



Oregon

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"STEWARDSHIP IN FORESTRY"

June 24, 2022

To: Andy White, Area Director
From: Dan Goody, Astoria District Forester

CC: Michael Wilson, 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 2023

The FY 2023 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 Astoria District Implementation Plan (IP), the 2023 Annual Operation Planning Standards, and the FY 2023 State Forests budget instructions.

During its preparation, this plan was reviewed by technical specialists from within the department and biologists from the Oregon Department of Fish and Wildlife. 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 73.5 MMBF of harvest volume. This volume will be achieved through 1,333 acres of partial cut harvest and 1,162 acres of regeneration harvest. There are 10 primary operations and 6 alternate operations within this plan. The operations are estimated to generate gross revenues of approximately \$32,927,325 and net revenues of \$29,929,545 within Clatsop County. The volume is in alignment with the IP target of 73 MMBF. 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 2023 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 sales 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 2023. 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 2023

The AOP is available on the ODF web site at:

<https://www.oregon.gov/odf/working/pages/stateforests.aspx>

Approved:



Dan Goody
Astoria District Forester

Astoria District

2023 ANNUAL

OPERATIONS PLAN



Astoria DISTRICT

FY 2023 ANNUAL OPERATIONS PLAN

OVERVIEW

This plan describes the activities and outcomes that Oregonians can expect to see on Astoria District for FY 2023. 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 has undergone a 45-day public comment period.

This Annual Operations Plan (AOP) has been 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 2023 fiscal year.

A short summary of activities planned for the coming year

- Planting 500,000 trees on 1,508 acres and conducting vegetation management activities on 850 acres and animal management activities on an additional 120 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 20 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. The ODF Aquatic and Riparian Specialist will be consulted to help identify potential stream improvement candidates and will 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 95 miles of road, constructing approximately 4.5 miles of road, and improving approximately 65 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.
- Installation of several gates that will at times limit vehicular access to targeted areas that have persistently presented public safety problems or threaten environmental quality and public education efforts have not curtailed these behaviors.
- Proposing to harvest approximately 73.5 million board feet of timber volume, through modified clearcuts and partial cuts, generating revenue of an estimated \$29.9 (after subtracting WOC) Million net value.
- Operating and maintaining developed facilities in a safe, clean, and responsible manner.

- 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.
- At Spruce Run Campground the existing flush toilets and water system will be removed and funding opportunities will be explored to replace them with a passive vault toilet system.
- 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, and Adopt a Trail
 - Forest Clean-up
 - Trail Maintenance and Construction Work Parties
- Providing a firewood cutting program and miscellaneous forest products permits (salal, mushrooms, etc.) as done in 2021.
- Supporting ongoing research on the district, in partnership with research cooperatives and universities.

TABLES OF CONTENTS

SUMMARY	3
INTRODUCTION	8
INTEGRATED FOREST MANAGEMENT OPERATIONS	9
Timber Harvest Operations	9
Overview of Timber Harvest Operations.....	9
Harvest Operations within Terrestrial Anchor Sites and Aquatic Anchors	11
Summary of Timber Harvest Operations by Basin.....	13
Forest Roads Management	21
Overview	21
Road Construction	21
Road Improvement.....	21
Road Access Management	22
Road Maintenance	22
Management of Rock Source/Supply	22
Land Surveying	23
Young Stand Management	23
Seedlings / Nurseries	24
Site Preparation	24
Planting	24
Tree Protection	25
Vegetation Management – Release Treatments	25
Pre-Commercial Thinning (PCT)	26
Early Commercial Thinning.....	26
Pruning.....	26
Stocking Surveys.....	26

Invasive Species	27
Roadside Spraying.....	27
Recreation Management.....	27
Overview of Recreation Management	27
Facilities	28
OHV Trails	29
Non-motorized Trails.....	30
Volunteer Program and Partnerships.....	31
Other Integrated Forest Management Projects.....	32
Aquatic & Riparian Management	32
Land Exchange	33
Law Enforcement and Public Safety	33
Firewood Cutting Program.....	33
Non-Timber Forest Products	33
Planning.....	33
Archaeological, Historical and Cultural Resources	33
Forest Inventory.....	34
Wildlife Surveys	34
Research and Monitoring.....	35
Other Planning Operations	35
Public Information and Education	36
Administration	36
Organization Chart	38
APPENDICES	39
A. Summary Tables.....	40
B. Maps.....	48
C. Consultation with Other Agencies.....	52

D. Public Involvement.....53

E. Pre-Operations Reports.....54

F. Land Management Classification System55

G. Landscape Design Minor Modification.....56

INTRODUCTION

This annual operation plan (AOP) outlines activities on state-owned forestland managed by the Astoria District for Fiscal Year 2023 (FY23), which begins July 1, 2022 and ends June 30, 2023. 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 FY23, 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 FY23 time period. Actual on-the-ground operations will likely not occur during FY23 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 FY23.

A 45-day public comment period was held from March 21, 2022 through May 05, 2022. The District Forester has 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, and will also be reviewed by fish and wildlife biologists from the Oregon Department of Fish and Wildlife. All of the operations have been reviewed against the State Historic Preservation Office and General Land Office databases for potential impact to cultural resources. 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 FY23 AOP is estimated to produce 73.5 million board feet (MMBF) in volume, generate gross revenues of approximately \$32.9 million and net revenues of \$29.9 million. The goal is to achieve the average of the Annual Harvest Objective (AHO) of 73 MMBF over the expected duration for the IP (see Table 2). 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 2023 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		2023 AOP
	Low	High	
Volume (MMBF)	73		73.5
Partial Cut Harvest	100	2,800	1,133
Regeneration Harvest	285	2,200	1,162

Table 1 shows the proposed acres by harvest type. The 1,162 acres of regeneration harvest planned for FY23 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 (East West Thin and Larkin Thin). There are also two light partial cuts within older stands intended to help move the stands towards a desired complex condition (Iron Fire and Jesters Boot). 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	71.2	2.6
FY 23	73	73.5		3.1

