifer species, allowing for a variety of future management options. The DFC for all stands is General.

The Majority of Area 1 is within the Beneke Basin with a small portion of the western portions of the unit in the Hamilton Basin

The majority of Area 2 is within the Hamilton basin with a small portion of the eastern portion of the unit in the Beneke Basin

KLASKANINE BASIN

There are no primary harvest operations planned in this basin for FY 2020.

LOUSIGNOT BASIN

There are no primary harvest operations planned in this basin for FY 2020.

NORTH FORK NEHALEM BASIN

East Summit Combination – This operation consists of two modified clearcut units totaling 52 acres, three partial cut units totaling 249 acres and new construction right-of-way totaling four acres. The modified clearcut units, Areas 1 & 4, have a current condition of UDS and LYR and are between 39 and 54 years old. After harvest these units will be replanted with a mixture of conifer species, allowing for a variety of future management options. The DFC for all the stands is General. The partial cut units, Areas 2, 3, and 6 have a current condition of UDS and LYR. These sale areas are approximately 39 to 57 years old. They will be thinned from below to maintain stand health and to increase the growth rates within the stand. The DFC for these stands is General.

This operation is partially within the 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 small, perennial, debris flow-prone, and high-energy Type N streams within the AA will have a 50 foot no-harvest buffer.

Sally Ridge – This operation consists of one modified clearcut unit totaling 84 acres. The sale area has a current condition of UDS and LYR and is between 78 and 82 years old. After harvest the unit will be replanted with a mixture of conifer species, allowing for a variety of future management options. The DFC for these stands is General.

Hamlet 8 — This operation consists of six partial cut units totaling 324 acres, and new construction right-of-way totaling two acres. The partial cut units are predominantly in the CSC and UDS condition and range between 24-54 years old. These units are planned to have a first entry thinning in order to promote growth and to recover volume loss due to competition mortality. A portion of Area 7 indicates the current stand condition is OFS, this portion of the sale area will be posted out and the remainder of the unit will be moderately thinned to maintain stand health and to increase the growth rates within the stand. All stands have a DFC of General. This operation is within the Upper Northfork Nehalem Aquatic Anchor.

NORTHRUP BASIN

Clean Slate— This operation consists of four modified clearcut units totaling 256 acres. The stands are currently in the UDS condition and are 76–83 years old. After harvest these units will be replanted with a mixture of conifer species, allowing for a variety of future management options. The DFC for all the stands is General.

Approximately 215 acres of the sale are within the Northrup Basin.

Approximately 41 acres of the sale are within the Fishhawk Basin.

All or portions of the project work for this sale may be completed through a work order contract.

The majority of the operation (214 acres) is 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.

PLYMPTON BASIN

There are no primary harvest operations planned in this basin for FY 2020.

Plympton East Area 1 [Alternate Sale] – This operation consists of one modified clearcut totaling 42 acres, one partial cut totaling 39 acres. The modified clearcut unit is showing as LYR in the inventory, although past blow down has altered the stand significantly. The age for this stand is approximately 77 years. This harvest will be done in order to re-establish the stand and to release the vigorously growing hemlock understory. The DFC for this stand is General. The partial cut unit is also currently in the LYR condition and is approximately 77 years old. This stand will be thinned to continue promote the DFC of LYR. (Area 2 of this operation is within the Fishhawk Basin)

The partial cut unit (Area 2) planned for this operation overlaps the edge of the Plympton NSO Circle as well as the Plympton TAS. The thinning will be done in order to continue to promote NSO habitat. A preliminary Biological Assessment has been done by the NWOA Biologist as part of the planning process in order to assess risk to the site.

QUARTZ BASIN

Forgotten Shorts – This operation consists of one modified clearcut unit totaling 67 acres. The stands are currently in the UDS condition and are approximately 68-70 years old. After harvest these units will be replanted with a mixture of conifer species, allowing for a variety of future management options. The DFC for all the stands is General.

SAGER BASIN

Buck Shot – This operation consists of three modified clearcut units totaling 177 acres. The clearcut units are currently in the UDS condition and range from 82-83 years in age. After harvest, all sale areas will be replanted with a mixture of conifer species, allowing for a variety of future management options. The DFC of all the sale areas is General.

Sage Grass [Alternate sale] – This operation consists of two modified clearcut units totaling 111. Both areas have a current condition of UDS and are between 81-83 years old. After harvest these units will be replanted with a mixture of conifer species, allowing for a variety of future management options. The DFC for all stands is General.

Portions of Area 2 were salvaged logged three years ago. Approximately 5 acres have been replanted and will be logged through. This area will be evaluated for interplanting upon completion of harvesting activities.

Area 1 is within the Buster Basin.

Imperial Walker – This operation consists of three modified clearcut units totaling 223 and new construction right-of-way totaling five acres. Areas 1 and 3 have a current stand structure of UDS. Area 2 is a mixture of UDS and LYR. All areas are between 78-81 years old. After harvest these units will be replanted with a mixture of conifer species, allowing for a variety of future management options. The DFC for all stands is General.

Areas 2, 3, and portions of Area 1 are 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.

The majority of Area 1 and all of Areas 2 and 3 are within the Buster Basin.

SCATTERED BASIN

Norrison Heights – This operation consists of one modified clearcut unit totaling 77 acres. Area 1 has a current stand condition of UDS and is 68 years old. After harvest the unit will be replanted with a mixture of conifer species, allowing for a variety of future management options. The DFC for this stand is General.

SWEETHOME BASIN

There are no primary harvest operations planned in this basin for FY 2020.

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

Based on current budget direction, district staff has been analyzing all costs involved in all areas of the Forest Roads Unit and are proposing to reduce project costs by, using a larger gradation of rock on forest roads which costs less to manufacture, reducing land surveying when possible, and searching out grant partnership opportunities for stream crossing improvements for fish passage. Project work will focus on work that supports current and planned timber sales, meets FPA water quality standards, protects existing infrastructure, and safety.

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

- Buck Shot
- Clean Slate
- East Summit Combination
- Fertile Gnat
- Green Gold
- Hamlet 8
- Imperial Walker
- Norriston Heights
- The Big Noisy
- Trails End
- Wookie

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 A.

Some of this project work will be accomplished with Work Order Contracts. At this time we have identified all or portions of project work on these sales that will likely be completed via these contracts: Rocky and Saba Jabi, road maintenance, and miscellaneous roadside vegetation management.

