



Oregon

Kate Brown, Governor

Department of Forestry

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"STEWARDSHIP IN FORESTRY"

July 16, 2021

To: Andy White, Area Director
From: Dan Goody

CC: Liz Dent, State Forests Division Chief
Ron Zilli, State Forests Deputy Division Chief
Colleen Kiser, State Forests Planning Manager

Re: Information Item – Approved Annual Operations Plan for FY 2022

The FY 2022 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, and the 2022 Annual Operation Planning timeline.

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. Information on the consultations with other agencies can be found in Appendix C. 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 67.5 MMBF of harvest volume. This volume will be achieved through 1,152 acres of partial cut harvest and 1,412 acres of regeneration harvest. There are fourteen primary operations and one alternate operation within this plan. The operations are estimated to generate gross revenues of approximately \$27,477,844 and net revenues of \$25,145,643 within Clatsop County. The volume is under the IP target of 73 MMBF. The reason for this lower volume is due to higher than anticipated volumes in previous fiscal years. This volume will achieve the goal of averaging of the Annual Harvest Objective (AHO) over the expected duration for the IP.

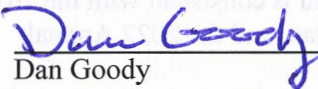
Reforestation and young stand management activities and investments are aligned with FMP objectives and budget considerations. Recreation facilities and trails are managed and maintained for safety, positive experiences and protecting other resources like water quality and are consistent with the FY 2022 budget level.

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 division 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 alternate sale in this Annual Operations Plan may be used to replace the primary sales that cannot be completed as planned. Actual revenue realized from this AOP could change due to market fluctuations. Harvest operations and the associated project work provide an accurate picture of what will be designed and prepared for contract in FY 2022. Due to the time lag with contract duration, most of the actual harvest operations with associated revenues will not occur for a period of one to two years beyond the end of the fiscal year. Forest management activities such as reforestation and recreation projects will occur in FY 2022

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 2022 ANNUAL OPERATIONS PLAN



Astoria DISTRICT

FY 2022 ANNUAL OPERATIONS PLAN

OVERVIEW

This plan describes the activities and outcomes that Oregonians can expect to see on Astoria District for FY 2022. The Astoria District 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.

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

Managing a 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 habitat improvement. We are striving to continue to provide the current opportunities, and are considering a few opportunities for change.

Every year in the 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 and the plan will undergo a 45-day public comment period.

This Annual Operations Plan (AOP) will be reviewed by the Forest Trust Land Advisory Committee (representing the counties that deeded land to ODF), the State Forests Advisory Committee (SFAC - composed of Oregonians representing many interests), Oregon Department of Fish and Wildlife, motorized and non-motorized recreation users, hunters, fishermen, and wildlife advocates, as well as Oregonians in general.

The activities shown in the Summary Document and appendixes are estimates based on plans, information, and conditions as known at this point in time. The type, amount, and specific activities will be further adjusted based on field work conducted and on updated assessments that occur during the 2022 fiscal year.

A short summary of activities planned for the coming year

- Planting 492,000 trees on 1,330 acres and conducting vegetation management activities on 4,016 acres and animal management activities on an additional 1,300 acres to ensure the survival and growth of these plantations.
- Conducting density or operational surveys for northern spotted owls and marbled murrelets covering the majority of the district and surveying approximately 15 miles of streams for the presence of fish habitat.
- Protecting streams and water resources through a series of buffers and seasonal restrictions.
- Stream improvement projects. An initial screen by ODF's Aquatic and Riparian Specialist suggests that there are some streams near planned harvest units that could benefit from large wood additions to the stream system. The ODF Aquatic and Riparian Specialist will be consulted to help identify these candidates and may consult with ODFW fish biologists as needed.
- Habitat development projects such as retaining green trees in clearcut areas, and leaving down wood, all for wildlife benefits in harvest areas and future forests.
- Maintaining approximately 102 miles of road and improving approximately 70 miles of road to ensure ditch water is dispersed and filtered as much as possible, keeping runoff from entering streams. These roads provide access to timber harvest as well as various recreational opportunities.
- Proposing to harvest approximately 67.5 million board feet of timber volume, through modified clearcuts, and partial cuts generating revenue of an estimated \$25.1 (after subtracting WOC) Million net value.
- Operating and maintaining the following developed facilities in a safe, clean, and responsible manner:
 - 5 campgrounds
 - 1 day use recreation area
 - 6 designated camp sites
 - 2 interpretive sites
 - 8 trailhead facilities

- Providing a safe and clean environment for the myriad of dispersed activities that occur across the forest – hunting, camping, angling, sight-seeing, target shooting, swimming, mushroom picking, etc.
- Maintaining, managing, and patrolling the 30 miles of motorized and 21 miles of non-motorized trails, striving to protect the trail investments, provide for user safety, address developing trail issues, and protect water quality.
- Supporting the important volunteer network that assists in forest management including the following programs:
 - Camp Hosts, Adopt a Trail and Trail Patrol
 - Forest Clean-up
 - Trail Maintenance and Construction Work Parties
 - OHV Trail Equipment Volunteer Operator
- Providing a firewood cutting program and miscellaneous forest products permits (salal, mushrooms, etc.) as done in 2020.
- Supporting ongoing research on the district, in partnership with research cooperatives and universities.

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INTRODUCTION

This annual operation plan (AOP) outlines activities on state-owned forestland managed by the Astoria District for Fiscal Year 2022 (FY22), which begins July 1, 2021 and ends June 30, 2022. 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 2011 Implementation Plan (IP)*. Please refer to the district IP's for more specific information on physical characteristics and other district resource information.

The AOP document is divided into five major categories: Integrated Forest Management; Planning and Information Systems; Public Information and Education; Administration and Appendices. A short summary of proposed activities is listed within this introduction. In addition to describing forest management activities for FY22, Appendix F describes any modifications to the Forest Land Management Classification System. Appendix G describes any modifications to the Astoria District Landscape Design*.

The proposed harvest operations and activities are planned to be designed, engineered, and submitted for processing during the FY22 time period. Actual on-the-ground operations will likely not occur during FY22 due to the time-lag associated with contract duration, which could be one to three years after auction. In contrast, reforestation, young stand management, recreation management, and planning activities will be carried out during FY22.

A 45-day public comment period was held from May 07, 2022 through June 21, 2022. The District Forester reviewed all comments received before approving this plan.

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* and the *Common School Forest Lands Annual Report*. These reports are available through the local district office or online.**

*Minor/major modifications and the procedures for making these changes are described in Astoria District IP.

**The State Forests' individual district annual reports are available on the Oregon Dept. of Forestry website under "Reports." You can access here: <http://www.oregon.gov/ODF/Pages/Reports.aspx>

INTEGRATED FOREST MANAGEMENT

OPERATIONS

Timber Harvest Operations

Overview of Timber Harvest Operations

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 engineer, road engineer, and planning manager, as well as fish and wildlife biologists from the Oregon Department of Fish and Wildlife, and archeologists from Oregon Department of Transportation. Occasionally, operations may contain a resource or activity where review with another state agency, such as the Department of Agriculture is warranted. Written comments from the external resource specialists and the resolution of those comments can be found in Appendix C.

The FY22 AOP is estimated to produce 67.5 million board feet (MMBF) in volume, generate gross revenues of approximately \$27.4 million and net revenues of \$25.1 million. The goal is to achieve the average of the Annual Harvest Objective (AHO) of 73 MMBF over the expected duration for the IP. The volume proposed in an AOP will be slightly lower than the AHO target. This is to bring the Astoria District into alignment with the average AHO over the entire Implementation Plan period. 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 the AOP may be sold as primary operations in response to any of these circumstances.

Additional operations may produce timber volume for the district during the 2022 fiscal year but are not included in this AOP. These are generally small areas, produce little volume, and/or are time sensitive in nature. These sales do not require significant effort to develop and execute and will comply with all policies, the district IP, and the FMP. Examples of these sales include salvage, pulp sales, removal of hazard trees, pole sales, etc.

Refer to the attached Astoria District Financial Summary Table (Appendix A, Table A-1) and vicinity map (Appendix B) for more detail.

Table 1. Annual Operations Plan objectives compared to annual objectives identified in the Astoria District 2011 Implementation Plan. Harvest values are acres, Volume is in MMBF.

Annual Harvest Objectives	IP Annual Objective		2022 AOP
	Low	High	
Volume (MMBF)	73		67.5
Partial Cut Harvest	100	2,800	1,152
Regeneration Harvest	285	2,200	1,412

Table 1 shows the proposed acres by harvest type. The 1,412 acres of regeneration harvest planned for FY22 represents approximately one percent of the district. All of the regeneration harvest acres will be designed as modified clearcuts.

There are several first entry moderate partial cuts in young stands to help improve the growing conditions within the sale (Bullwinkle, Deep 6, Green Saddle, and Toolbox Thinning). There are also two light partial cuts within older stands intended to help move the stands towards a desired complex condition (Iron Fire and Toolbox Thinning). The anticipated harvest acres, volume, and revenue for each proposed operation in this AOP are listed in the “Harvest Operations – Financial Summary” Table A-1 in Appendix A.

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
FY 12	73	69.7	70.0	-3.0
FY 13	73	69.7	73.7	-2.2
FY 14	73	74.2	75.0	-0.2
FY 15	73	73.5	71.4	-1.9
FY 16	73	73.5	76.7	1.9
FY 17	73	73.4	73.0	1.8
FY 18	73	74.1	80.4	9.3
FY 19	73	73.8	70.8	7.1
FY 20	73	71.2	81.4 ²	15.4
FY 21	73	57.6	62.0	4.4
FY 22	73	67.5		-1.1

1. IP Harvest Objective versus Sold Volume.

2. Volume per acre of planned sales came in higher than expected this year. The planned volumes for FY21 and FY22 were adjusted to account for this extra volume.

Overview of Structural Components

The guidelines for managing structural habitat components listed under Landscape Management Strategy 3 in the NWO State Forests Management Plan (pg. 4-52), will be followed for the FY22 Annual Operations Plan. 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 green tree retention target for regeneration harvest units is an average of five trees per acre in the NW FMP. Tree arrangements for this AOP may include; scattered individual trees, clumps of trees, and trees concentrated in and adjacent to riparian management areas, inner gorge areas or headwalls. The final decision on the location and arrangement of the green trees is made while the sale is being laid out to incorporate information on potential minor tree species, unique stand features, steep slopes, visual considerations, reforestation considerations, etc. To promote diversity on the landscape a variety of green tree placement strategies will be used.