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 FY23 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 for primary sales in the 2023 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 2023)		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 2023)		Cumulative Harvest (since FY 2014)	
	Clearcut	Partial Cut	Clearcut	Partial Cut
Aquatic Anchor (AA) Basins				
Northrup Creek (7,027 ac)	205	0	1,265	118
% of Acres	2.9%	0	18.0%	1.7%
Buster Creek (10,874 ac)	192	152	1,628	669
% of Acres	1.8%	1.4%	15.0%	6.2%
Upper Rock Creek (3,498 ac)	0	60	253	60
% of Acres	0%	1.7%	7.2%	0%
Upper North Fork Nehalem (9,908 ac)	32	0	721	814
% of Acres	<1%	0%	7.3%	8.2%
Coal Creek (183 ac)	0	0	0	0
% of Acres	0%	0%	0%	0%
All Aquatic Anchors (31,490 ac)	429	212	3,867	1,661
Total % of Acres	1.4%	0.7%	12.3%	5.3%

Summary of Timber Harvest Operations by Basin

In the following section, the harvest operations planned for FY23 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	2023 AOP	
	Partial Cut	Clearcut
Astoria	0	0
Beneke	0	190
Buster	152	236
Crawford	0	191
Davis	0	0
Fishhawk	0	0
Gnat	921	0
Hamilton	0	0
Klaskanine	0	0
Lousignot	0	0
N. Fork Nehalem	0	62
Northrup	0	205
Plympton	0	0
Quartz	60	228
Sager	0	50
Scattered	0	0
Sweethome	0	0
Totals	1,133	1,162

Astoria Basin

There are no harvest operations planned in this basin for FY 2023.

Beneke Basin

Music Trail: This operation consists of two modified clearcut units totaling 190 acres. The mixed conifer stands within this sale are between 71 and 83 years old. The sale area is 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 species to be determined closer to the time of reforestation.

Approximately 1.1 miles of spur road will be constructed to help facilitate harvest. Approximately 6 miles of road will be improved in conjunction with this sale.

Trailover Quarry is in Unit 2.

Buster Basin

Grand Ball: This operation consists of three modified clearcut units totaling 167 acres. Approximately 142 acres of this sale fall within Buster Basin and 25 acres within the Sager Basin. The conifer/hardwood stands within this sale are primarily between 59 and 82 years old. The current condition of a majority of the sale areas is Understory. Within Unit 1 there are 17 acres of current condition Layered. Within Unit 3 there are 56 acres of current condition Layered. 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 species to be determined closer to the time of reforestation.

Approximately 0.2 miles of spur road will be constructed to facilitate harvest. Approximately 7.6 miles of road will be improved in conjunction with this sale. Buster Creek Quarry is in Unit 2.

Unit 2 and the majority of Unit 3 are within the Buster Owl Circle. A preliminary biological assessment is being developed for this sale.

A small portion of Unit 2 may be partially visible from Highway 103. Foresters will consider this with their wildlife tree placement strategy.

Portions of Units 1 and 2 and all of Unit 3 are within the Buster Creek Aquatic Anchor.

Swagger: This is a 119 acre modified clearcut. Approximately 94 acres of this sale fall within Buster Basin and 25 acres are within the Sager Basin. The mixed conifer stands in this sale are between 76 and 84 years old. The current condition of the sale area is 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 species to be determined closer to the time of reforestation.

A portion of Unit 1 is within the Buster Creek Aquatic Anchor.

Approximately 0.1 miles of spur road will be constructed to facilitate harvest. Approximately 2.2 miles of road will be improved in conjunction with this sale.

Jesters Boot: This operation consists of one partial cut unit totaling 152 acres. The mixed conifer stands in this sale are primarily between 81 and 87 years old. The current condition of stands within a majority of the operation is Understory. Approximately 42 acres within Unit 1 have a current condition of Layered. The unit has a Desired Future Condition of Older Forest Structure. The intent of this thinning is to promote habitat to preserve and enhance the existing structure within the stand.

Unit 1 is within the Buster Creek Aquatic Anchor.

Approximately 0.4 miles of new roads will be constructed to facilitate harvest. Approximately 3.5 miles of road will be improved in conjunction with this sale. A portion of Nettle Creek Road (0.2 miles) is planned to be vacated with this sale and the collector spur moved to the new construction road within the sale area. This will require looking at the existing road and upgrading it to a collector road specification.

All of the Units are within a Draft Habitat Conservation Area. Thinning prescriptions for these stands will be developed to create more complex structure and improve habitat.

Crawford Basin

Walk and Crawl: This sale consists of two modified clearcut units totaling 191 acres. The mixed conifer stands in this sale are primarily 78 years old. The current condition of a majority of the sale area is Layered. Approximately 21 acres within Unit 2 have a current condition of Understory. The units have a Desired Future Condition of non-complex stands. Following the completion of harvest, the unit will be replanted with a mixture of species to be determined closer to the time of reforestation.

Approximately 0.4 miles of spur road will be constructed to facilitate harvest. Approximately 5.6 miles of road will be improved in conjunction with this sale.

Davis Basin

Humptys Wall (alternate): This operation consists of three modified clearcut units totaling 126 acres. The mixed conifer stands within this sale are between 35 and 62 years old. The current condition of a majority of the sale area is Understory. Approximately 15 acres of Unit 1 has a current condition of Layered. The units have a Desired Future Condition of non-complex stands. Following the completion of harvest, the unit will be replanted with a mixture of species to be determined closer to the time of reforestation.

Approximately 0.2 miles of spur road will be constructed to facilitate harvest. Approximately 8.2 miles of road will be improved in conjunction with this sale.

Recreation resources do not exist within the timber sale area. Gnat Creek Campground and Gnat Creek Trailhead exist along the timber sale haul route. The Marketing and Roads Units will work closely with the Recreation Unit during road project layout and contract writing to put provisions in place to minimize impact to the recreation facility and mitigate public use safety concerns.