Road Construction

The planned harvest operations in this AOP anticipate the construction of 4.9 miles of Spur roads. Approximately 0.9 mile is planned to be native earth (dirt) roads. All dirt spurs and 0.9 mile of reopened dirt spur will be blocked or vacated upon completion of road use. In addition to the blocked dirt spurs, there will be 0.5 miles of spurs vacated.

Therefore, this Operations Plan will increase the amount of active roads by an estimated 2.6 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 45.7 miles of Collector and 34.4 miles of Spur roads are identified for improvement with planned operations.

Fish Passage

Fish passage improvements will be addressed with the East Summit Combination operation with the possible replacement and upgrade of two existing culverts on Type F streams.

Road Access Management

Approximately 1.8 miles of road are identified for closure and/or permanent vacating with these operations, as follows:

- East Summit Combination: Road closure includes approximately 0.2 mile of dirt spur road.
- Fertile Gnat: Road closure includes approximately 0.1 mile of dirt spur road and 0.5 mile of rocked spur road.
- Due to ongoing vandalism and illegal dumping in the Wallooskee Forest Road area, the district is evaluating the installation of a gate near the end of the county road to deter these illegal activities. If a gate is installed the area would still be open to non-motorized recreation activities.

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

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 101 miles of active road maintenance (associated with FY 2020 hauling operations and road use) is planned within timber sale contracts.
- Approximately 150 miles of mechanical road brushing and 400 miles of 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.

Specific Forest Road Costs associated with each timber sale can be found in Appendix A: Forest Roads Summary

Management of Rock Source/Supply

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:

- Buck Shot
- Clean Slate
- East Summit Combination
- Green Gold
- Hamlet 8
- Imperial Walker
- The Big Noisy
- Wookie

Land Surveying

Every year surveying needs are analyzed and planned to be kept at a minimum level while ensuring property lines and corners are clearly marked.

Land surveying may be necessary for the following timber sales:

- Forgotten Shorts
- Fertile Gnat

Approximately two miles of ownership boundary are planned to be surveyed and 10 property corners are planned to be re-witnessed at an estimated cost of \$25,000.

Young Stand Management

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

These applications include site preparation, planting, interplanting, rehabilitation, vegetation management, slash abatement, 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.

District staff has been analyzing costs involved in all areas of the Young Stand Management program. Currently, we have reduced the use of western redcedar and other species that requires expensive tubing and/or pruning to minimize the costs associated between planting and free-to-grow while ensuring the goal of fully stocked stands. Release treatments are performed only when stands are in danger of losing growth, while keeping the goal of fully stocked stands and protect and maintaining existing stands from animal damage through the use of trapping and exclusion barriers (bud caps and vexar tubing). 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 integrated process reduces the susceptibility to the forest health issues of Northwest Oregon such as Swiss Needle Cast.

The use of South Fork crews has been an important component to the success of young stand management activities on the Clatsop State Forest. The recent review of the cost –benefit analysis of South Fork will shift which activities are best performed by South Fork. Some of those activities commonly used by South Fork are tree protection (trapping, bud capping and tubing), noxious weed control, mechanical hand release, and seed collection will mainly be accomplished by South Fork inmate crews.

See the Reforestation and Young Stand Management Summary in the Appendix A-4 for an itemized list of what is planned in FY2020.

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 three 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 2020, there are 1,885 acres proposed for site preparation through a combination of aerial and hand applications using contractors.

(2) Dense slash concentrations created during timber harvest will be mechanically piled concurrently with harvest operations during the summer and fall seasons to improve and open planting areas.

(3) Slash accumulations from harvest activities (landings and processor piles) and any mechanically piled slash concentrations are burned by State Forest staff during the late fall and winter after sufficient rains have reduced the risk of an escaped broadcast burn.

Seedlings / Nurseries

A wide variety of seedlings are grown at forest nurseries throughout the Pacific Northwest to meet the reforestation needs. Seedlings are grown in three different stock types, 1) plug seedlings or one year old container grown seedlings, 2) plug ones which are grown one year in a container followed by a second year in a bare root bed, and 3) straight bare root seedlings grown from seed in a bare root bed and then transplanted to a lower stocking bare root bed. The budget accounts for a string of growing costs over several years rather than just those costs of the trees being grown and planted in the winter of 2020. The budget for seedlings includes portions of the costs for growing seedlings for the planting years of 2020, 2021, and 2022. Additionally there are costs associated with the seed that is used for growing the seedlings, estimated transportation costs and various costs associated with packaging and freezer and/or cooler storage.

The individual species mixture and stock type used for a particular reforestation unit is determined after the final inventory from the forest nursery. For Astoria 280,000 or 24% of the seedlings for 2020 are bare root grown Douglas-fir and western hemlock. The remaining 882,000 or 76% of the 2020 seedlings are grown in one year containers to give more flexibility to the planting season. The container seedling species include Douglas-fir and western hemlock again, along with minor amounts of grand fir, noble fir and Sitka spruce. The seedlings are grown in nurseries in Oregon and Washington to avoid a catastrophic loss at any one nursery along with a concern towards keeping transportation costs as low as possible.

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, 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 1,885 acres of initial planting and 200 acres of interplanting in regeneration harvest units to be planted by contractor crews. A mixture of the following species will be planted based upon the site characteristics: Douglas-fir, western hemlock, grand fir, noble fir and Sitka spruce. 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 600 acres of chemical release through aerial and hand chemical application using contractors, and 400 acres of mechanical hand release using contractor and South Fork crews.

Tree Protection

This activity is designed to protect young stands from being foraged by elk and deer, or damaged by clipping or girdling by mountain beaver, voles, rabbits, mice and other rodents. Site specific prescriptions are utilized to protect trees from damage, so the forest stands can develop into their desired future condition. Integrated Pest Management systems will be used in unusual situations that require more significant control methods along with associated monitoring that occurs during stocking surveys. The District plans to trap mountain beavers on 1,885 acres or nearly every planting unit using a combination of South Fork crews and contractors. Bud capping will be performed by South Fork crews and/or contractors immediately following planting of Douglas-fir in susceptible areas of big game damage. The ODFW will continue the controlled hunts for elk on State Lands in Clatsop County north of Highway 202. This hunt area leaves a large exclusion protecting the Jewell Wildlife Refuge. These controlled hunts focus hunting in areas that have been heavily impacted by big game damage with annual adjustments to tag numbers based on results.

Pre-commercial Thinning

During this AOP, 600 acres of stands are scheduled for precommercial. 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 redcedar and true firs, are retained. The practice of precommercial thinning allows for increased individual tree growth until significant competition between trees develops again, 10 to 15 years later. At this point, other management prescriptions can be evaluated.