The NW FMP strategy for hard snags is to manage for at least two per acre on average across the landscape. The FMP strategy for Down Woody Debris is to retain an average of 600 to 900 cubic feet of hard conifer logs (class 1 & 2) per acre during regeneration harvest. Strategies for retaining snags and down wood are determined using a current condition assessment from forest inventory data or timber cruising data. The need for snag creation in each unit is evaluated based on cruise or inventory information that documents snags in decay class 1 and 2 in the sale and surrounding landscape. Areas with less than 2 hard snags per acre will be evaluated and an appropriate snag prescription will be developed as needed. Down Wood will continue to be created through bucking practices, leaving felled snags in the unit and tops on ground yarding areas.

The Astoria district has experienced a number of large wind and snow break events over the last 10-15 years. This has produced a large number of residual snags and down woody components across the landscape. Due to this, snag creation is generally not pursued. If snags are found to be deficient in an area, generally additional leave trees will be retained with the assumption that wind and or ice will cause a certain percentage of these to become snags.

Harvest Operations within Terrestrial Anchor Sites and Aquatic Anchors

The Astoria District 2011 IP implemented the State Forests' Species of Concern Strategies that specifically identifies fish and wildlife species of concern on the Astoria District. Two of these strategies are Terrestrial Anchor Sites (TAS) and Aquatic Anchor (AA) sites.

- Terrestrial Anchor Sites (TAS) areas are 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 be limited, to emulate natural small-scale disturbance patterns, and to minimize short-term negative impacts to habitat. All areas that were designated as TAS were designated for the development of complex structure in the Landscape Design.
- 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. The 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 to ensure the harvest prescriptions and rate is consistent with the goals of these strategies.

Terrestrial Anchor Sites

Since the adoption of the TAS in the July 2011, the district has been proceeding with operations in these areas. Great care has been given in selecting stands for harvest and developing prescriptions in these areas to ensure that these harvest activities achieve the goals of the TAS. These sales were reviewed with ODF and ODFW Resource Specialists. Table 3 shows there is 0 acres within the TAS proposed in the 2022 AOP and also shows the cumulative operations in TAS since the strategy was adopted.

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

Acres within TAS	Current AOP (FY 2022)		Cumulative Harvest (Since FY 2012)	
	Clearcut	Partial Cut	Clearcut	Partial Cut
Terrestrial Anchor Site (TAS) Basin				
Buster (4,599 ac)	0	0	0	0
% of Acres	0%	0%	0%	0%
Plympton (4,077 ac)	0	0	1	64
% of Acres	0%	0%	<0.1%	1.6%
Sweethome (2,282 ac)	0	0	11	68
% of Acres	0%	0%	0.5%	3.0%
All TAS (10,958 ac)	0	0	13	131
% of Acres	0%	0%	0.1%	1.2%

Aquatic Anchors

The AAs became effective July 1, 2013 and replaced the Salmon Anchor Habitat Strategy that expired June 30, 2013. Increased water protection measures will be implemented on regeneration harvest operations planned within the AA's as specified in the Species of Concern strategy. Table 4 shows the current harvest and the cumulative total from FY 2014

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

Acreages	Current AOP (FY 2022)		Cumulative Harvest (since FY 2014)	
	Clearcut	Partial Cut	Clearcut	Partial Cut
Aquatic Anchor (AA) Basins				
Northrup Creek (7,027 ac)	2	0	1,060	118
% of Acres	<1%	0	15.1%	1.7%
Buster Creek (10,874 ac)	187	234	1,455	507
% of Acres	1.7%	2.2%	13.4%	4.7%
Upper Rock Creek (3,498 ac)	59	0	253	0
% of Acres	1.7%	0%	7.2%	0%
Upper North Fork Nehalem (9,908 ac)	95	0	690	814
% of Acres	<1%	0%	7.0%	8.2%
Coal Creek (183 ac)	0	0	0	0
% of Acres	0%	0%	0%	0%
All Aquatic Anchors (31,490 ac)	341	234	3,458	1,439 ¹
Total % of Acres	1.1%	0.7%	11.0%	4.6%

1. The total partial cut acres in the FY20 summary document was 1,546. This was a math error adding up the columns above and has been corrected in this summary document.

Summary of Timber Harvest Operations by Basin

In the following section, the harvest operations planned for FY22 will be summarized in the context of the 17 management basins on the Astoria District. Since the Forest Management Plan strategies provide standards for structural components such as green trees, snags, down wood as well as riparian protection, these are not discussed in the summary. Road strategies and standards are discussed in the Forest Roads Management section. Additional information regarding the harvest operations may be found within Table A-2, the Forest Resources Summary in Appendix A.

Table 5. Summary of Timber Harvest Operations in each basin. All values are in net acres.

Basin	2022 AOP	
	Partial Cut	Clearcut
Astoria	0	0
Beneke	0	270
Buster	234	187
Crawford	0	0
Davis	194	57
Fishhawk	0	68
Gnat	0	0
Hamilton	0	109
Klaskanine	0	110
Lousignot	0	0
N. Fork Nehalem	0	136
Northrup	0	0
Plympton	26	0
Quartz	0	174
Sager	654	146
Scattered	44	155
Sweethome	0	0
Totals	1,152	1,412

Astoria Basin

There are no harvest operations planned in this basin for FY 2022.

Beneke Basin

Bam Bam: This is a 104 acre modified clearcut. The conifer/hardwood stand within this sale is 74 years-old. The sale area is currently classified as Layered. The entire unit has a Desired Future Condition of non-complex stands. Following the completion of harvest, the unit will be planted with a mixture of seedlings to be determined closer to the time of reforestation.

There is no planned road construction with this sale. Approximately 7.4 miles of road will be improved in conjunction with this sale.

Hard Target: This operation consists of two modified clearcut units totaling 166 acres. The conifer/hardwood stands within this sale are between 72 and 85 years-old. The sale areas are currently classified as Understory. The units have a Desired Future Condition of non-complex stands. Following the completion of harvest, the unit will be planted with a mixture of seedlings to be determined closer to the time of reforestation.

Approximately 0.4 miles of spur road will be constructed to help facilitate the harvest. Approximately 1.4 miles of road will be improved in conjunction with this sale.

Buster Basin

Toolbox Thinning: This sale consists of four partial cut units totaling 226 acres in primarily 38-47 year-old Douglas-fir plantations and one partial cut unit totaling 84 acres in 84 year old timber. Approximately 7 acres (portions of Unit 4) is an older stand type of 80 years old. The current condition of stands within the majority of the operation is Understory. The Desired Future Condition of the majority of the stands is non-complex stands. There is a seven-acre pocket of Desired Future Condition Layered in Unit 4.

Approximately 0.6 miles of new roads will be constructed to facilitate harvest. Approximately 1.7 miles of road are planned to be improved with the sale.

Units 2, 3, 4, and 5 are located within the Buster Creek Aquatic Anchor.

Unit 1 of this sale is within the Sager Basin.

Wage Earner: This operation consists of three modified clearcut units totaling 186 acres and new construction right-of-way totaling one acre. The mixed conifer stands within this sale are 80-84 years-old. All of the stands are currently classified as Understory. The units have a Desired Future Condition of non-complex stands. Following the completion of harvest, the unit will be planted with a mixture of seedlings to be determined closer to the time of reforestation.

Approximately 0.4 miles of spur road will be constructed to facilitate the harvest. Approximately 3.8 miles of road will be improved in conjunction with this sale.

All units are within the Buster Creek Aquatic Anchor.

Crawford Basin

There are no harvest operations planned in this basin for FY 2022.

Davis Basin

Bullwinkle: This combination sale consists of one partial cut unit totaling 194 acres in 34-63 year-old mixed conifer and one modified clearcut unit totaling 57 acres in primarily 39-63 year old stands. Approximately 7 acres (portions of Unit 2) is an older stand type at 95 years old. The current condition of the majority of stands within Unit 1 is Understory. Within Unit 1 there are 11 acres of current condition Layered. The current condition of the majority of stands within Unit 2 is Layered. Within Unit 2 there are 14 acres of current condition Understory. The Desired Future Condition of the stands is for a non-complex stand. Following the completion of harvest, the modified clearcut units will be planted with a mixture of seedlings to be determined closer to the time of reforestation.

Approximately 1.0 mile of new roads will be constructed to facilitate harvest. Approximately 5.3 miles of road are planned to be improved with the sale.

In the Partial Cut Unit, the Inner Zone of the RMA will be thinned in order to help move the stand to Mature Forest Condition. The prescription exceeds the FMP riparian standards.

There is a potential domestic water source in the southwest portion of Unit 1. The site will be protected and additional outreach with the landowner will be performed prior to sale layout.

The Gnat Creek Campground is located approximately 1.5 miles south of the Davis Bottom Road Junction. The REI Unit will determine if additional signage should be posted to make public aware of log hauling in the area.

Portions of Unit 1 (partial cut) will be visible from Aldrich Point Road.

Fishhawk Basin

Looper: This is a 25 acre modified clearcut. The current condition of stands within the operation is Understory. The entire unit has a Desired Future Condition of non-complex stands. Following the completion of harvest, the unit will be planted with a mixture of seedlings to be determined closer to the time of reforestation.

Approximately 0.1 miles of new roads will be constructed to facilitate harvest. Approximately 0.4 miles of road are planned to be improved with the sale.

Portions of Unit 1 will be visible from the Fishhawk Lake Area. A green tree retention area adjacent to the property boundary will provide a screen for much of this visible area. Layout foresters will consider other visible areas when posting wildlife trees.

Plympton East: This combination sale consists of one partial cut unit totaling 26 acres in 79 year-old mixed conifer and one modified clearcut unit totaling 43 acres in 39-76 year old stands. The current condition of stands within the operation is Understory. The Desired Future Condition of the modified clearcut stand is for a non-complex stand and the Desired Future Condition of the partial cut is for a Layered stand.

Approximately 0.2 miles of new roads will be constructed to facilitate harvest. Approximately 1.1 miles of road are planned to be improved with the sale.

Unit 1 received heavy blowdown and was partially salvaged. Due to this the stocking is extremely sporadic.

Portions of the Nicolai Mt. OHV Area is approximately 1.2 miles to the west of Unit 1. The REI Unit will determine if additional signage should be posted to make public aware of log hauling in the area.