Fishhawk Basin

Little Nicky Thin (alternate): This operation consists of two partial cut units totaling 413 acres. The mixed conifer stands within this sale are primarily between 23 and 46 years old. The current condition of a majority of the sale area is Understory. Approximately four acres of Unit 1 and four acres of Unit 2 have a current condition of Closed Single Canopy. A majority of the sale area has a Desired Future Condition of non-complex stands. Approximately 24 acres in Unit 2 have a Desired Future Condition of Layered. Less than 1 acre in Unit 1 has a Desired Future Condition of Older Forest Structure. This area is likely to be within a posted Type F stream buffer.

Approximately 0.7 miles of spur road will be constructed to facilitate harvest. Approximately 19.6 miles of road will be improved with this sale. Two spur roads will need to be reopened to log parts of Unit 1, one in the northwest corner and one in the middle of the unit.

A small portion of the west side of Unit 1 is within the Northrup Creek Aquatic Anchor.

A portion in the northeast of Unit 1 and all of Unit 2 is within a Draft Habitat Conservation Area. Thinning prescriptions for these stands will be developed to create more complex structure and improve habitat.

Gnat Basin

Larkin Thin: This operation consists of three partial cut units totaling 341 acres. The mixed conifer stands within this sale are primarily between 35 and 41 years old. The current condition of a majority of the sale area is Understory. Approximately 54 acres within Unit 1 have a current condition of Closed Single Canopy. Approximately 82 acres within Unit 3 have a current condition of Closed Single Canopy. The majority of the units have a Desired Future Condition of non-complex stands. Approximately 5 acres within Unit 1 have a Desired Future

Condition of Older Forest Structure. Approximately 29 acres within Unit 2 have a Desired Future Condition of Layered.

Approximately 0.3 miles of spur road will be constructed to facilitate harvest. Approximately 6.3 miles of road will be improved in conjunction with this sale.

Unit 1 and portions of Unit 3 are visible from Hwy 30. These units are thinnings and will not require additional planning to mitigate for scenic resources.

No recreational trails exist within the sale. Portions of the Gnat Creek Trail are adjacent to the west of Unit 1 but no disruption is anticipated from planned operations.

In the partial cut units, the inner zone of the RMA will be thinned in order to help move the stand towards Mature Forest Condition. The prescription exceeds the FMP riparian standards.

All of the Units are within a Draft Habitat Conservation Area. Thinning prescriptions for these stands will be developed to create more complex structure and improve habitat.

East West Thin: This operation consists of five partial cut units totaling 580 acres. The mixed conifer stands within this sale are primarily between 23 and 50 years old. The current condition of a majority of Units 1 and 4 is Closed Single Canopy. Approximately 50 acres within Unit 1 have a current condition of Understory. Approximately 3 acres within Unit 4 have a current condition of Understory. Units 2, 3, and 5 have a current condition of Understory. The units have a Desired Future Condition of non-complex stands.

Approximately 0.7 miles of spur road will be constructed to facilitate harvest. Approximately 11.3 miles of road will be improved in conjunction with this sale.

Portions of the Gnat Creek Hiking Trail runs along the eastern boundary of Units 4 and 5. The Marketing Unit will work closely with the Recreation Unit during sale layout and contract writing to put provisions in place to minimize impact to the recreational trail and mitigate public use safety concerns.

Portions of Unit 5 are visible from U.S. Highway 30. This unit is a thinning and will not require additional planning to mitigate for scenic resources.

In the partial cut units, the inner zone of the RMA will be thinned in order to help move the stand towards Mature Forest Condition. The prescription exceeds the FMP riparian standards.

The southwest portion of Unit 4 is within a Draft Habitat Conservation Area. The thinning prescription for this stand will be developed to create more complex structure and improve habitat.

Shingle Knob (alternate): This operation consists of two modified clearcut units totaling 182 acres. The mixed conifer and hardwood stands within this sale are between 56 and 73 years old. The current condition of the sale area is Understory. The units have a Desired Future

Condition of non-complex stands. Following the completion of harvest, the units will be planted with a mixture of species to be determined closer to the time of reforestation.

Approximately 10.6 miles of road will be improved in conjunction with this sale.

The first few miles of Nicolai and Shingle Mill are both used extensively for Recreational purposes. Signage on Nicolai is already posted but additional signs on Shingle Mill may be needed. The REI unit will determine if additional signage is needed when operations commence.

Mill Shack (alternate): This operation consists of four modified clearcut units totaling 290 acres. The mixed conifer and hardwood stands within this sale are primarily between 53 and 77 years old. The current condition of a majority of the sale area is Understory. Approximately 1 acre of Unit 3 has a current condition of Regeneration. This area was a part of a previous salvage operation and will need to be yarded through for this sale. Approximately 56 acres of Unit 3 have a current condition of Layered. The units have a Desired Future Condition of non-complex stands. There are five acres in the southwest of Unit 2 shown as No Harvest – Other. This area has a Desired Future Condition of Layered and will be posted out of the sale unit. Following the completion of harvest, the units will be planted with a mixture of species to be determined closer to the time of reforestation.

Approximately 0.8 miles of spur road will be constructed to facilitate harvest. Approximately 12.1 miles of road will be improved in conjunction with this sale.

A short section of the Knob Loop four-wheel drive trail is within Unit 4. A trail re-route is planned for the eastern portion of this trail approaching its intersection with Shingle Mill Road. The new trail location will be placed to improve drainage and mitigate for future road damage and maintenance associated with trail use. Marketing staff will work closely with Recreation staff during sale layout to determine the path of the re-route and flag it in. Marketing staff will direct operators to place slash and stumps on the section of trail to be vacated and to use the flagged re-route as a designated skid trail as well as put provisions in place to minimize impact to the remainder of the trail. Recreation staff will finalize re-route construction upon completion of timber harvest. Opportunities will be looked at for facility improvements that could be performed during or post timber sale operations. Layout forester should reach out and assess potential points of coordination during the course of this project.