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

Early Commercial Thinning

During the FY 2019 Annual Operations Plan the Astoria District pursued a cut-to-length thinning pilot project as an early silvicultural treatment. The primary objective of the operation is to improve stand growth while capturing volume that would be lost due to natural mortality. This process could be viewed as revenue neutral or as a slight revenue generating activity based on markets at the time of the operation. Initial results have generated 45-55 tons of fiber per acre with an average return of \$85 per acre, prior to dispersement to Clatsop County. During times of a depressed timber market the operation could actually be revenue negative. However, along with improving the stocking and quality of the stand another benefit of these operations could be a reduction in the amount of pre-commercial slashing needed; which is currently a substantial cost to ODF. The Astoria District has over 20,000 gross acres of stands within an age class of 20-35 years old which have had little to no previous stocking control. Currently the cut-to-length operations are working well with a slight revenue generation. There are additional units that have been previously identified for the next early commercial thinning project and up to 1,000 acres may be targeted for stand investments using this technique within the FY 2020 Annual Operations Plan.

Pruning

There are currently no areas planned or identified for pruning for FY2020.

Invasive Species

Approximately 50 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 work to identify and treat small populations of noxious weeds such as; Scotch Broom, orange hawkweed, knotweed, yellow flag iris, and garlic mustard, as resources allow. The noxious weed treatments are highly variable in nature and 50 acres is a gross estimate whereas most of the treatments are spot spraying or manual treatment of individual weeds and small patches of dense weeds.

Additionally, equipment on timber sale operations that leave surfaced roads are required to be washed prior to entering the forest.

Stocking Surveys

Stocking surveys will be conducted on young conifer stands to determine stocking levels in the two year old and four year old stands. Approximately 3,300 acres of stocking surveys will be conducted by district staff in FY2020. The district will also conduct approximately 830 acres of the 4-year-old surveys utilizing aerial drones as part of our focused strategic investments.

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 although two focused strategic investments are being made in this area.

Budget direction in FY20 is similar to last year, but we will be making some strategic investments in additional highway signage to raise awareness around Northrup Creek Horse Camp as well as purchasing vehicle traffic counters to be implemented to better monitor use of the Nicolai Off-Highway Riding Area.

We are entering the second year of our two-year pilot project that has implemented a reservation system at Northrup Creek Horse Camp. This plan has shifted all campsites at this location to reservation only; no drop-in or first-come, first-served camping is allowed.

Some of the benefits of this proposal are:

- The reservation system will provide horse campers certainty that they have a reserved campsite before trailering their horse to the campground.
- Reservations will be made through the same online system used by Oregon State Parks and Recreation: Reserve America. This is a popular reservation system that will be familiar to many campers, and should be a good fit for this campground.
- Camping season at Northrup Creek will remain the same, beginning one weekend before Memorial Day and continuing through November.
- This plan will allow ODF to focus time at Northrup Creek Horse Camp when we know it is being used and free up time to work at our higher-use facilities.

Details of the proposal are:

- Department of Forestry and Oregon State Parks and Recreation will continually work together during this two-year pilot project to refine details of implementing the reservation system.
- Through Reserve America, reservations can be made up to nine months prior to the arrival date.
- There will be a small transaction fee (currently \$8) for each reservation in addition to our standard camping fee.
- Reservations can be made with a valid credit or debit card with the VISA or MasterCard logo.
- All campsites at Northrup Creek Horse Camp will be reservation only; on-site registration at the campground will no longer be offered.
- Five corral sites will be designated for horse campers only, with three of the corral sites available to be reserved by anyone, as well as the three non-corral campsites.
- At the end of the two years in 2020 the department will analyze this pilot project based on public input, user feedback, and internal business findings to determine if this system will be ended, continued on a permanent basis, or possibly expanded to other campgrounds. Initial feedback after year one on these changes have been positive.

Utilizing the South Fork Inmate Camp for maintenance and repairs of recreation facilities is a critical component of achieving the FY2020 objectives of the District recreation program. It is anticipated that during FY2020 use of South Fork Crews at the Nicolai Mountain OHV Area will be limited due to higher demand in areas where travel time is more efficient for them. This factor continues to make it critical for the district to grow our volunteer program to assist in maintenance of many of our trail systems.

Facilities (Campgrounds, View Points, Trail Heads, etc.)The Astoria District is responsible for operation and maintenance of five fee campgrounds, one dispersed recreation area, and eight designated sites, two interpretive sites, and seven designated trailheads.

- Gnat Creek Campground
- Henry Rierson Spruce Run Campground
- Beaver Eddy Campground
- Northrup Creek Horse Camp
- Viewpoint Campground
- Lost Lake Recreation Area (Day Use Area)
- Lower Nehalem designated sites (two)
- North Fork Nehalem dispersed sites (two)
- Kerry Road designated sites (two)
- Plympton Ridge designated 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 work will continue on the repair and retrofitting of our campground kiosk structures to repair rot issues, adding additional highway signage for Northrup Creek Horse Camp, and installing traffic counters at the Nicolai Off-Highway Riding Area to better monitor the amount of use.

Trails

Motorized (OHV) Trails

Within the Nicolai Mountain Off-Highway Riding Area there are approximately 30 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.

Table 6. Motorized Trail Projects

Project Type	Project Name	Work Resources	Project Description
Trail Maintenance	Nicolai OHV Trail Maintenance	South Fork/ODF/Volunteers	Maintain trails within the Nicolai Mtn. OHV Area

Non-Motorized Trails

Minor trail re-routes and associated maintenance occur as needed across the District. There are no planned re-routes of non-motorized trails during this AOP. Currently, there are approximately 20 miles of designated non-motorized trails on the District.

Table 7. Non-Motorized Trail Projects

Project Type	Project Name	Work Resources	Project Description
Trail Maintenance	Trail Maintenance	South Fork/ODF/Volunteers	Maintain trails

Trail Maintenance (Motorized and Non-Motorized)

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 – Nine miles
- Spruce Run Creek – Three miles

Volunteer Program

In 2018, the Clatsop State Forest had over 1,185 hours of volunteer work consisting of trail volunteers (North Coast Trail Alliance, Pacific Trail Riders, Sons of Beaches, Mt Scott Motorcycle Club and Oregon Equestrian Trails), camp-host programs, and various recreational committee member participants. The District Recreation Staff plan to continue to spend more time in FY2020 to further develop a working relationship with local clubs and organizations, and increase volunteerism on the forest.