Unit 2 is within the Plympton Basin

Gnat Basin

There are no harvest operations planned in this basin for FY 2022.

Hamilton Basin

Summit Shake: This operation consists of two modified clearcut units totaling 109 acres. The mixed conifer stands within this sale are 51-75 years-old. The sale is currently classified as Understory. The units have a Desired Future Condition of non-complex stands. Following the completion of harvest, the unit will be planted with a mixture of seedlings to be determined closer to the time of reforestation.

Approximately 0.1 miles of spur road will be constructed to facilitate the harvest. Approximately 4.3 miles of road will be improved in conjunction with this sale.

Portions of Unit 1 will be visible from Highway 202. Layout foresters will consider this when posting wildlife trees.

Klaskanine Basin

Wickiup: This sale consists of a 110 acre modified clearcut. The mixed conifer stands within this sale are primarily 80-86 years-old. The sale is currently classified as Understory. The unit has a Desired Future Condition of non-complex stands. Following the completion of harvest, the unit will be planted with a mixture of seedlings to be determined closer to the time of reforestation.

Approximately 0.5 miles of spur road will be constructed to facilitate the harvest. Approximately 7.4 miles of road will be improved in conjunction with this sale.

Louisignot Basin

There are no harvest operations planned in this basin for FY 2022.

North Fork Nehalem Basin

Blue Bucket: This operation consists of two modified clearcut units totaling 136 acres. The mixed conifer stands within this sale are 40-56 years-old. The sale is currently classified as Understory. The units have a Desired Future Condition of non-complex stands. Following the completion of harvest, the unit will be planted with a mixture of seedlings to be determined closer to the time of reforestation.

There is no planned road construction with this sale. Approximately 4.2 miles of road will be improved in conjunction with this sale.

Portions of Unit 1 and all of Unit 2 is within the Upper North Fork Aquatic Anchor.

Northrup Basin

There are no harvest operations planned in this basin for FY 2022.

Plympton Basin

Plympton East: Approximately 26 acres (Unit 2) of this sale is within the Plympton Basin. The rest of the sale acres are within the Fishhawk Basin. The full sale description can be found under the "**Fishhawk Basin**" heading listed above in this document.

Quartz Basin

Splinter Cell: This operation consists of two modified clearcut units totaling 174 acres. The mixed conifer stands within this sale are 67-73 years-old. All of the stands are currently classified as Understory. The entire unit has a Desired Future Condition of non-complex stands. Following the completion of harvest, the unit will be planted with a mixture of seedlings to be determined closer to the time of reforestation.

Approximately 0.04 miles of new roads will be constructed to facilitate harvest. Approximately 3.5 miles of road will be improved in conjunction with this sale.

Unit 1 is adjacent to and visible from Highway 26. The district is coordinating with ODOT on the visual corridor.

Quartz Creek Road is heavily used for recreational traffic in the summer. Signs will be posted to ensure that the public is aware of ongoing activities.

There is a Verizon Cell Tower at one of the landings in Unit 2.

Portions of Unit 1 are within the Upper Rock Creek Aquatic Anchor.

Iron Fire (Alternate): This combination sale consists of three modified clearcut units totaling 221 acres, one partial clearcut unit of 60 acres, and four acres of new construction right-of-way in primarily 60-77 year-old mixed conifer. The current condition of Units 1, 2, and 5 are classified as Understory. The current condition of the majority of stands within Unit 3 is Understory. Within Unit 3 there are 4 acres with a current condition of Closed Single Canopy. The current condition of the Unit 4 is Layered. The Desired Future Condition of Units 1, 2, and 3 are non-complex stands. The Desired Future Condition of Unit 4 is Layered. Following the completion of harvest, the modified clearcut units will be planted with a mixture of seedlings to be determined closer to the time of reforestation.

Approximately 0.9 miles of new roads will be constructed to facilitate harvest. Approximately 10.6 miles of road will be improved in conjunction with this sale.

Quartz Creek Road is heavily used for recreational traffic in the summer. Signs will be posted to ensure that the public is aware of ongoing activities.

Unit 4 is within the Upper Rock Creek Aquatic Anchor.

Sager Basin

Deep 6: This combination sale consists of ten partial cut unit totaling 578 acres in primarily 34-55 year-old conifer/hardwood stands. Approximately 6 acres (portions of Unit 5) is an older stand type at 105 years old. Approximately a total of 3 acres (portions of Unit 8 and 10) is an older stand type at 85 years old. Units 1-8, and 10 are currently classified as Understory. The current condition of the majority of stands within Unit 9 is Understory. Within Unit 9 there are 2 acres of current condition Closed Single Canopy. The Desired Future Condition of the stands is for a non-complex stand.

Approximately 0.3 miles of new roads will be constructed to facilitate harvest, of this 0.1 miles will be dirt surfacing. Approximately 16.1 miles of road are planned to be improved with the sale.

In the Partial Cut Unit, the Inner Zone of the RMA will be thinned in order to help move the stand to Mature Forest Condition. The prescription exceeds the FMP riparian standards.

Portions of Unit 1 (partial cut) will be visible from Highway 202.

Toolbox Thinning: Approximately 76 acres (Unit 1) of this sale are within the Sager Basin. The rest of the sale acres are within the Buster Basin. The full sale description can be found under the “**Buster Basin**” heading listed above in this document.

Threes Company: This operation consists of three modified clearcut units totaling 146 acres. The mixed conifer stands within this sale are 79-90 years-old. The majority of the sale is currently classified as Understory with one acre classified as Closed Single Canopy. The entire unit has a Desired Future Condition of non-complex stands. Following the completion of harvest, the unit will be planted with a mixture of seedlings to be determined closer to the time of reforestation.

Approximately 0.3 miles of spur road will be constructed to facilitate the harvest. Approximately 5.0 miles of road will be improved in conjunction with this sale.

Scattered Basin

Green Saddle: This combination sale consists of one partial cut unit totaling 44 acres in 31-40 year-old mixed conifer and two modified clearcut units totaling 155 acres in 40-80 year-old mixed conifer. Approximately 193 acres within the sale are currently classified as Understory with the remaining 5 acres classified as Closed Single Canopy. The Desired Future Condition for all of the stands is for non-complex stands. Following the completion of harvest, the modified clearcut units will be planted with a mixture of seedlings to be determined closer to the time of reforestation.

Unit 1 is planned for a Modified Clearcut despite its age due to its high stocking and high potential for windthrow.

Approximately 0.1 miles of new roads will be constructed to facilitate harvest. Approximately 6.3 miles of road are planned to be improved with the sale.

Sweethome Basin

There are no harvest operations planned in this basin for FY 2022.

Forest Roads Management

Overview

The State Forest road network provides access for forest management activities, fire suppression, and recreation. Visions, guiding principles, and goals for managing the road network are discussed in the Northwest Oregon State Forests Management Plan (April 2010)

and the State Forest Roads Manual (July 2000). The State Forest Roads Manual also provides standards and guidance for all road management activities and definitions, road classifications and other terms.

The roadwork in this AOP is related to constructing spur roads and for improving haul routes for the FY22 timber sales. This section describes the types of road management activities that will occur in FY22 and the attached Forest Roads Summary Table (Appendix A, Table A-3) describes the anticipated total amounts.

Road Construction

Road construction and improvement identified in this plan will be primarily achieved through project work connected with timber sales. New LiDAR based slope information is helpful in locating roads away from locally steep slopes.

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. The majority of this improvement work will be performed on collector and spur roads and will consist of installing new cross drains and disconnect culverts, replacing culverts, ditchline improvements, and new surfacing.

Road Access Management

Access to the State Forest is generally not restricted. However, roads that pose a high risk of damage to water quality are candidates for closure. Closing and vacating roads reduces the district's maintenance cost and helps to minimize impacts to the environment from roads. We retain the option of closing roads if vandalism, neighbor concerns, or excessive road damage from public use becomes a problem in particular areas.

Road Maintenance

Roads will be maintained as necessary to protect water quality and the road system asset value. Road maintenance activities will follow the maintenance guidance in Chapter 7 of the Forest Roads Manual and the Forest Practices rules. Road maintenance is accomplished under timber sale contracts for roads used for hauling forest products, using the State Forest road crew or work order contracts. Maintenance is focused on ensuring proper drainage to prevent sediment entering streams. Collector roads and roads in active sale areas need and get the most maintenance. District personnel respond to heavy storms and thaw periods by performing road inspections, additional maintenance, and where necessary, stopping heavy truck use during periods when roads cannot handle traffic without damage to water quality or the road asset.

Management of Rock Source/Supply

The District provides durable rock for in-sale spurs and haul routes, which allows for year-round harvest opportunities. Rock quarry development, rock crushing, and/or purchasing rock is necessary to provide sufficient quantities of the road rock for planned road construction, road improvement, and road maintenance activities.

Quarry developments are planned for the following operations; however, these plans are subject to change as timber sale project work is laid out:

- Buster – 12,000 cubic yards
- Flat Iron – 15,000 cubic yards
- Munce – 8,000 cubic yards
- Simmons Ridge – 10,000 cubic yards
- West Tidewater– 7,000 cubic yards

Annually, the rock that the District requires for road maintenance varies greatly depending on actual volume hauled, time of year, time of road construction, rock durability, and multiple other factors. The rock required is generally supplied from State owned stockpiles. The District will continue to explore new rock sources and further development of existing rock quarries in FY22.

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. Survey work may be accomplished through service contracts with licensed professional land surveyors, cost sharing with adjacent landowners or utilizing the licensed surveyor on staff with ODF. Land surveying may be necessary on the following sales:

- Deep 6 (5.7 miles)
- Green Saddle (0.9 miles)
- Summit Shake (0.3 miles)
- Wage Earner - (0.5 miles)
- Wickiup - (2 miles)

Young Stand Management

The State Forest strategy is to use a range of silvicultural tools to establish and maintain diverse stands of well-adapted natural species throughout the landscape to meet the objectives and goals in the Forest Management Plan and District Implementation Plan. These tools include site preparation, planting, tree protection, vegetation management, pre-commercial thinning, early commercial thinning and interplanting or replanting. Each practice must be considered and prescribed for individual stands on a site-specific basis.

This section describes the types of reforestation and young stand management activities that will occur in FY22 and the attached Young Stand Management Table (Appendix A, Table A-4) describes the anticipated total amounts. The location and amount (acres) of these activities are estimates based on plans, information and conditions as known at this point in time. The type, amount and specific stand management prescriptions will be further adjusted based on when existing harvest units are completed and on updated assessments and surveys that will occur during and after the 2021 growing season.