The first few miles of Nicolai and Shingle Mill are both used extensively for Recreational purposes. Signage on Nicolai is already posted but additional signs on Shingle Mill may be needed. The REI unit will determine if additional signage is needed when operations commence.

Hamilton Basin

Tide Flats (alternate): This operation consists of two modified clearcut units totaling 126 acres. The mixed conifer and hardwood stands within this sale are between 71 and 73 years old. The current condition of Unit 1 is Layered. The current condition of Unit 2 is Understory. The units have a Desired Future Condition of non-complex stands. Following the completion of harvest, the units will be planted with a mixture of species to be determined closer to the time of reforestation.

Approximately 0.7 miles of spur road will be constructed to facilitate harvest. Approximately 3.1 miles of road will be improved in conjunction with this sale.

The western boundary of Unit 1 will likely require professional surveys. This will be verified prior to layout.

Klaskanine Basin

There are no harvest operations planned in this basin for FY 2023.

Louisignot Basin

Kingsmen (alternate): This operation consists of three modified clearcut units totaling 167 acres. The conifer/hardwood stands within this sale are between 76 and 81 years old. The current condition of the sale area is Understory. The units have a Desired Future Condition of non-complex stands. There is just over an acre at the southern boundary of Unit 3 with a Desired Future Condition of Older Forest Structure. This area has been shown as No Harvest – Other to allow for time to determine where the stream buffer would be posted and determine if it will fall within the stream buffer or a minor modification would be required. Following the completion of harvest, the units will be planted with a mixture of species to be determined closer to the time of reforestation.

Approximately 1.1 miles of spur road will be constructed to facilitate harvest. Approximately 4.8 miles of road will be improved in conjunction with this sale.

A portion of Unit 1 is visible from Greasy Spoon Road. No special consideration is required.

North Fork Nehalem Basin

Cup of Joe: This operation consists of two modified clearcut units totaling 62 acres. The mixed conifer stands within this sale are primarily between 49 and 54 years old. The current condition of a majority of the sale area is Understory. Approximately 2 acres within Unit 2 have a current condition of Closed Single Canopy. The units have a Desired Future Condition of non-complex stands. Following the completion of harvest, the units will be planted with a mixture of species to be determined closer to the time of reforestation.

Approximately 0.2 miles of spur road will be constructed to facilitate harvest. Approximately 2.5 miles of road will be improved in conjunction with this sale.

A majority of Unit 2 is within the Upper North Fork Aquatic Anchor.

Northrup Basin

Cattle Drive: This operation consists of three modified clearcut units totaling 205 acres. The conifer/hardwood stands within this sale are between 73 and 81 years old. The current condition of a majority of the sale area is Understory. Approximately 50 acres within Unit 2 have a current condition of Layered. The units have a Desired Future Condition of non-

complex stands. Following the completion of harvest, the units will be planted with a mixture of species to be determined closer to the time of reforestation.

Approximately 0.1 acres of spur road will be constructed to facilitate harvest. Approximately 9.4 miles of road will be improved in conjunction with this sale.

Unit 1 and 2 are within the Northrup Creek Aquatic Anchor.

A portion of the Northrup Creek Horse Trail exists in the southern portion of Unit 2. A seasonal restriction will be placed on Unit 2 to minimize impact to the recreational trail and mitigate safety concerns during peak use by trail users (typically May 15 through October 15). This seasonal restriction should minimize conflicts with the horse trail during the peak riding season. The Marketing and Recreation Units will coordinate on leave tree placement when posting leave trees within vicinity of the horse trail.

The Marketing Unit will work closely with Recreation staff during sale operations to post signage related to harvest activities, trail closures, and timeline and to facilitate public outreach and communicate ongoing operation status.

Plympton Basin

There are no harvest operations planned in this basin for FY 2023.

Quartz Basin

Iron Fire: This combination sale consists of three modified clearcut units totaling 228 acres, one partial cut unit totaling 60 acres, and nine acres of new construction right-of-way. The mixed conifer stands within this sale are primarily between 60 and 77 years old. The current condition of Units 1 and 2 is Understory. The current condition of the majority of stands within Units 3 and 5 is Understory. Approximately 4 acres within Unit 3 have a current condition of Closed Single Canopy. Approximately 4 acres within Unit 5 have a current condition of Layered. Unit 4 has a current condition of Layered. The Desired Future Condition of Units 1, 2, and 3 are non-complex stands. The Desired Future Condition of Unit 4 is Older Forest Structure. The Desired Future Condition of Unit 5 is Layered. Following the completion of harvest, the modified clearcut units will be planted with a mixture of species to be determined closer to the time of reforestation. The intent of the partial cut in Unit 4 is to promote habitat to preserve and enhance the existing structure within the stand.

Approximately 1.0 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.

Unit 4 is within a Draft Habitat Conservation Area. The thinning prescription for this stand will be developed to create more complex structure and improve habitat.

Sager Basin

Grand Ball: A portion of Grand Ball lies within the Sager basin. See sale description under the Buster Basin.

Swagger: A portion of Swagger (94 acres) is located within the Sager basin. See sale description under the Buster Basin.

Scattered Basin

There are no harvest operations planned in this basin for FY 2023.

Sweethome Basin

There are no harvest operations planned in this basin for FY 2023.

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 FY23 timber sales. This section describes the types of road management activities that will occur in FY23 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. 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

State Forests are managed to support public access while providing for community safety, environmental benefits, protection of state and private assets, and wildfire prevention. Following timber harvest, roads are evaluated for their public access benefits and costs. Some roads are closed and vacated to reduce the maintenance costs and to minimize impacts to the environment. These areas remain open for walk-in use. The Department retains the option of gating roads if vandalism, neighbor concerns, or excessive road damage from public use becomes a problem in particular areas. The public may still access these areas on foot, bicycle or horseback.