Grants

ODF is currently looking at the potential to grow Public/Private partnerships. If potential opportunities present themselves they will be evaluated on a case by case basis. There is also continued discussion and planning with the Clatsop-Tillamook Chapter of the Society of American Foresters and the Clatsop Forest Economic Development Committee (CFEDC) on construction of an outdoor classroom within the district Demonstration Forest that could be used by local schools to educate local youth on forest stewardship. This structure would also allow for a dry refuge through inclement weather periods during the annual 6th Grade Forestry Field Day.

Other Integrated Forest Management Projects

Aquatic Habitat Improvement

All fish bearing streams found on the district are subject to the Management Standards for Aquatic and Riparian Areas (*Appendix J*) found in the *Northwest Forest Management Plan*. An objective of State Forests' aquatic resources is to maintain, enhance, and restore quality fish habitat. This is achieved primarily through riparian buffer strategies specific to the aquatic resource characteristics such as presence of fish, size, and flow duration. The goal of all riparian management prescriptions is to obtain mature forest conditions (e.g., development of the natural community appropriate for that site) as expeditiously as possible.

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, and (4) Alternative Plans to Manage Riparian Areas. 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. The potential for log placement exists for these operations: East Summit Combination and Fertile Gnat.

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 (two 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 one 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.

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.

Beaver Dam Analogues (BDA) pilot project: In partnership with the Upper Nehalem Watershed Council (UNWC) and ODF, 14 BDA sites will be established within the Walker Creek drainage which is located in the Buster Creek Aquatic Anchor. The BDA's are intended to start the creation and colonization of beaver dams to provide high quality rearing habitat for fish and store water on the landscape. The BDA sites will consist of 6" x 8' conifer post (found on site) that will be driven into the ground along the flood plain on 2-foot centers. Later the BDA's will have on site willow or vine maple weaved in between the post to stimulate the use by beavers.

Land Exchange

The District does not anticipate commencing any land exchanges in FY20 due to budget and staffing limitations. Although we have no deliberate plans to begin any land exchanges in FY20, if high priority land exchange opportunities presents themselves, they will be evaluated on a case by case basis.

Law Enforcement and Public Safety

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.

Firewood Cutting Program

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. The permit fee for personal firewood cutting is \$20 for two cords. Permits are issued for a period of three weeks and expire either when two cords have been cut or the time period expires, whichever occurs first. Historically, firewood cutting has only been allowed during the months outside of fire season. The district is considering offering the opportunity to cut firewood year-round with additionally daily timing restrictions during times of high fire danger. Any input on this change are also welcome as part of our public comment period.

The District typically sells 700-1,000 woodcutting permits each year.

Non-Timber 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. 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.

The District typically sells 150-200 special forest products permits each year.

Planning

Stand Level Inventory and Other Vegetation Inventories

The District, through Salem staff, will be pausing or forest inventory contract. Salem staff will be working on the design and implementation of a new forest inventory system during FY20. The District could be part of a pilot project during this development. Stand level forest inventory is expected to resume with the new data acquisition system during FY21.

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.

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 Policies, (November 2017).

A private contractor will continue the annual surveying for northern spotted owls on the district. The district is in the second year of conducting density surveys. Density surveys are designed to inform demography for the NSO population and the study area covers all suitable habitat in the study area which are called compartments. Density surveys will again be conducted on all the Astoria District ownership with the exception of several smaller parcels that are considered too small to be part of the study area.

In FY2020, 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, and survey protocols.

Public Information and Education

A number of district employees annually participate in the local school Career Day, Clatsop County Job & Career Fair, 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 District Operations Coordinator 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 three separate functional work units. They are managed by a Unit Forester or Unit Supervisor/Manager, and directly supervised

by the District Forester. The three work units include the Marketing Unit, Reforestation Unit, and Forest Roads Unit.

Administration includes the District Forester, District Operations Coordinator, 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.

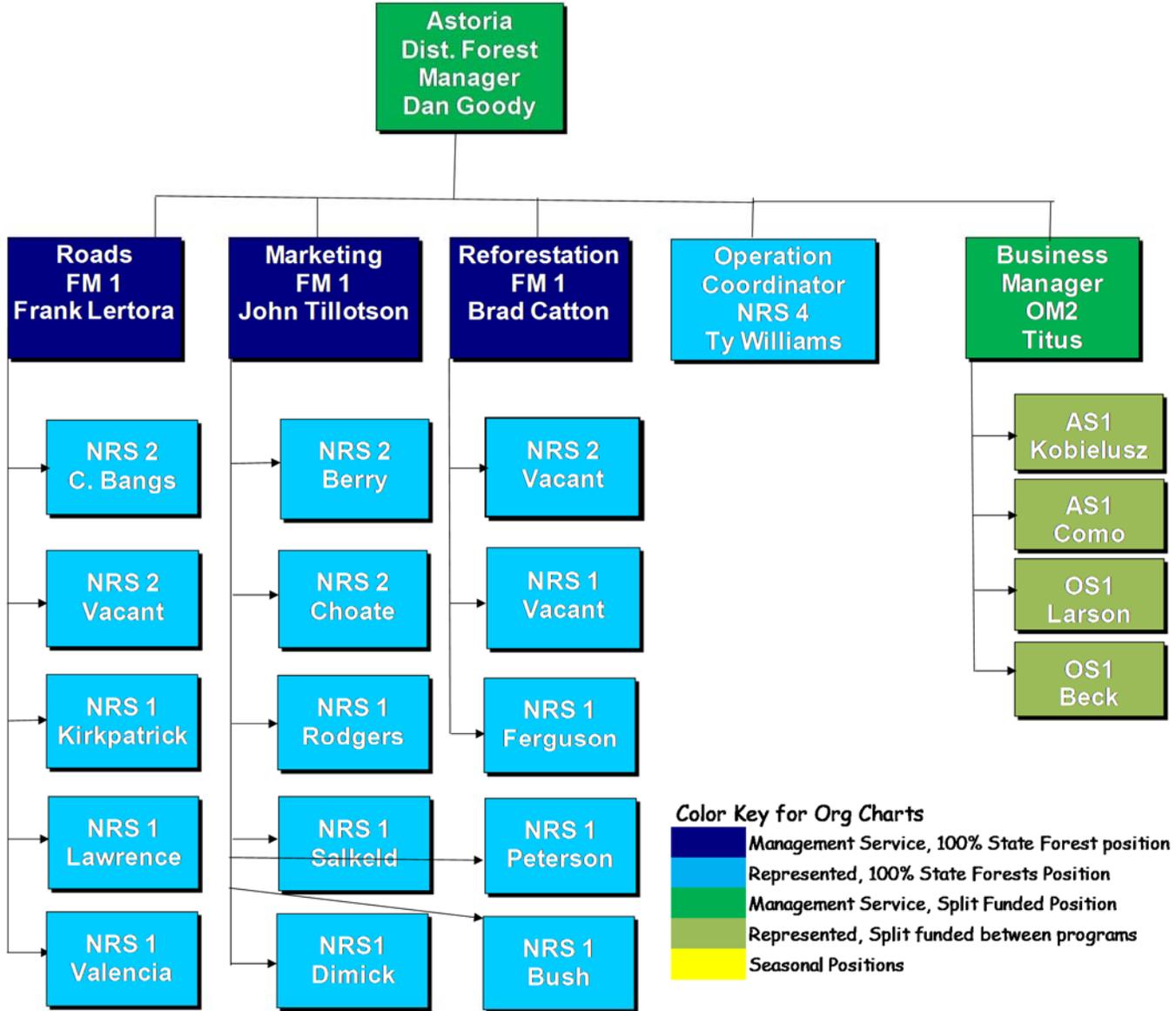
The Forest Roads Unit is responsible for the road and project support, establishment and maintenance of property line surveys, and supervision of the district road maintenance crew. The Marketing Unit is responsible for the planning, preparation and administration of all State Forest timber sales.