Reforestation activities will be completed by using experienced contractors. A portion of the activities will be completed by utilizing crews from South Fork Camp. These crews work on activities such as planting, inter-planting, tree protection, mechanical hand release, and noxious weed control.

Seedlings / Nurseries

In order to meet the goals of the Forest Management Plan, the State Forests Program requires tree seedlings that are physiologically healthy and best suited for the planting sites. A wide variety of seedlings is 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. The budget for seedlings includes portions of the costs for growing seedlings for three planting years. 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 and varies by District.

Site Preparation

Site preparation is any planned measure to prepare a site to allow for favorable growing conditions for newly planted seedlings. More than one of these techniques may be used for any given site based on the attributes and reforestation prescription for the site. The three main site preparation techniques are mechanical, chemical and slash burning.

- 1) Slash Burning: Slash burning can be accomplished by broadcast burning the entire unit or burning piles that result from mechanical site preparation.
- 2) Mechanical: Mechanical site preparation is the use of mechanized equipment to rearrange or alter forest slash and/or disturb the forest surface layer and vegetation to create seedbeds or planting spots. Planting spots are created in a fairly even distribution. Dense slash concentrations created during timber harvest may be mechanically piled as part of the timber sale contract.
- 3) Chemical: Chemical site preparation involves the application of herbicides to control competing vegetation before planting or natural regeneration and during the early stages of seedling establishment. Applications occur by two primary methods: aerially by helicopter or ground based with the use of backpack application equipment. The objective is to control brush species to allow stand establishment and maintain 2-3 years free of significant competing vegetation. The actual site preparation plan will be prepared in late spring when harvest unit availability and brush development is better known.

Planting

Tree planting operations are conducted for various reasons. These include meeting Forest Practices Laws, quickly establishing a new stand of trees after timber harvesting, and increasing species diversity in the area and across the landscape. 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, aspect, elevation, soil types, Swiss Needle Cast risk where applicable, *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 is planted to provide for a healthy, productive, and sustainable forest ecosystem over time and to be more resilient to climate change. The following are different types of planting.

- 1) Initial Planting (Regeneration harvest units): Planting activities establish the desired species and stocking levels to meet the goals in the Forest Management Plan and Forest Practices Laws. Planted seedlings will be well suited and adapted to the reforestation site and where appropriate, a mixture of species may be planted to increase diversity on the landscape.
- 2) Interplanting: Interplanting may occur when stocking levels fall below or are at risk of falling below Forest Practices Act (FPA) minimums. In certain instances, interplanting will occur to increase stocking on high quality sites to fully capture the site. In other areas, lower stocking will be acceptable, as it will provide high quality early seral habitat while still meeting FPA requirements.
- 3) Underplanting: This type of planting is occasionally conducted after thinning in order to introduce both species diversity and an additional future layer of structure into a stand.
- 4) Natural Regeneration: Units or portions of units are assessed prior to planting. Natural regeneration is considered primarily in western hemlock stands that have been salvaged from wind storms, where small gaps and holes less than 2 acres have been created in partial cut units, and in unit rock outcrops or cliffs. Natural regeneration of red alder and other minor species is used to provide diversity in all harvest units.

Tree Protection

Animal damage on newly planted seedlings reduces their overall size, health and vigor. Extensive damage can lead to interplanting, may extend the time to achieve free to grow status as defined by the Forest Practices Act and prevent meeting Forest Management Plan goals. Deer and elk, as well as mountain beaver, can heavily damage young seedlings. Various tree protection strategies are applied to help re-establish trees in areas with high concentrations of these species. Most commonly, various types of physical barriers (bud caps, vexar tubes, etc.) help prevent damage from big game. Direct control includes trapping mountain beaver in highly populated areas prior to planting helps prevent damage to newly planted trees.

Vegetation Management – Release Treatments

Vegetation management is done to reduce light, moisture or nutrient competition from undesirable vegetation in a young stand of trees to improve survival and growth. It can also be used to alter tree species composition under pressure from insect and disease and favor species that are tolerant or resistant to the threat. Vegetation management may be required to meet forest practices reforestation stocking requirements, the NW Oregon State Forests Management Plan and the District Implementation Plans. There are two types of vegetation management, chemical and manual release treatments. They are described below.

Chemical Release: Chemical release treatments involve the application of herbicides to control undesirable vegetation. Typical application methods are broadcast, directed spray, and hack

and squirt. Broadcast application treatments are sprayed over the top of seedlings and undesirable vegetation using either aerial or backpack methods. Directed spray applications are made with a backpack and target individual plants. This method is often used to remove invasive species such as Scotch broom from young stands. Hack and squirt involves basal or stem injection of chemicals. This method is typically applied to hardwoods as a way to release conifers from hardwood competition.

Manual Release: Manual release can include cutting down of noxious weeds or hardwoods. Hardwood release is used when ingrowth of hardwoods, mainly red alder in the northwest and madrone and tanoak in the southwest, threaten to change the stand from conifer dominated to hardwood dominated. In this treatment, the majority of hardwoods are removed using chainsaws leaving all of the conifer trees. This differs from PCT (described below) in the fact that conifer spacing and species are not manipulated. While hardwoods are important on the landscape and some are retained, long-term conifer production is the goal for many stands across the district.

Pre-Commercial Thinning (PCT)

PCT is a silviculture activity used to manipulate the density, structure or species composition of overstocked young forest stands. Generally, the purpose of a PCT operation is to release the biggest and best growing trees so they can maintain their growth. PCT is normally conducted in a stand between the ages of 10 and 20 years old. In areas of disease such as Swiss Needle Cast or *Phellinus weirii*, PCT can be used to favor species other than impacted Douglas-fir trees in the residual stand.

Early Commercial Thinning

The primary objective of an Early Commercial Thin 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 disbursement to the 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 will complete its write-up on the Pilot Project performed in FY19/20 prior to continuing with additional Early Commercial Thinning sales. There is currently no Early Commercial Thinning planned for the FY22 AOP.

Pruning

No pruning activities are planned for this AOP.

Stocking Surveys

The Reforestation Unit has the responsibility of ensuring that the goals of the Forest Management Plan are met. Stocking surveys is one tool to ensure the stands are on track for the desired future condition. The surveys are done in order to check initial plantation survival at a time when the seedlings are vulnerable and there is still time to remedy problems, by using interplanting and animal damage control measures as examples. In addition, stocking surveys

are conducted in order to assess free-to-grow status and to get baseline data on the stand for future management planning, for example evaluating release treatments and pre-commercial thinning candidates.

Invasive Species

Most noxious weeds or invasive plants are found along roads and have spread into plantations. The main sources for the weed introduction into the forest are vehicle tires, equipment moved into and out of district, and where soil disturbance occurs. 100% weed-free grass seed and certified weed-free straw used for mulch is required for project work on roads. Equipment washing is required in timber sale contracts to prevent the introduction of weed seed from other sites. It is also required that weed-free hay is used for feeding stock on State Forest Lands.

Reforestation continues to work with Marketing, Forest Roads, and Recreation personnel to identify appropriate steps each unit can take to prevent the introduction and spread of invasive plants. Knotweed, Scotch broom, orange hawkweed, yellow flag iris, garlic mustard, and false brome are the primary species known to exist in the District. Active control measures are being planned and prioritized for roadside, in-unit, and trail treatment.

Roadside Spraying

Reforestation works with the Forest Roads personnel on the management of vegetation alongside forest roads. Vegetation management protects the investment by preventing damage from unchecked vegetation growth, helps to maintain a safe driving environment by maintaining clear sight distance, controls noxious weeds, and reduces fire hazards. Roadside vegetation will be controlled manually, mechanically or chemically where necessary. The method used will depend on the characteristics of the vegetation and its location. During the spring of 2021, roadside vegetation surveys will be conducted to determine roadside chemical treatment needs for FY22. The project will be done by utilizing experienced contractors.

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, off-highway vehicle (OHV) riding, horseback riding, mountain biking, nature study, and sightseeing.

The Clatsop State Forest Recreation Program became part of the Northwest Oregon Area (NWOA) Recreation Team in FY21. Despite the unusual and challenging conditions of 2020, the restructuring of the recreation program succeeded in implementing a more holistic planning approach that continues to improve in consistency and efficiency. Many of the goals for FY2022 rely on this new planning and implementation approach. Similar projects will be seen across the NWOA to make more effective use of REI program resources. Maintenance and improvements to OHV trails will be planned and implemented by the area's OHV team. Planning and design projects will incorporate

the experience and input of NWOA recreation staff to ensure projects are not only done well, but in a consistent way throughout the NWOA.

The Covid-19 pandemic severely limited REI activities in FY21. Campgrounds stayed closed, volunteer services were postponed and adult in custody availability was reduced. FY22 activities, projects and coordination will incorporate appropriate Covid-19 precautions.

Facilities

On the Clatsop State Forest, the REI program is responsible for operation and maintenance of five fee campgrounds, one dispersed recreation area, eight designated sites, two interpretive sites, four dispersed 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) |
| Kerry Road designated sites (two) | Plympton Ridge designated sites (two) |
| Shingle Mill designated sites (two) | Hunt Creek OHV Trailhead |
| Shingle Mill OHV Staging Area and Trailhead | Chet Reed Arboretum |
| Astoria District Demonstration Forest | Bloom Lake Trailhead |
| Gnat Creek Trailhead | Diane Berry Equestrian Trailhead |
| Soapstone Lake Trailhead | Demonstration Forest Trailhead |
| Spruce Run Creek Trailhead | |

Activities associated with facility operation and maintenance includes:

- Campground host recruitment and supervision
- Coordination of daily maintenance activity by South Fork Work 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

Table 6. Facility Projects

Project Type	Project Name	Project Location	Work Resources	Project Description
Planning and Construction	Parking Area Redesign	Gnat Creek CG	Recreation Staff	Redesign parking lot to inhibit RVs and Trailers from camping

Maintenance	CXT Improvements	Gnat Creek CG	Recreation Staff /South Fork	Refurbish, paint and replace parts of CXT
Planning and Construction	Road Improvement	Shingle Mill Staging Area	ODF	Create a cut through at a fork in the road
Planning and Construction	Site 2 Redesign	Northrup Creek Horse Camp	Recreation Staff	Relocation of horse corral
Planning and Construction	Manure Bin Relocation	Northrup Creek Horse Camp	Recreation Staff	Relocation of manure bin
Planning and Construction	Water Shed Rebuild	Henry Rierson Spruce Run CG	Recreation Staff	Replace rotten wood siding and roof
Construction	Gate Installation	Henry Rierson Spruce Run CG	Recreation Staff	Install 4 campground gates
Planning and Construction	Spruce Run Creek Trail Bridge Replacement	Henry Rierson Spruce Run CG	Recreation Staff	Replace double log stringer bridge that no longer meets trail bridge design standards and the stringers are rotting
Fabrication and installation	3 panel kiosk install	Demonstration Forest and Arboretum Trail Head	Recreation Staff /South Fork	Install 3 panel interpretive kiosk

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 OHV positions and facility operation and maintenance costs. ODF continues to work collaboratively with the Clatsop State Forest Recreation Advisory Committee and local OHV users to maintain and develop the Nicolai Mountain OHV Riding Area.