Over the last several years the Astoria District has seen a substantial increase in illegal dumping, abandoned vehicles and long-term camping. These behaviors create public safety problems, threaten environmental quality and are costly to mitigate, with clean-up costs exceeding \$50,000. As a last resort, ODF has the option to close roads to vehicular access if vandalism, neighbor concerns, or excessive road damage becomes a pervasive problem in particular areas. This AOP proposes several gates that will at times limit vehicular access to targeted areas that have persistently presented problems and public education efforts have not curtailed these behaviors.

Proposed gate locations include major access points to the forest along Highway 26 (Sterling Ranch Road, Quartz Creek Road, and Osweg Creek Road). Gates are also planned to be installed along Highway 30 at Gnat Creek Road (just past Gnat Creek Campground), Big Noise Road, Larkin-Green Road, and Sandpit Road. Gates along the Highway 53 corridor would be at East Summit Road, Suess Alley, and North Fork Road.

When gates are closed, the public may still access these areas on foot, bike or horseback, and in many cases through alternative road access points. It is the intention to have all gates open during rifle buck deer and bull elk seasons. Maps of pending locations are available by request at the Astoria District Office.

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:

- Viewpoint – 14,000 cubic yards
- Buster – 10,000 cubic yards
- Flat Iron – 15,000 cubic yards
- Wild Bill – 12,000 cubic yards
- Northrup – 9,000 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 FY23.

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:

- Cup of Joe (0.3 miles)
- Music Trail (0.3 miles)
- Shingle Knob (0.6 miles)
- Mill Shack - (1.2 miles)
- Tide Flats - (1 mile)

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 FY23 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 2022 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: aurally 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. There is currently no Early Commercial Thinning planned for the FY23 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 2022, roadside vegetation surveys will be conducted to determine roadside chemical treatment needs for FY23. The project will be done by utilizing experienced contractors.

Recreation Management

Overview of Recreation Management

Recreation use has been taking place on the Clatsop State Forest for more than 70 years and has been managed in varying degrees. Currently the direction for management of the Recreation program flows from the Northwest Oregon State Forest Management Plan (2010).

Recreation use includes hunting, fishing, target shooting, OHV riding, mountain biking, hiking, equestrian use, mushroom picking, sight-seeing, picnicking, boating, swimming, and camping. Recreation use takes place in developed sites and in dispersed sites across state forest land. Use levels for all activities are expected to increase.

Dispersed site activities are expected to continue in FY23 and will require varying degrees of Recreation program and district staff attention. Dispersed use sites will be monitored, maintained, and improved as resources allow to meet safety, sanitation, and resource protection objectives.

The FY23 plan focuses on maintaining current trails, facilities, and opportunities by maintaining the existing infrastructure, provide for public safety and sanitation, and mitigate damage to natural resources.

Due to facility and trail maintenance needs, winter weather limitations, timber sale activity, fire season restrictions, and staffing vacancies some project work from FY22 will extend into FY23. Covid-19 has had a direct influence on the delivery of project work, recreation opportunities and services on state forest land and will continue to influence operational opportunity in FY23.

Facilities (Campgrounds, Viewpoints, Trailheads, etc.)

The Recreation Program plans to operate and maintain the following developed facilities on the Astoria District:

- 5 Campgrounds
- 1 OHV Staging and Day use Area
- 6 designated dispersed campsites
- 2 interpretive sites
- 7 Trailheads

All developed facilities will be operated and maintained in good working order and will be kept clean and safe for public use. They will be managed to minimize user conflict and to avoid adversely impacting the resource.

FY23 Facility projects on the Astoria District are identified and described in the following table (Table 6).

Table 6. Facility Projects

Project Type	Project Name	Work Resources	Project Description
Facility Improvement	Demonstration Forest Information Board Installation	Recreation Staff, District Staff, South Fork AIC Crews	Construction – Install information board at the Astoria Demonstration Forest
Facility Removal	Spruce Run Toilet Demolition	Recreation Staff, South Fork AIC Crew, NWOA Roads Team, Contractor	Demolition - Remove existing flush toilet facility and water system.
Facility Improvement (Planning)	Spruce Run CXT Building Bathrooms	Recreation Staff	Planning – Pursue funding opportunities for new vault toilet facility at Spruce Run Campground
Facility Improvement- (Planning)	Campsite Bollard Replacements	Recreation Staff, South Fork AIC Crew, NWOA Roads Team	Planning – Work with ODF District Roads team and NWOA Roads team to develop plan to install boulders for campsite

			delineation at Spruce Run Campground.
Facility Improvement- (Planning)	Northrup Horse Camp Campground Season Evaluation	Recreation Staff	Planning – Evaluate the current length of the open season for Northrup Horse Camp Campground
Facility Maintenance- (Planning)	Information Board Maintenance and Replacements	Recreation Staff	Planning – Evaluate current standards and coordinate future construct of information boards at recreation sites across the district.
Facility Maintenance- (Planning)	Site Sign Maintenance and Replacement	Recreation Staff	Planning - Evaluate current design standards and develop plan for future construction of site signs at recreation sites across the district.

Projects delineated as “planning” will be evaluated with public and/or specialist review over the next fiscal year. The “planning” projects will not be implemented during this fiscal year. Components of the projects may occur as specifically noted in Table A5.

Motorized (OHV) Trails

The Recreation program will continue to place emphasis on trail system planning, maintenance, and upgrade of existing trails. Project work will continue to focus on upgrading and improving the designated OHV trail network in an effort to better connect the trail system, protect forest resources, minimize conflict with other forest management activities, re-establish trails after timber harvest, move trail users off the mainline haul and public use roads, reduce trail congestion and the potential for conflict between trail users, improve user safety, improve maintenance efficiency, and reduce infrastructure investments and maintenance workload.

To support OHV program management, ODF receives All Terrain Vehicle (ATV) Fund dollars from Oregon Parks and Recreation Department to support personnel and associated service and supply costs.

FY23 Motorized trail projects on the Astoria District are identified and described in the following table (Table 7).