The Reforestation Unit is responsible for young stand management for the entire district. The Reforestation Unit Forester is also responsible for the management of the District's recreation facilities and trails.

District Organization

Astoria District

State Forests Organization
FY 20



Funding for Seasonals

Work Across units and districts in support of division priorities

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APPENDIXES

A. Summary Tables

- A-1 Harvest Operations – Financial Summary
- A-2 Harvest Operations – Forest Resource Summary
- A-3 Forest Road Management Summary
- A-4 Reforestation and Young Stand Management Summary
- A-5 Recreation Site Management Summary
- A-6 Recreation Trail Management Summary

B. Vicinity Map of Harvest Operations

C. 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.

D. Public Involvement

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

E. Pre-Operations Reports

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

TIMBER HARVEST OPERATIONS - FINANCIAL SUMMARY

District: Astoria

Fiscal Year: 2020

Date: 05/14/2019

Primary Operation	Fund %		County	Sale Quarter	Net Acres		Volume (MMBF)			Value		
	BOF	CSL			Partial Cut	Clear-cut	Conifer	Hardwoods	Total	Gross	Projects	Net
Buck Shot	100%	0%	Clatsop (100.0%)	4	0	177	6.0	0.0	6.0	\$2,557,650	\$320,400	\$2,237,250
Clean Slate	100%	0%	Clatsop (100.0%)	3	0	256	7.6	0.5	8.1	\$3,448,875	\$388,700	\$3,060,175
East Summit Combination	100%	0%	Clatsop (100.0%)	3	249	56	2.6	0.4	3.0	\$1,145,300	\$278,540	\$866,760
Fertile Gnat	100%	0%	Clatsop (100.0%)	2	38	239	6.8	0.5	7.3	\$2,847,325	\$192,600	\$2,654,725
Forgotten Shorts	100%	0%	Clatsop (100.0%)	2	0	67	0.9	0.6	1.5	\$515,900	\$0	\$515,900
Green Gold	100%	0%	Clatsop (100.0%)	4	0	397	10.3	0.0	10.3	\$4,118,400	\$588,900	\$3,529,500
Hamlet 8	95%	5%	Clatsop (100.0%)	3	324	2	1.8	0.1	1.9	\$653,450	\$237,800	\$415,650
Imperial Walker	100%	0%	Clatsop (100.0%)	2	0	228	7.9	0.0	7.9	\$3,376,625	\$332,800	\$3,043,825
Norrison Heights	100%	0%	Clatsop (100.0%)	1	0	77	2.6	0.0	2.6	\$981,750	\$43,200	\$938,550
Sally Ridge	100%	0%	Clatsop (100.0%)	4	0	84	3.2	0.1	3.3	\$1,310,400	\$0	\$1,310,400
The Big Noisy	100%	0%	Clatsop (100.0%)	2	79	105	3.3	0.3	3.6	\$1,335,650	\$474,200	\$861,450
Trails End	100%	0%	Clatsop (100.0%)	1	0	134	6.5	0.3	6.8	\$3,016,640	\$61,920	\$2,954,720
Wookie	100%	0%	Clatsop (100.0%)	3	0	287	8.3	1.0	9.3	\$3,935,000	\$413,100	\$3,521,900

Sub-total:	690	2,109	67.8	3.8	71.6	\$29,242,965	\$3,332,160	\$25,910,805
Project WOC Sub-total:	0	0	0.0	0.0	0.0	\$0	\$614,000	-\$614,000
Total:	690	2,109	67.8	3.8	71.6	\$29,242,965	\$3,946,160	\$25,296,805

Alternate Operations

Plympton East	100%	0%	Clatsop (100.0%)		39	42	1.1	0.1	1.2	\$422,925	\$0	\$422,925
Rocky	100%	0%	Clatsop (100.0%)		0	146	4.0	0.0	4.0	\$1,719,550	\$254,708	\$1,464,842
Saba Jabi	100%	0%	Clatsop (100.0%)		0	184	9.2	0.0	9.2	\$3,910,000	\$216,900	\$3,693,100
Sage Grass	100%	0%	Clatsop (100.0%)		0	111	4.8	0.0	4.8	\$2,153,250	\$93,200	\$2,060,050

Total:	39	483	19.1	0.1	19.2	\$8,205,725	\$564,808	\$7,640,917
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PRIMARY HARVEST OPERATIONS - FOREST RESOURCE SUMMARY

District: Astoria

Fiscal Year 2020

Date: 05/14/2019

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 (BA Required)	Operating within a MMMA (BA Required)	Murrelet Timber Sale Screening Process Required (MM Policy 2.27)	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	
Buck Shot			X							X				X	X							
Clean Slate			X							X				X	X		X	X	X	X	Permanent plots in area 1.	
East Summit Combination		X	X	X		X			X	X				X	X			X	X	X	Area 1 is focused visual.	
Fertile Gnat			X	X					X					X	X			X		X	Harvest of senic highway buffer. Research sites in area 7.	
Forgotten Shorts			X							X				X	X		X	X		X		
Green Gold			X	X						X				X	X							
Hamlet 8		X	X	X					X	X				X	X				X			
Imperial Walker			X	X						X					X						Permanent plot in area 1.	
Norrison Heights		X	X	X				X						X						X	State highway senic buffer.	
Sally Ridge			X	X					X					X	X							
The Big Noisy			X	X	X									X								
Trails End									X						X		X					
Wookie			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' indicates 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 in consultation 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.