Table 7 OHV Trail Projects

Project Type	Project Name	Project Mileage	Work Resources	Project Description
Trail Maintenance	Nicolai OHV Trail Maintenance	30 miles of trail. Maintenance varies.	Recreation Staff/ Volunteers	Trail maintenance and improvement
OHV Bridge Replacement	McNary Loop Trail Bridge Replacement	2 Bridges on McNary Loop Trail	OHV Trail Crew/ Volunteers	Planning and potential replacement of two OHV bridges on the McNary Loop Trail
Trail System Planning	Nicolai OHV Area Trail System Planning	Dependent on staff and volunteer availability	OHV Trail Crew/ Volunteers	Planning and design for the improvement of existing trail network

				and the addition of single track trails
Bridge Inspections	Nicolai OHV Area Hunt Creek Trail Plympton Creek Trail	5 bridges (3 on Hunt Creek and 2 on Plympton)	Contractor	Routine bridge inspections

Non-motorized Trails

Minor trail re-routes and associated maintenance occur as needed across the Clatsop State Forest. There are no planned re-routes of non-motorized trails during this AOP. Currently, there are approximately 21 miles of designated non-motorized trails on the Clatsop State Forest.

Table 8. Non-Motorized Trail Projects

Project Type	Project Name	Project Mileage	Work Resources	Project Description
Trail Maintenance	Trail Maintenance	21 miles of trail. Maintenance varies.	Recreation Staff /South Fork/ Volunteers	Maintain existing non-motorized trails
Trail Bridge Design	Soapstone Trail Bridge Replacement	45' bridge	Recreation Staff /South Fork	Design and planning of a failing trail bridge.
Planning and Construction	Trail Sign Updates	21 miles of trail.	Recreation Staff /South Fork	Update trail signs to meet ODF REI standards
Planning and Construction	Big Tree Trail Improvements	$\frac{3}{4}$ Mile	Recreation Staff	Improve Big Tree trail to exhibit big trees
Bridge Inspections	Gnat Creek Trail	2 Bridges	Contractor	Routine Bridge Inspections

Volunteer Program and Partnerships

Due to the Covid-19 pandemic, volunteering was placed on hold for the peak recreation season of FY2020. However, in FY2019 the Clatsop State Forest had over 1,344 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 REI program staff plan to continue to spend more time in FY2022 to further develop a working relationship with local clubs and organizations, and increase volunteerism on the forest.

Other Integrated Forest Management Projects

Aquatic & Riparian Management

All fish bearing streams found in State Forests are subject to the Management Standards for Aquatic and Riparian Areas as outlined in Appendix J found in the Northwest Oregon State Forests Management Plan (2010). 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 expediently as possible. Aquatic Anchors (AA) have been established on watersheds in the District in which additional aquatic conservation measures are applied when regeneration harvesting. Small, perennial, non-fish bearing streams will be protected with 50 foot no harvest buffers and all fish bearing streams and large and medium non-fish bearing streams will be protected with 100 foot no harvest buffers as per AA Species of Concern strategies.

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: leave 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.

Threatened and Endangered Fish Species: Federally Threatened Salmon and Steelhead listed species with Critical Habitat Designations found within the District include Oregon Coast Coho Salmon.

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. Many streams in the past have been surveyed with electro-fishing techniques that established the upper extent of fish use. However, many small streams have not yet been surveyed for fish presence. Streams needing classification in the AOP will be evaluated with a Physical Habitat Survey. The physical methodology was developed in conjunction with Oregon Department of Fish and Wildlife. The seasonal/perennial break in the streams will be evaluated during fish distribution surveys or during sale layout.

Restoration Goals and Identification Process: The overarching principles for fish habitat restoration are described in the Forest Management Plan. There are stream enhancement opportunities identified in association with the sales in this AOP. Before determining if these potential projects will go into a full planning process, more field review is needed. The ODF Aquatic and Riparian Specialist will be consulted to help identify these candidates and may consult with ODFW fish biologists as needed.

Potential Stream Projects are associated with the following Timber Sales:

- Blue Bucket
- Bullwinkle
- Deep 6

- Hard Target
- Iron Fire
- Looper
- Toolbox Thinning
- Wage Earner

Other Planned Projects to improve aquatic areas within the FY22 AOP:

- Continue conducting hydrologic connectivity surveys and mitigating items discovered during this process.

Restoration accomplishments are reported to Oregon Watershed Enhancement Board using the Oregon Watershed Restoration Inventory electronic filing process and reported by ODF annually in our report to the counties, board of forestry, and Division of State Lands.

Personnel on the Astoria District actively participate on the Upper and Lower Nehalem Watershed Councils and the District Operations Coordinator is a member of the North Coast Watershed Association board of directors.

Land Exchange

The District may commence a land exchange in FY22 if budget and staffing assistance is available and if willing exchange partners come forward. These would only be high priority land exchanges and will be evaluated on a case by case basis.

Law Enforcement and Public Safety

Law enforcement on the district will be budgeted for and will be provided by a seasonal law enforcement officer from Clatsop County Sheriff's Office during the heavy recreation use season if a candidate is available.

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. The permit fee for personal firewood cutting is \$20 for two cords. Permits are issued for a period of three weeks. Historically firewood cutting has only been allowed outside the months of fire season. The District typically sells 700-1000 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

Below are the significant district-level planning projects currently scheduled for commencement, completion, or both in FY22.

Forest Inventory

The State Forests Division is developing a lidar-based inventory that will replace SLI when completed. Lidar data was collected in 2020 for most ODF lands in the Northwest Oregon Area. Contract crews collected USFS FIA plot data on the majority of the proposed plots. The remaining plots will be sampled in 2021. The State Forest Division's Inventory Program is in the process of developing a raster-based estimate of forest biometrics across most of its ownership in Astoria, Tillamook, Forest Grove, North Cascade, and West Oregon Districts.

Wildlife Surveys

Northern Spotted Owl Surveys

For the FY22 AOP, the District will continue the northern spotted owl (NSO) survey program, in order to comply with federal and state Endangered Species Acts and to contribute to Forest Management Plan (FMP) goals. Survey requirements are determined in accordance with *ODF Northern Spotted Owl Operational Policies*, November 2017.

Marbled Murrelet Surveys

In FY22, 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.

T&E Plants

The District will continue to screen harvest operations against the Oregon Biodiversity Information Center (Orbic) database and other known locations on the District to identify potential conflicts with plant species listed in the District IP.

Species of Concern Wildlife

The District will continue to screen harvest operations against several wildlife databases to identify potential conflicts with wildlife of concern listed in the District IP.

Research and Monitoring

Districts will assist in a variety of research and monitoring projects in FY22. Examples include: Two recently installed progeny sites for the Northwest Tree Improvement Cooperative, one of western hemlock and one Douglas-fir. The western hemlock progeny was planted in 2018 and is a 2nd-generation realized genetic gain trial. This site was not fenced when established. Extensive browse occurred and vexar tubes were placed on the site in June of 2019. The Douglas-fir site was planted in 2019 in a fenced enclosure. The main goal of this cooperative

is to enhance forest productivity in developing genetically improved trees with higher yield and better wood quality.

The Sitka spruce progeny site located in Hamlet will be monitored for scion material for grafting at the J.E. Schroeder seed orchard. The seed for this site was screened for resistance of weevil damage in British Columbia and planted in 1994. This weevil attacks the terminal leader of the tree, causing significant growth loss and deformities.

Other Planning Operations

The District will continue to conduct Hydrological Connectivity Surveys on the road systems as time allows. In conjunction with the REI Team the District will provide input and context to recreation planning. The district will also continue to participate in FMP and HCP reviews as needed.

Recreation, Education, and Interpretation (REI) Program Planning – REI Program Wide

In FY22, REI program staff will working on the following planning efforts.

- Development of a strategic plan that will guide and shape broad direction for the program over the next 5 to 7 years.
- Support the State Forest Division's forest management plan work and HCP work and District AOP development and implementation.

Public Information and Education

Public Information and Involvement

A number of district employees annually participate in the local school Career Day, Clatsop County Job and 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 and Lower Nehalem 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

There are 19 permanent positions whose full-time function is to manage State Forest land on the District and 6 permanent positions who work part-time on management of State Forest land. In addition, the District will be supported by the NWOA REI Team and the NWOA Operations Team as well as the Division Planning and Coordination Team. All are responsible for implementing the FY 2022 Annual Operations Plan. The district positions are divided into four functional groups: Forest Marketing, Forest Roads, Reforestation, and Administration. See the attached organizational chart.

There is a Marketing Unit which is responsible for all aspects of timber marketing. These activities include participating in the planning process, unit layout, assisting with road layout and design, timber cruising, timber sale appraisal, contract writing, contract administration, and coordinating with the REI, Planning, and Operations Teams.