Table 7. Motorized Trail Projects

Project Type	Project Name	Work Resources	Project Description
Trail Bridge Replacement (Planning)	McNary Trail Bridge Replacement	OHV Trail Crew	Planning – Potential Replacement of (2) trail bridges on the McNary Trail. Will look for opportunities for re-routing existing trail system to minimize crossings
Trail System Development (Planning)	Nicolai OHV Area Trail System Management Plan Development	OHV Trail Crew/ Volunteers	Trail System Management Plan Development

Projects delineated as “planning” will be evaluated with public and/or specialist review over the next fiscal year. The “planning” projects will not be implemented during this fiscal year. Components of the projects may occur as specifically noted in Table A6.

Non-motorized Trails

The Recreation program will continue to place emphasis on trail system planning, maintenance, and upgrade of existing trails. The Recreation program will continue to place emphasis on improving trail system connectivity and diversity, reducing user conflict, addressing user safety, protecting resources and investment, improving sustainability, and reducing maintenance need.

FY23 non-motorized trail projects on the Astoria District are identified and described in the following table (Table 8).

Table 8. Non-Motorized Trail Projects

Project Type	Project Name	Work Resources	Project Description
Trail Improvement – (Planning)	Spruce Run Creek Trail Reroute and Improvement	Recreation Staff, State Forest Resource Specialists	Planning – Begin the initial planning for an improvement of trail tread and reroute of the current Spruce Run Creek Trail in areas unsuitable for meeting sustainability standards. Establish connection to Lost Lake Loop Trail.
Trail Maintenance	Trail Signage Maintenance and Replacement	Recreation Staff	Planning and Construction - Replace and construct trail signs across the district.

Projects delineated as “planning” will be evaluated with public and/or specialist review over the next fiscal year. The “planning” projects will not be implemented during this fiscal year. Components of the projects may occur as specifically noted in Table A6.

Trail Maintenance (Motorized and Non-motorized)

Maintenance of existing trails remains the Recreation programs highest trail program priority. Trails will be maintained as necessary to protect investment, address developing resource and safety issues, and to protect water quality. Trail maintenance activity includes the completion of trail condition assessments on all trails, development of maintenance strategies, and completion of maintenance work. Basic trail maintenance work typically involves cleaning water bars and rolling dips, cleaning out culverts, trail tread work, cleaning trail bridges, clearing downed trees, brushing, and sign replacement. Heavy trail maintenance work, which typically results from winter storms, includes repairing trail bridges, re-establishing trail tread in slide or washout areas, rebuilding stream ford crossings, clearing and logout work associated with heavy concentrations of downed trees, and rerouting trails due to slides, washouts, or safety issues.

The Recreation program expects to complete condition assessments and trail clearing maintenance on all trails on the Astoria District (30 miles OHV and 21 miles non-motorized). Trail user safety, investment protection, and resource protection maintenance will

be completed as needed. Other basic trail maintenance work is completed on most trails every two or three years. Approximately 35% to 45% of the network on the Astoria District will receive basic trail maintenance attention in FY23. Recreation Program staff will work with the state forest engineer to conduct trail bridge inspections that will help inform trail bridge maintenance needs.

Volunteer Program

Volunteer activities could include the below list if safety and Covid protocols can be met.

- Camp Host Program at Spruce Run and Northrup Horse Camp Campgrounds
- Trail Maintenance and Construction Work Parties
- Adopt a Trail

Covid-19 has influenced our ability to offer the same level of volunteer opportunity and engagement as has been offered in the past. Covid 19 will continue to have influence on delivery of this component of the Recreation Program. To the extent possible, within the bounds of Covid safety protocols, in FY23, activities associated with the volunteer program will include the recruitment, selection, and management of campground hosts; planning and management of trail maintenance, trail development, and special volunteer projects; and facilitation of Adopt a Trail program activities.

The Recreation program continues to engage with local volunteer groups (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 to maintain working relationships and accomplish work.

The Recreation program will continue to look for opportunities to develop new partnerships and to enhance existing partnerships that will increase our collective capacity to meet program and project goals and objectives.

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 either be surveyed by a third party surveyor or 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:

- Cattle Drive
- Cup of Joe
- Jesters Boot
- Larkin Thin
- Music Trail

- Swagger

Other Planned Projects to improve aquatic areas within the FY23 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 FY23 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 Sherriff'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 Sate 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 FY23.

Archaeological, Historical and Cultural Resources

Prior to the FY23 AOP, Archaeologists from the Oregon Department of Transportation (ODOT) were the source of archeological review for State Forest operations. Several projects in the Astoria FY23 AOP were previously presented as alternate operations in FY22 and were reviewed at that time by ODOT for potential impacts to cultural resources. No known historical or archaeological sites were found during that review. However, ODOT's review of historic maps and other information indicated that there was human activity near some of our planned operations that could have led to the presence of cultural artifacts today. Projects that were not covered prior to FY23 have been contracted out to a certified private contractor. This third party will review any remaining projects for potential impacts to cultural or historic resources.

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

Cultural Trail:

- Kingsmen (alternate) - Units 1 and 2
- Little Nicky Thin (alternate) - Unit 1
- Music Trail - Unit 1
- Tide Flats (alternate) – Units 1 and 2
- Spruce Run Trail¹ - Planning REI project

County Road:

- Tide Flats (alternate) – Unit 2

House:

- Music Trail – Unit 1 (within 1,000 feet)

¹GLO data shows a trail near the Spruce Run Trail that appears to correspond with the current Lower Nehalem County Road.

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 plots 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.

Wildlife Surveys

Northern Spotted Owl Surveys

For the FY23 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 FY23, 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 FY23. Examples include: The Astoria District will continue monitoring the western hemlock and Douglas-fir progeny sites off of Wageland road. The two sites are part of the Northwest Tree Improvement Cooperative. The main goal of this cooperative is to enhance forest productivity in developing genetically improved trees with higher yield and better wood quality. The western hemlock progeny will require tube maintenance and the Douglas-fir progeny needs some vegetation control along the fence line and needs treatment of bigleaf maple clumps inside the unit. Additionally, in the spring of 2022 the district will be planting some wildflower seed for pollinators in a small trial. The hope is to expand this project in 2023 after analyzing the results from 2022 and continued consulting with the ODF Entomologist, if approved as a strategic investment as part of the FY23 proposed district budget. If successful, we will consider linking this with the Oregon Bee Atlas to allow bee population sampling before and after habitat enhancement.