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	Landcape 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	Operating within a MMMA (BA Required)	Murrelet Timber Sale Screening Process Required (MM Policy 2.27)	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
Plympton East		X	X		X				X		X				X					X	
Rocky			X					X	X						X						Research plots in areas 1 and 2.
Sage Grass			X							X											
Saba Jabi			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 in consultation 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.

TABLE A3: FOREST ROADS SUMMARY

District: Astoria

Fiscal Year: 2020

Date: 05/16/2019

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					
Buck Shot	0.00	\$0	8.40	\$152,400	\$168,000	\$320,400	\$2,557,650	12.5%	
Clean Slate	0.00	\$0	7.50	\$96,200	\$292,500	\$388,700	\$3,448,875	11.3%	
East Summit Combination	0.90	\$45,800	8.90	\$119,300	\$113,440	\$278,540	\$1,145,300	24.3%	
Fertile Gnat	0.70	\$37,400	7.00	\$136,600	\$18,600	\$192,600	\$2,847,325	6.8%	
Forgotten Shorts	0.00	\$0	0.00	\$0	\$0	\$0	\$515,900	0.0%	Proj. with Pied Piper
Green Gold	0.10	\$5,800	14.90	\$238,100	\$345,000	\$588,900	\$4,118,400	14.3%	
Hamlet 8	0.30	\$17,400	6.80	\$100,400	\$120,000	\$237,800	\$653,450	36.4%	
Imperial Walker	1.10	\$63,800	5.00	\$125,000	\$144,000	\$332,800	\$3,376,625	9.9%	
Norrison Heights	0.00	\$0	2.70	\$41,100	\$2,100	\$43,200	\$981,750	4.4%	
Sally Ridge	0.00	\$0	0.00	\$0	\$0	\$0	\$1,310,400	0.0%	Impv.with Sassy Sally
The Big Noisy	0.30	\$17,400	10.40	\$192,800	\$264,000	\$474,200	\$1,335,650	35.5%	
Trails End	1.20	\$50,400	0.60	\$10,200	\$1,320	\$61,920	\$3,016,640	2.1%	
Wookie	0.30	\$23,200	10.70	\$149,900	\$240,000	\$413,100	\$3,935,000	10.5%	
Total	4.90	\$261,200	82.90	\$1,362,000	\$1,708,960	\$3,332,160	\$29,242,965	11.4%	

Alternate Operations

Plympton East	0.00	\$0	0.00	\$0	\$0	\$0	\$422,925	0.0%	
Rocky	0.60	\$34,800	4.70	\$91,100	\$128,808	\$254,708	\$1,719,550	14.8%	
Saba Jabi	0.40	\$23,200	5.30	\$73,700	\$120,000	\$216,900	\$3,910,000	5.5%	
Sage Grass	0.10	\$5,800	5.80	\$87,400	\$0	\$93,200	\$2,153,250	4.3%	
Total	1.10	\$63,800	15.80	\$252,200	\$248,808	\$564,808	\$8,205,725	6.9%	

Road Projects Not Associated with Harvest Operations in this AOP:	Roadside Veg Mgt & Rd Maint	\$230,000
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Road Projects to be Completed as a Work Order Contract

Operation	Construction		Improvement		Other Projects	Total Project Costs	Funding Source	Comments
	Miles	Cost	Miles	Cost				
Rocky					\$120,000	\$120,000		Rock Development-Crushing
Saba Jabi					\$120,000	\$120,000		Rock Development-Crushing
						\$0		
Roadside Veg Mgt & Rd Maint					\$230,000	\$230,000		
Total	0.00	\$0	0.00	\$0	\$470,000	\$470,000		

REFORESTATION AND YOUNG STAND MANAGEMENT SUMMARY

District: Astoria Fiscal Year: 2020 Date: 05/16/2019

Projects Conducted by ODF Staff or Contractors	Board of Forestry			Common School Forest Lands			District	
	Acres Planned	Average Cost*/Acre	BOF Cost	Acres Planned	Average Cost*/Acre	CSL Cost	Total Acres	Total Cost
Seedling / Nursery Costs	1,885	\$260.00	\$490,100.00			\$0.00	1,885	\$490,100.00
Initial Planting	1,487	\$116.85	\$173,755.95			\$0.00	1,487	\$173,755.95
Interplanting	200	\$100.00	\$20,000.00			\$0.00	200	\$20,000.00
Underplanting	0		\$0.00			\$0.00	0	\$0.00
Tree Protection - Barriers	650	\$98.50	\$64,025.00			\$0.00	650	\$64,025.00
Tree Protection - Direct Control	2,488	\$75.00	\$186,615.00			\$0.00	2,488	\$186,615.00
Site Prep - Chemical - Aerial	1,309	\$67.00	\$87,703.00			\$0.00	1,309	\$87,703.00
Site Prep - Chemical - Hand	157	\$85.00	\$13,345.00			\$0.00	157	\$13,345.00
Site Prep - Broadcast Burning	0	\$0.00	\$0.00			\$0.00	0	\$0.00
Site Prep - Piling Burning	1,885	\$10.00	\$18,850.00			\$0.00	1,885	\$18,850.00
Site Prep - Mechanical	0		\$0.00			\$0.00	0	\$0.00
Release - Chemical - Aerial	600	\$65.00	\$39,000.00			\$0.00	600	\$39,000.00
Release - Chemical - Hand	0		\$0.00			\$0.00	0	\$0.00
Release - Mechanical - Hand	0		\$0.00			\$0.00	0	\$0.00
Precommercial Thinning	600	\$125.00	\$75,000.00			\$0.00	600	\$75,000.00
Pruning	0		\$0.00			\$0.00	0	\$0.00
Invasive Species	49	\$150.00	\$7,350.00	1	\$150.00	\$150.00	50	\$7,500.00
Road Side Spraying	294	\$154.00	\$45,276.00	6	\$154.00	\$924.00	300	\$46,200.00
Stocking Surveys	3,300	\$1.00	\$3,300.00			\$0.00	3,300	\$3,300.00
Other			\$0.00			\$0.00	0	\$0.00
Totals	14,904	--	\$1,224,319.95	7	--	\$1,074.00	14,911	\$1,225,393.95