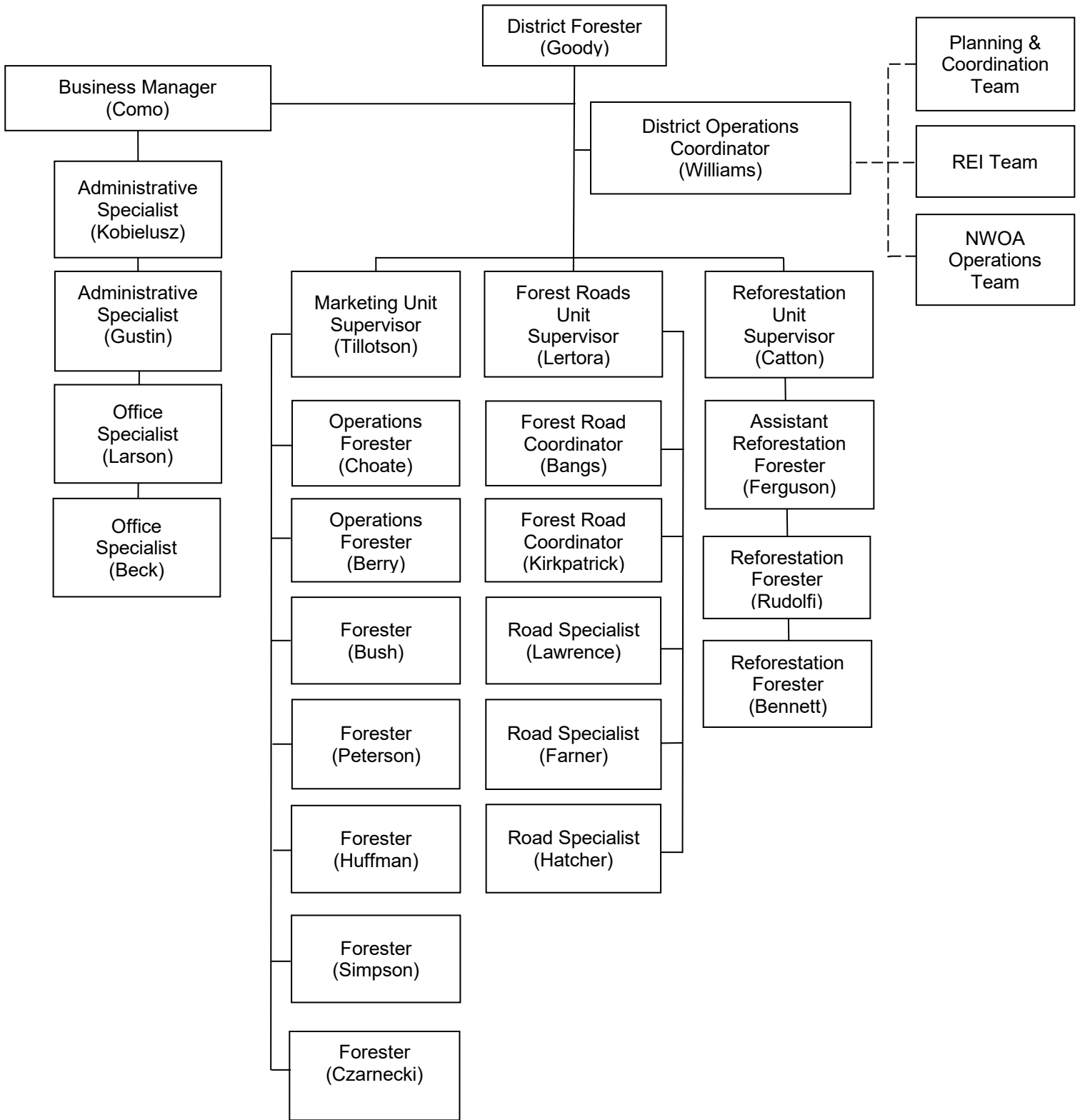
The Forest Roads unit is responsible for all aspects of road management and land surveying. These activities include road design and layout, rock pit development, road maintenance, property line location, road construction and improvement appraisals, contract preparation, and road contract administration. The Forest Roads unit works with the Operations, REI, and Planning & Coordination Team in developing the AOP.

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

Administration consists of the District Forester, District Operations Coordinator, Office Manager, two Administrative Specialists, and two Office Specialists. The District Forester and District Operations Coordinator provide policy direction, budget development, and oversight to the field units. The Office Manager, two Administrative Specialists, and two Office Specialists provide clerical support to State Forest Management. These positions are responsible for initial public contact, distribution and filing of documents, and providing assistance at timber sale auctions. The Office Specialist is also responsible for issuing permits for firewood cutting, and special forest products.

Each of these units and teams are responsible for ensuring the management approaches, activities, and projects are designed to meet the goals, strategies, and objectives of the FMP, Implementation Plan, AOP, and Recreation Plan. The sales and projects are coordinated across the district and with the NWOA and Division Teams from the development of the AOP to the final sale administration for consistency within and between units to meet common goals.

Astoria District Organization Chart



APPENDICES

A. Summary Tables

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

B. Maps

1. Harvest Operations Vicinity Map
2. Recreational Facilities Vicinity Map

C. Consultations with Other State Agencies

This appendix summarizes the results of consultations with the Oregon Department of Fish and Wildlife, Oregon Department of Transportation and other agencies as appropriate.

D. Public Involvement

This appendix will describe the results of the public involvement process of this AOP.

E. Pre-Operations Reports

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

F. Forest Land Management Classification

G. District Implementation Plan Minor Modification – Landscape Design

Appendix A

Summary Tables

- **Table A-1: Commercial Forest Management Operations - Financial Summary**
- **Table A-2: Commercial Forest Management Operations – Forest Resource Summary**
- **Table A-3: Forest Roads Summary**
- **Table A-4: Reforestation and Young Stand Management Summary**
- **Table A-5: Recreation Site Management – Financial Summary**
- **Table A-6: Recreation Trail Management – Financial Summary**
- **Table A-7: Recreation Grant Management – Financial Summary**

TIMBER HARVEST OPERATIONS - FINANCIAL SUMMARY

District: Astoria

Fiscal Year: 2022

Date: 07/08/2021

Primary Operation	Fund %		County	Sale Quarter	Net Acres		Volume (MMBF)			Value		
	BOF	CSL			Partial Cut	Clear-cut	Conifer	Hardwoods	Total	Gross	Projects	Net
Bam Bam	100%	0%	Clatsop (100%)	1	0	104	4.4	0.0	4.4	\$2,227,680	\$130,308	\$2,097,372
Blue Bucket	51%	49%	Clatsop (100%)	2	0	136	4.8	0.1	4.9	\$1,468,800	\$192,600	\$1,276,200
Bullwinkle	100%	0%	Clatsop (100%)	4	194	57	2.7	0.2	2.9	\$862,200	\$204,112	\$658,088
Deep 6	100%	0%	Clatsop (100%)	3	578	0	4.0	0.0	4.0	\$1,375,640	\$273,130	\$1,102,510
Green Saddle	100%	0%	Clatsop (100%)	4	44	155	7.3	0.0	7.3	\$2,574,600	\$87,800	\$2,486,800
Hard Target	100%	0%	Clatsop (100%)	2	0	166	0.3	4.0	4.3	\$1,294,800	\$45,700	\$1,249,100
Looper	100%	0%	Clatsop (100%)	3	0	25	1.3	0.0	1.3	\$596,250	\$11,100	\$585,150
Plympton East	100%	0%	Clatsop (100%)	1	26	43	1.6	0.0	1.6	\$650,136	\$35,700	\$614,436
Splinter Cell	100%	0%	Clatsop (100%)	1	0	174	8.0	0.2	8.2	\$3,761,880	\$70,537	\$3,691,343
Summit Shake	100%	0%	Clatsop (100%)	3	0	109	3.5	0.0	3.5	\$1,395,200	\$169,800	\$1,225,400
Three's Company	100%	0%	Clatsop (100%)	1	0	146	6.5	0.2	6.7	\$3,680,368	\$121,234	\$3,559,134
Toolbox Thinning	100%	0%	Clatsop (100%)	4	310	0	2.6	0.0	2.6	\$1,037,040	\$53,480	\$983,560
Wage Earner	100%	0%	Clatsop (100%)	3	0	187	9.2	1.1	10.3	\$4,628,250	\$241,000	\$4,387,250
Wickiup	100%	0%	Clatsop (100%)	4	0	110	5.5	0.0	5.5	\$1,925,000	\$245,700	\$1,679,300
				Sub-total:	1,152	1,412	61.7	5.8	67.5	\$27,477,844	\$1,882,201	\$25,595,643
				Project WOC Sub-total:	0	0	0.0	0.0	0.0		\$450,000	-\$450,000
				Total:	1,152	1,412	61.7	5.8	67.5	\$27,477,844	\$2,332,201	\$25,145,643

Alternate Operations

Iron Fire	100%	0%	Clatsop (100%)	n/a	60	225	10.0	1.0	11.0	\$4,392,000	\$419,800	\$3,972,200
				Total:	60	225	10.0	1.0	11.0	\$4,392,000	\$419,800	\$3,972,200

PRIMARY HARVEST OPERATIONS - FOREST RESOURCE SUMMARY

District: Astoria

Fiscal Year 2022

Date: 07/08/2021

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	
Bam Bam	-	-	X	X	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	
Blue Bucket	-	X	X	X	-	-	-	-	X	X	-	-	-	-	X	-	X	-	-	-	-	
Bullwinkle	-	-	X	X	-	-	X	X	X	-	-	-	-	-	X	-	X	X	-	X	-	
Deep 6	-	X	X	-	-	-	X	X	X	-	-	-	-	-	X	-	-	-	-	X	-	
Green Saddle	-	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	
Hard Target	-	-	X	-	-	-	-	-	X	-	-	-	-	-	X	-	X	-	-	-	-	
Looper	-	-	X	-	-	-	-	-	X	-	-	-	-	-	X	-	-	-	-	X	-	
Plympton East	-	X	X	-	X	-	-	-	-	-	-	-	-	-	X	-	-	X	X	-	-	The PC unit has a DFC of Complex
Splinter Cell	-	-	X	-	-	-	-	-	-	-	X	-	-	-	-	-	-	X	X	X	-	ORBIC indicated habitat for Cope Giant Salamader. No restrictions are required. Cell tower located in sale area.
Summit Shake	-	-	X	-	-	-	-	X	-	-	-	-	-	-	-	-	X	-	-	X	-	
Threes Company	-	-	X	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	
Toolbox Thinning	-	-	X	X	X	X	X	-	X	X	-	-	-	-	X	-	-	-	-	-	-	
Wage Earner	-	X	X	-	-	-	-	-	X	X	-	-	-	-	X	-	X	-	-	-	-	
Wickiup	-	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 inconultation 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
Iron Fire	-	-	X	X	X	-	-	-	X	X	-	-	-	-	X	-	X	X	X	-	The PC unit has a DFC of Complex

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 inconultation 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: 2022