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 FY23, REI program staff will be working on the following planning efforts.

- Support the State Forest Division's Forest Management Plan work, HCP work and District AOP development and implementation.
- Reservation Feasibility Study- Study the potential to move Spruce Run, Beaver Eddy, and Gnat Creek Campgrounds to a campsite reservation system for the 2023 operations season.

- Recreation Standards Development- REI to work with a consultant to develop a recreation program standards manual for recreation facility infrastructure (ex. fire pits, information boards, picnic tables, site signs...etc.)
- Volunteer Program Manual- The REI program is undergoing an extensive re-evaluation of the volunteer program including onboarding, communication, and recruitment components. The deliverable of this process will be development of a volunteer manual that will be applied across all forests and programs

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 2023 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.

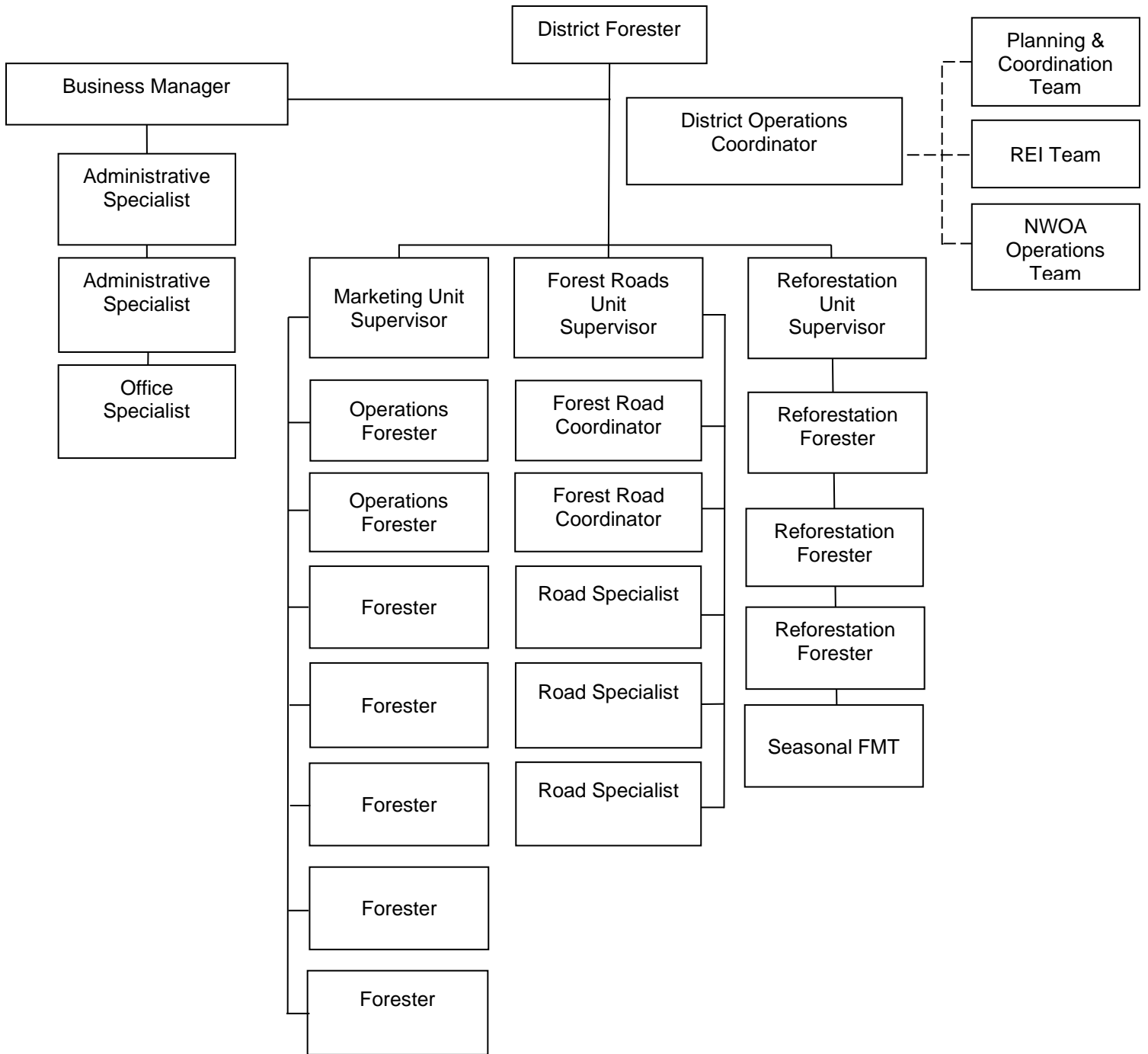
The Reforestation unit is responsible for all activities in forest plantations from the time the harvesting is complete until the new stand produces commercial timber. The activities of this unit include site preparation, trapping, tree planting, vegetation management, tree

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 Office Specialist. 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 Office Specialist 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**