* Work to be completed by ODF staff; cost are for materials only

Projects Conducted by Inmates	Board of Forestry			Common School Forest Lands			District	
	Acres Planned	Average Cost*/Acre	BOF Cost	Acres Planned	Average Cost*/Acre	CSL Cost	Total Acres	Total Cost
Initial Planting	62	\$120.00	\$7,440.00			\$0.00	62	\$7,440.00
Interplanting	0		\$0.00			\$0.00	0	\$0.00
Underplanting	0		\$0.00			\$0.00	0	\$0.00
Tree Protection - Barriers	2,000	\$30.00	\$60,000.00			\$0.00	2,000	\$60,000.00
Tree Protection - Direct Control	1,000	\$75.00	\$75,000.00			\$0.00	1,000	\$75,000.00
Site Prep - Chemical Aerial	0		\$0.00			\$0.00	0	\$0.00
Site Prep - Chemical - Hand	0	\$85.00	\$0.00			\$0.00	0	\$0.00
Site Prep - Broadcast Burning	0		\$0.00			\$0.00	0	\$0.00
Site Prep - Piling Burning	0		\$0.00			\$0.00	0	\$0.00
Site Prep - Mechanical	0		\$0.00			\$0.00	0	\$0.00
Release - Chemical - Hand	0	\$85.00	\$0.00			\$0.00	0	\$0.00
Release - Mechanical - Hand	400	\$75.00	\$30,000.00			\$0.00	400	\$30,000.00
Precommercial Thinning	0		\$0.00			\$0.00	0	\$0.00
Pruning	0		\$0.00			\$0.00	0	\$0.00
Invasive Species	200	\$85.00	\$17,000.00			\$0.00	200	\$17,000.00
Other			\$0.00			\$0.00	0	\$0.00
Totals	3,662	--	\$189,440.00	0	--	\$0.00	3,662	\$189,440.00

Grant Funded Activities	Board of Forestry			Common School Forest Lands			District		Funding
	Acres Planned	Average Cost*/Acre	Cost	Acres Planned	Average Cost*/Acre	Cost	Total Acres	Total Cost	
Project			\$0.00			\$0.00	0	\$0.00	
			\$0.00			\$0.00	0	\$0.00	
			\$0.00			\$0.00	0	\$0.00	
			\$0.00			\$0.00	0	\$0.00	

Other Operations							
Law Enforcement					\$30,000	\$30,000	Clatsop County Sheriff's Contract
Clatsop Recreation Brochures					\$5,000	\$5,000	Update/Printing of CSF Rec. Brochures
Dumpsites Cleanup					\$5,000	\$5,000	Annual & Misc. Forest Cleanup**
Special Projects					\$5,000	\$5,000	Sign Repairs & Maintenance**
Misc. Maintenance Supplies & Repairs					\$5,000	\$5,000	Misc. Supplies/CG Envelopes/Etc.
						\$0	
						\$0	

District Total	\$96,400
Other Total	\$3,200
TOTAL	\$99,600

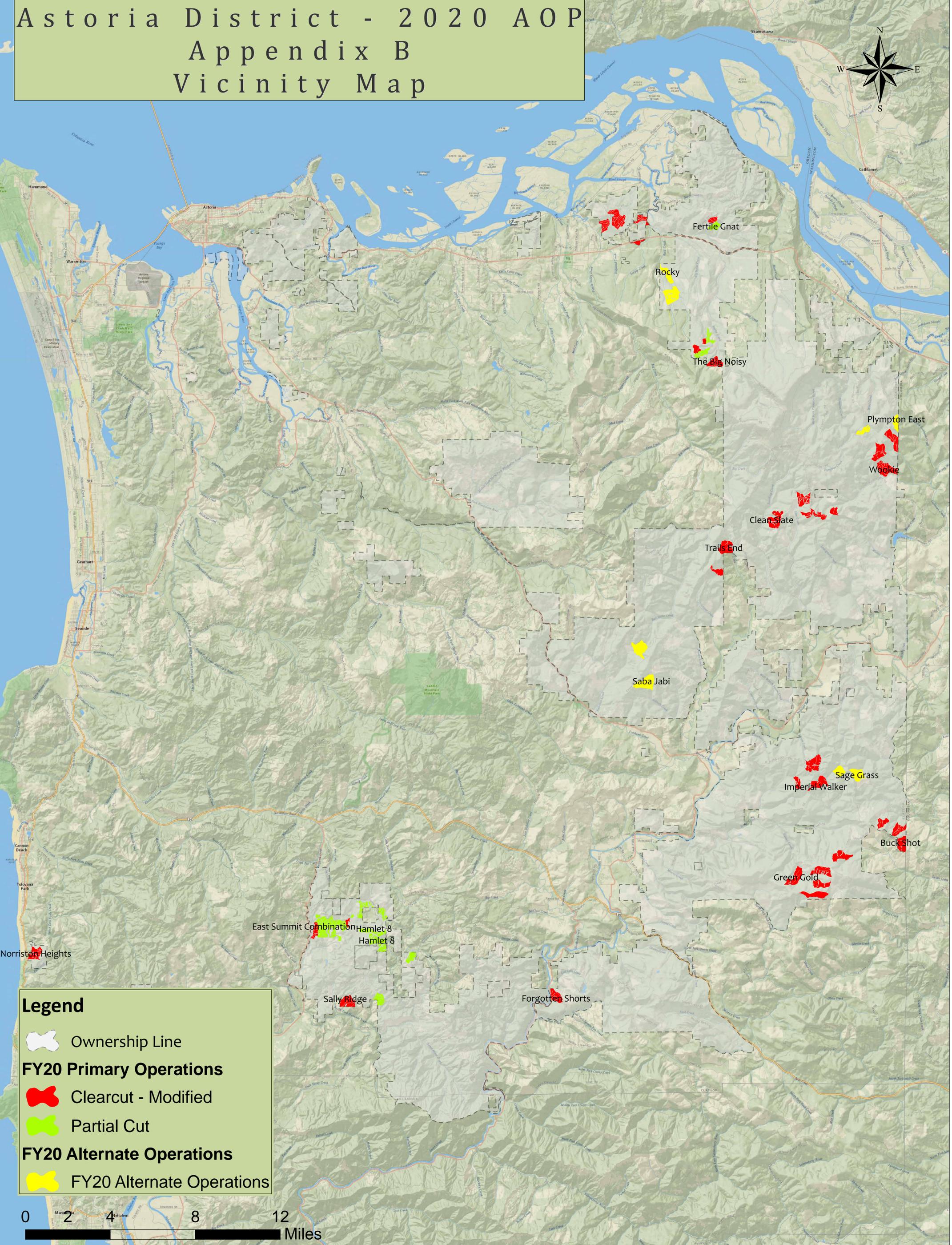
*A portion of the motorized recreation costs are funded through OPRD transfer funds.