Date: 07/08/2021

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					
Bam Bam	0.0	\$0	12.0	\$103,222	\$27,086	\$130,308	\$2,227,680	5.8%	
Blue Bucket	0.0	\$0	4.2	\$96,600	\$96,000	\$192,600	\$1,468,800	13.1%	
Bullwinkle	1.0	\$59,000	5.3	\$132,500	\$12,612	\$204,112	\$862,200	23.7%	
Deep 6	0.3	\$14,400	16.1	\$258,500	\$230	\$273,130	\$1,375,640	19.9%	
Green Saddle	0.1	\$5,900	6.3	\$81,900	\$0	\$87,800	\$2,574,600	3.4%	
Hard Target	0.4	\$23,600	1.4	\$22,100	\$0	\$45,700	\$1,294,800	3.5%	
Looper	0.1	\$5,900	0.4	\$5,200	\$0	\$11,100	\$596,250	1.9%	
Plympton East	0.2	\$11,800	1.1	\$23,900	\$0	\$35,700	\$650,136	5.5%	FY20 Wookie sale doing proj
Splinter Cell	0.1	\$7,903	3.5	\$62,634	\$0	\$70,537	\$3,761,880	1.9%	
Summit Shake	0.1	\$5,900	4.3	\$79,900	\$84,000	\$169,800	\$1,395,200	12.2%	
Threes Company	0.1	\$34,153	2.2	\$87,081	\$0	\$121,234	\$3,680,368	3.3%	
Toolbox Thinning	0.6	\$15,600	1.7	\$36,500	\$1,380	\$53,480	\$1,037,040	5.2%	
Wage Earner	0.4	\$23,600	3.8	\$49,400	\$168,000	\$241,000	\$4,628,250	5.2%	
Wickiup	0.5	\$29,500	7.4	\$96,200	\$120,000	\$245,700	\$1,925,000	12.8%	
Sub-total	3.9	\$237,256	69.7	\$1,135,637	\$509,308	\$1,882,201	\$27,477,844	8.5%	
Sub-total WOC (see below)	0.0	\$0	0.00	\$0	\$0	\$450,000			
Total	3.9	\$237,256	69.7	\$1,135,637	\$509,308	\$2,332,201	\$27,477,844	8.5%	

Alternate Operations

Iron Fire	0.9	\$53,100	10.6	\$137,800	\$228,900	\$419,800	\$4,392,000	9.6%	
Total	0.90	\$53,100.00	10.60	\$137,800	\$228,900	\$419,800	\$4,392,000	9.6%	

Road Projects Not Associated with Harvest Operations in this AOP: Rock Crushing & Rd Maint **\$450,000**

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				
Rock Crushing & Rd Maint						\$ 450,000		
Total	0.0	\$0	0.0	\$0	\$0	\$450,000		

REFORESTATION AND YOUNG STAND MANAGEMENT SUMMARY

District: Astoria

Fiscal Year: 2022

Date: 11/30/2020

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	1,600	\$215.00	\$344,000.00			\$0.00	1,600	\$344,000.00
Initial Planting	1,400	\$140.00	\$196,000.00			\$0.00	1,400	\$196,000.00
Interplanting	200	\$110.00	\$22,000.00			\$0.00	200	\$22,000.00
Underplanting		\$0.00	\$0.00			\$0.00	0	\$0.00
Tree Protection - Barriers	676	\$37.00	\$25,012.00			\$0.00	676	\$25,012.00
Tree Protection - Direct Control	0	\$80.00	\$0.00			\$0.00	0	\$0.00
Site Prep - Chemical - Aerial	1,000	\$70.00	\$70,000.00			\$0.00	1,000	\$70,000.00
Site Prep - Chemical - Hand	174	\$120.00	\$20,880.00			\$0.00	174	\$20,880.00
Site Prep - Broadcast Burning	0	\$0.00	\$0.00			\$0.00	0	\$0.00
Site Prep - Piling Burning*	1,400	\$10.00	\$14,000.00			\$0.00	1,400	\$14,000.00
Site Prep - Mechanical	0	\$0.00	\$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			\$0.00	0	\$0.00
Release - Mechanical - Hand	0	\$0.00	\$0.00			\$0.00	0	\$0.00
Precommercial Thinning	2,000	\$137.00	\$274,000.00			\$0.00	2,000	\$274,000.00
Pruning	0	\$0.00	\$0.00			\$0.00	0	\$0.00
Invasive Species	100	\$150.00	\$15,000.00		\$150.00	\$0.00	100	\$15,000.00
Road Side Spraying	300	\$128.00	\$38,400.00		\$154.00	\$0.00	300	\$38,400.00
Stocking Surveys*	3,700	\$1.00	\$3,700.00			\$0.00	3,700	\$3,700.00
Other			\$0.00			\$0.00	0	\$0.00
Totals	11,550	--	\$1,061,992.00	0	--	\$0.00	13,150	\$1,061,992.00

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

Projects Conducted by South Fork Crews	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		\$0.00	\$0.00			\$0.00	0	\$0.00
Interplanting	50	\$150.00	\$7,500.00			\$0.00	50	\$7,500.00
Underplanting		\$0.00	\$0.00			\$0.00	0	\$0.00
Tree Protection - Barriers	676	\$62.00	\$41,912.00			\$0.00	676	\$41,912.00
Tree Protection - Direct Control	500	\$60.00	\$30,000.00			\$0.00	500	\$30,000.00
Site Prep. - Chemical Aerial		\$0.00	\$0.00			\$0.00	0	\$0.00
Site Prep - Chemical - Hand		\$0.00	\$0.00			\$0.00	0	\$0.00
Site Prep - Broadcast Burning		\$0.00	\$0.00			\$0.00	0	\$0.00
Site Prep - Piling Burning		\$20.00	\$0.00			\$0.00	0	\$0.00
Site Prep - Mechanical		\$0.00	\$0.00			\$0.00	0	\$0.00
Release - Chemical - Hand		\$0.00	\$0.00			\$0.00	0	\$0.00
Release - Mechanical - Hand	200	\$144.00	\$28,800.00			\$0.00	200	\$28,800.00
Precommercial Thinning	0	\$150.00	\$0.00			\$0.00	0	\$0.00
Pruning		\$0.00	\$0.00			\$0.00	0	\$0.00
Invasive Species	30	\$85.00	\$2,550.00			\$0.00	30	\$2,550.00
Other			\$0.00			\$0.00	0	\$0.00
Totals	1,456	--	\$110,762.00	0	--	\$0.00	1,456	\$110,762.00

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

RECREATION SITE MANAGEMENT SUMMARY

District: Astoria

Fiscal Year: 2022

Date : 11/30/2020

Project	Construction Cost (Funding)		Improvement Cost (Funding)		Operations/Maint. (Funding)		Total Costs	Comments
	ODF (\$)	Other (\$)	ODF (\$)	Other (\$)	ODF (\$)	Other (\$)		
Campgrounds								
Henry Rierson Spruce Run			\$ 4,800		\$16,000		\$20,800	Sewer (\$7500) & Garbage (\$8500) Service/Maintenance**
Northrup Creek Horse Camp					\$5,000		\$5,000	Sewer & Maintenance**
Gnat Creek Campground					\$2,000		\$2,000	Sewer & Maintenance**
Beaver Eddy					\$3,000		\$3,000	Sewer (\$1900) & Garbage (\$2100) Service/Maintenance**
Viewpoint Campground						\$1,500	\$1,500	Sewer & Maintenance**
Designated Dispersed Campsites								
Misc. Improvements							\$0	
Lower Nehalem							\$0	
*Kerry Road							\$0	
*Plympton Ridge Road							\$0	
North Fork Nehalem							\$0	
Day Use Areas								
Lost Lake					\$2,500		\$2,500	Sewer & Sanitary Service/Maintenance**
*Shingle Mill OHV Staging Area						\$2,500	\$2,500	Sewer & Sanitary Service/Maintenance**
Trailheads								
Bloom Lake							\$0	Maintenance**
Soapstone							\$0	Maintenance**
Northrup Equestrian & Big Tree							\$0	Maintenance**
Spruce Run Creek							\$0	Maintenance**
Hunt Creek OHV							\$0	Maintenance**
Interpretive Sites								
Demonstration Forest			\$2,500		\$3,000		\$5,500	Kiosk (\$2500) Interpretive Signs** (\$3000)

Project	Construction Cost (Funding)		Improvement Cost (Funding)		Operations/Maint. (Funding)		Total Costs	Comments
	ODF (\$)	Other (\$)	ODF (\$)	Other (\$)	ODF (\$)	Other (\$)		
Other Operations								
Law Enforcement					\$25,000		\$25,000	Clatsop County Sheriff's Contract
Clatsop Recreation Brochures					\$5,000		\$5,000	Update/Printing of CSF Rec. Brochures
Recreational Area Dumpsites Cleanup					\$1,500		\$1,500	Recreation site Cleanup**
Spruce Run Gates			15000				\$15,000	Campground gates (4)
Spruce Run Campground Bridge			\$31,000				\$31,000	Bridge Replacement Project
Special Projects					\$5,000		\$5,000	Sign Repairs & Maintenance**
Misc. Maintenance Supplies & Repairs					\$7,000		\$7,000	Misc. Supplies/CG Envelopes/Etc.
							\$0	
					District Total		\$128,300	
					Other Total		\$4,000	
					TOTAL		\$132,300	