** All Maintenance Work to be performed by South Fork and ODF Staff

Astoria District - 2020 AOP

Appendix B

Vicinity Map



Legend

-  Ownership Line
- FY20 Primary Operations**
-  Clearcut - Modified
-  Partial Cut
- FY20 Alternate Operations**
-  FY20 Alternate Operations



Source: Geographic Earth Camera; HERE; UNIGIS/CAC; USGS; NASA; ESA; METI/ARCA; DEBIO/NOAA; iStock.com/Peter

Appendix C – 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 – Herman Biederbeck:

Stand Structural Components

The sales with clearcuts (MCs) do not have a narrative or table for prescriptions of stand structural components (green trees, snags, down wood). This makes it impossible to determine if or how standards in the Forest Management Plan (FMP) for these components will be met.

Green Trees

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. Green trees in GT Retention Areas offer minimal value to wildlife unless protecting sensitive wildlife sites (e.g. nests) from wind-throw or edge effects.

Snags

The stated current densities of snags in some Pre-operation Reports (e.g. Buck Shot, Dragon's Roost, Sues Split, Wookie) seem to be estimates or placeholders as they are consistent multiples of "5". Are these the actual densities of snags in those areas?

As mentioned above, strategies for addressing snag standards in the FMP are not mentioned in the Pre-operation Reports. Most stands slated for clearcutting are dominated by larger diameter trees, and many are currently deficient in hard snags. To meet snag standards, ODFW recommends creating snags (topping is best method), rather than leaving extra GTs, and leaving them in a scattered or clumped distribution in upland portions of harvest units. If GTs are left in lieu of snag creation in stands with smaller diameter trees, they should also be scattered or clumped in the harvest unit.

Down Wood

Strategies for meeting down wood standards in the FMP are not mentioned in the Pre-operation Reports either. How will standards be met? Most stands with an MC prescription are of larger diameter and older age, so creation of down wood is recommended to address any deficiencies in those stands. If GTs are left in smaller diameter stands, in lieu of down wood creation, they should also be scattered or clumped in the harvest unit.

Roads

The dirt spurs in this AOP are slated for physical closure after use, which is beneficial to wildlife. Vehicle traffic on dirt roads can be a significant source of erosion and stream sedimentation. ODFW also recommends physical closure 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.

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.

Appendix C – Consultations with Other State Agencies

It has been recommended that the following operations should be further reviewed on the ground during field reconnaissance to determine if any trail and/or cabin remains still exist: Clean Slate, Double Eddy, East Summit Combination, Lost Creek Road, Seuss Split, Hamlet 8(alt.), Plympton East(alt.), Saba Jabi(alt.).

Appendix D – Public Involvement and Summary of Changes

The Oregon Department of Forestry held a formal 45 day public comment period for the 2020 Annual Operations Plans from March 18, 2019 through May 2, 2019.

The purpose of the Public Comment Period was to provide an opportunity for the public to review the AOPs, ask questions, make recommendations and offer comments. As a public agency, ODF strives to operate in the best interest of Oregonians. We provide opportunities for public participation to assist us in securing the greatest permanent value from state forests for all Oregonians.

Some modifications were made to the final AOP following the public comment period. Specific changes to the composition of the FY2020 AOP plan are:

- During the public comment period for this AOP, the District completed field work on the FY19 operations and found the prepared volume to exceed the planned volume target of 73.7 MMBF. As a result, one FY19 primary operation, Trails End, was moved into the FY20 AOP and will be a first quarter sale.
- Having considered all the circumstances, which include better-defined operational challenges, the Double Eddy sale will not be moving forward at this time and will be removed from the FY2020 Annual Operations Plan.
- Based on this review, the Dragon's Roost sale was also removed from the FY20 AOP. This area's potential conservation contributions will be reviewed as part of the ongoing Western Oregon State Forests Habitat Conservation Plan process.
- Subsequent to the above changes, three primary operations, Lost Creek Road, Popeye, and Seuss Split, were removed from the FY20 AOP, and Imperial Walker (FY20 Alternate Sale) and Hamlet 8 (FY20 Alternate Sale) were moved up to the FY20 primary list to better balance harvest objectives. These two new primary sales will be a second quarter and third quarter sale respectively.
- Sale Quarter – page 1: The Buck Shot sale was changed from sale quarter 3 to sale quarter 4.
- Based on concerns from neighbors with registered water rights on streams associated with the Norriston Heights timber sale, this sale will take additional measures to buffer the areas where these systems are located as well as the streams that feed these systems to minimize sedimentation impacts, as required by the Forest Practices Act and Northwest Oregon Forest Management Plan. The Forest Management Plan calls for 25-foot buffers on each side of perennial streams for at least 75% of the stream reach, and for this sale we intend to leave buffers on 100% of the three stream reaches within the sale area, and to leave additional width in areas where predominant winds may negatively impact the buffer. Specifically, no harvest will occur on the windward (southwestern) side of the southernmost located stream.

Appendix A – The Financial Summary, Forest Resource Summary, Stand Structure Summary and the Forest Road Management Summary have been updated to reflect the changes to the operations listed above. Additionally, updates were made to the amount of initial planting acres and precommercial thinning acres expected to be accomplished.

Appendix D – Public Involvement and Summary of Changes

Appendix B – The vicinity map has been updated to reflect the changes within the Primary and Alternate Operations list.

Appendix C – The Consultations with Other State Agencies has been updated to reflect current input.

Summary Document – The Summary Document has been updated to reflect the changes that the timber sale listed above created (e.g. – updated total acres, and volumes).

Norriston Heights – The pre-operations report for the Norriston Heights timber sale has been updated to reflect new stand inventory information and added supplemental language describing the current condition of the sale areas, green tree retention strategy's and visual management considerations.

Buck Shot - The pre-operations report for the Buck Shot timber sale has been updated to reflect the addition of project work to support the timber sale which was previously scheduled to be completed as part of the project work for the Dragon's Roost timber sale.

Public comments and the Program's responses are available upon request.

Appendix E – Pre-Operations Reports

Individual pre-operations reports for this AOP are available from the district upon request.