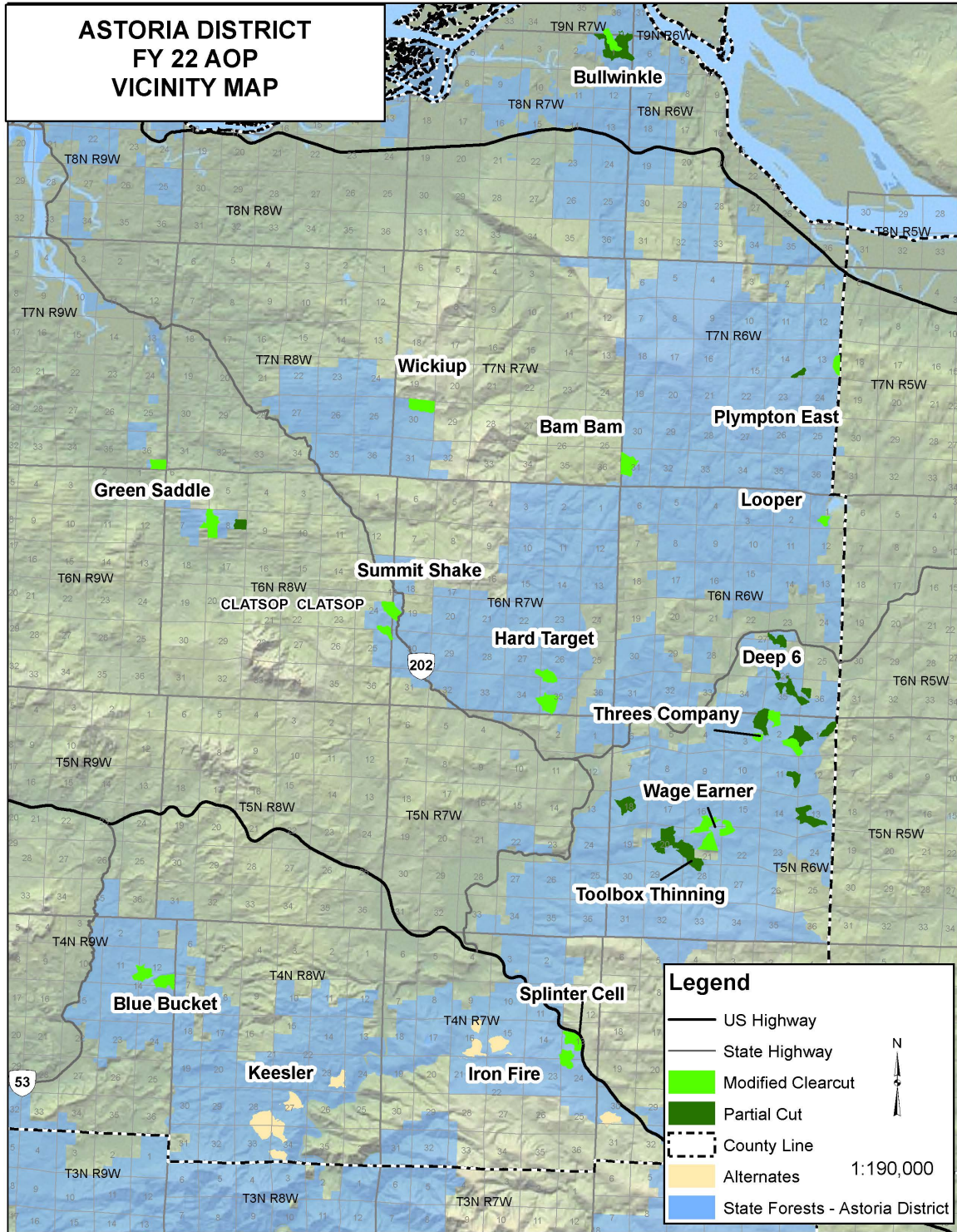
*A portion of the motorized recreation costs are funded through OPRD transfer funds.

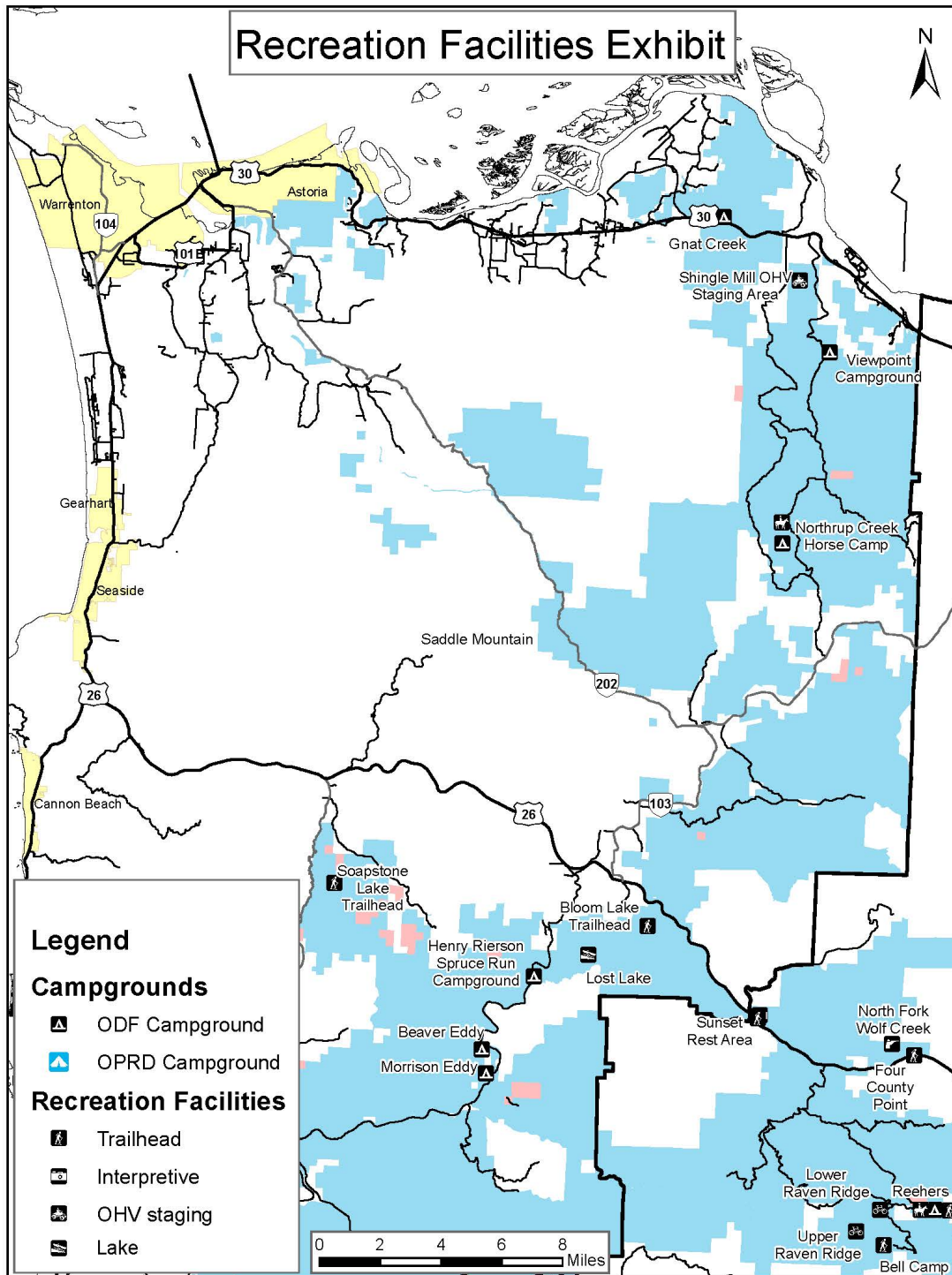
** All Maintenance Work to be performed by South Fork and ODF Staff

Appendix B

Vicinity Maps

- **Harvest Operations Vicinity Map**
- **Recreation Facilities Vicinity Map**





Appendix C

Consultations with Other State Agencies

Oregon Department of Fish and Wildlife (ODFW):

ODFW biologists attended a FY22 AOP review meeting for resource specialists and were provided the Summary and Pre-Operations Reports for review. Written comments that were received were sale specific for potential stream enhancement projects. The ODF Aquatic and Riparian Specialist will be consulted to help identify these candidates and may consult with ODFW fish biologists as needed.

Sales identified with potential for Stream Enhancement by ODFW:

- Blue Bucket
- Bullwinkle
- Deep 6
- Hard Target
- Looper
- Wage Earner
- Iron Fire (Alternate)

Oregon Department of Transportation – Archaeologists:

Archaeologists from the Oregon Department of Transportation (ODOT) have reviewed the proposed timber harvests, road construction and recreation projects for 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 operations that could have led to the presence of cultural artifacts today.

The following areas (listed by historic activity) will be reviewed on the ground to determine if cultural artifacts are present:

- Trail: Green Saddle
- Trail: Splinter Cell
- Trail: Plympton East
- County Road: Summit Shake (may be in approx.. location of OR202)
- Cabin & Trail: Summit Shake
- Cabin & Trail: Iron Fire

Appendix D

PUBLIC COMMENT PROCESS FOR THE FY22 ANNUAL OPERATIONS PLAN

The Oregon Department of Forestry issued a Press Release in April 2021, announcing a formal 45 day public comment period for the FY22 Annual Operations Plans from May 07, 2022 through June 21, 2022.

The purpose of the Public Comment Period is 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.

The following changes have been made to the Astoria FY22 AOP since the Public Comment period:

Summary Document Edits

- Removed Keesler Sale from sale plan and updated all supporting documents.
- Overview of Timber Harvest Operations (Page 9)
 - Fixed inconsistent volume estimates to match summary tables.
 - Edited language concerning volume targets and alignment with Implementation Plan volume averages.
- Narrative under Table 1 (Page 10): Fixed inconsistent acreage estimates to match summary tables.
- Table 2 (Page 10): Fixed inconsistent volume estimates to match summary tables

AOP Reports

- Edited the Bullwinkle, Deep 6, Toolbox Thinning, and Iron Fire sales to add additional narrative for the purpose and goals of partial cut units.
- Edited the Hard Target, Green Saddle, and Wickiup timber sales to clarify leave tree strategies.
- Edited Deep 6 and Toolbox Thinning sales to add additional narrative clarifying the intent of harvest around older stand types.
- Edited Wickiup to include clarification on forest health concerns
- Edited Hard Target sale to clarify status of stream enhancement.

Below is a link to a summary of all comments received for the Astoria, Forest Grove, Klamath-Lake, West Oregon, Western Lane and Tillamook district FY22 AOPs and ODF's responses to those comments.

<https://www.oregon.gov/odf/working/documents/aop-public-comments-astoria-forestgrove-klamathlake-tillamook-westoregon-westernlane-fy22.pdf>

Appendix E

Pre-Operations Report

Pre-Operations Reports are available online through a Web Application at the following link:

<https://geo.maps.arcgis.com/apps/webappviewer/index.html?id=ae569c1ff445457eb8fe1b556699bce8>

Just zoom to the District you are interested and click on any sale. A pop-up box should show up with a link to the Pre Op Report for the sale.

APPENDIX F

Forest Land Management Classification System (FLMCS) Modification Notification

No modifications are proposed with the FY22 AOP.

Appendix G

Landscape Design – Astoria District Implementation Plan Minor Modification Notice

No modifications are proposed with the FY22 AOP.