Table A-1: TIMBER HARVEST OPERATIONS - FINANCIAL SUMMARY												
District: Astoria			Fiscal Year: 2023				Date: 06/21/2022					
Primary Operation	Fund %		County	Sale Quarter	Net Acres		Volume (MMBF)			Value		
	BOF	CSL			Partial Cut	Clear-cut	Conifer	Hard-woods	Total	Gross	Projects	Net
Cattle Drive	100%	0%	Clatsop	2	0	205	11.3		11.3	\$5,637,500	\$326,400	\$5,311,100
Cup of Joe	81%	19%	Clatsop	2	0	62	1.9		1.9	\$697,500	\$44,700	\$652,800
East West Thin	100%	0%	Clatsop	3	580	0	3.5		3.5	\$1,044,000	\$237,700	\$806,300
Grand Ball	100%	0%	Clatsop	2	0	167	10.9		10.9	\$5,698,875	\$355,200	\$5,343,675
Iron Fire	100%	0%	Clatsop	3	60	228	10.2	1.0	11.2	\$4,464,000	\$423,800	\$4,040,200
Jesters Boot	100%	0%	Clatsop	4	152	0	2.3		2.3	\$798,000	\$256,600	\$541,400
Larkin Thin	100%	0%	Clatsop	2	341	0	2.4		2.4	\$835,450	\$133,440	\$702,010
Music Trail	100%	0%	Clatsop	1	0	190	10.4	1.0	11.4	\$4,560,000	\$349,200	\$4,210,800
Swagger	100%	0%	Clatsop	1	0	119	7.1		7.1	\$3,748,500	\$31,540	\$3,716,960
Walk & Crawl	100%	0%	Clatsop	4	0	191	11.5		11.5	\$5,443,500	\$249,200	\$5,194,300
												\$0
												\$0
				Sub-total:	1,133	1,162	71.5	2.0	73.5	\$32,927,325	\$2,407,780	\$30,519,545
				Project WOC Sub-total:	0	0	0.0	0.0	0.0	\$0	\$590,000	-\$590,000
				Total:	1,133	1,162	71.5	2.0	73.5	\$32,927,325	\$2,997,780	\$29,929,545
Alternate Operations												
Humpty's Wall	100%	0%	Clatsop		0	126	3.8		3.8	\$1,304,100	\$174,300	\$1,129,800
Kingsmen	100%	0%	Clatsop		0	167	7.5		7.5	\$3,757,500	\$129,500	\$3,628,000
Little Nicky Thin	86%	14%	Clatsop		413	0	2.9		2.9	\$939,575	\$350,800	\$588,775
Mill Shack	100%	0%	Clatsop		0	290	8.4		8.4	\$2,523,000	\$206,100	\$2,316,900
Shingle Knob	100%	0%	Clatsop		0	182	4.9		4.9	\$2,091,000	\$93,600	\$1,997,400
Tide Flats	100%	0%	Clatsop		0	126	5.3		5.3	\$2,116,800	\$116,980	\$1,999,820
				Total:	413	891	33	0	33	\$12,731,975	\$1,071,280	\$11,660,695

Table A-2: PRIMARY HARVEST OPERATIONS - FOREST RESOURCE SUMMARY

District: Astoria

Fiscal Year 2023

Date: 12/21/2021

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	LVR/OFS Structures ²	Landscape Design LVR/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
Cattle Drive		-	-	X	-	-	-	-	X	X	-	-	-	-	X	-	-	X	-	-	-
Cup of Joe		X	-	-	-	-	-	-	X	X	-	-	-	-	X	-	-	-	-	-	-
East West Thin		-	-	-	-	-	X	X	-	-	-	-	-	-	X	-	-	X	-	X	-
Grand Ball		X	-	X	-	-	-	-	-	X	-	X	-	-	X	-	-	-	-	X	-
Iron Fire		-	-	X	X	-	-	-	-	X	-	-	-	-	X	-	-	X	X	-	-
Jesters Boot		X	-	X	X	X	-	-	X	X	-	-	-	-	X	-	-	-	-	-	-
Larkin Thin		-	-	-	X	X	X	-	X	-	-	-	-	-	X	-	-	-	-	X	-
Music Trail		-	-	-	-	-	-	-	X	-	-	-	-	-	X	-	-	-	X	-	-
Swagger		X	-	-	-	-	-	-	X	X	-	-	-	-	X	-	-	-	-	-	-
Walk & Crawl		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 (LVR/OFS)

⁴ The final decision on these projects will occur during sale preparation and inconspicuous 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	LVR/OFS Structures ²	Landscape Design LVR/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
Humptys Wall		X	-	X	-	X	-	-	-	-	-	-	-	-	X	-	X	X	-	X	-
Kingsmen		X	-	-	X	-	-	-	-	-	-	-	-	-	X	-	-	-	X	X	-
Little Nicky Thin		X	-	-	X	-	X	-	-	X	X	-	-	-	X	-	-	-	X	X	-
Mill Shack		-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
Shingle Knob		-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	X	-	-	-
Tide Flats		X	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	X	-

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

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

³ A 'X' indicate that the operation contains areas that have been designated for the development of complex forest stands (LVR/OFS)

⁴ The final decision on these projects will occur during sale preparation and inconspicuous 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: 2023			Date: 04/13/2022		
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										
Cattle Drive	0.1	\$2,700	9.4	\$141,700	\$182,000	\$326,400	\$5,637,500	6%						
Cup of Joe	0.2	\$12,200	2.5	\$32,500		\$44,700	\$697,500	6%						
East West Thin	0.7	\$42,700	11.3	\$195,000		\$237,700	\$1,044,000	23%						
Grand Ball	0.2	\$12,200	7.6	\$143,000	\$200,000	\$355,200	\$5,698,875	6%						
Iron Fire	1.0	\$61,000	10.6	\$137,800	\$225,000	\$423,800	\$4,374,000	10%						
Jesters Boot	0.4	\$24,400	3.5	\$70,200	\$162,000	\$256,600	\$798,000	32%						
Larkin Thin	0.3	\$14,900	6.3	\$118,300	\$240	\$133,440	\$835,450	16%						
Music Trail	1.1	\$67,100	6.0	\$126,100	\$156,000	\$349,200	\$4,560,000	8%						
Swagger	0.1	\$2,700	2.2	\$28,600	\$240	\$31,540	\$3,748,500	1%						
Walk & Crawl	0.4	\$24,400	5.6	\$124,800	\$100,000	\$249,200	\$5,443,500	5%						
Sub-total	4.5	\$264,300	65.0	\$1,118,000	\$1,025,480	\$2,407,780	\$32,837,325							
Sub-total WOC (see below)	0.0	\$0	0.00	\$0	\$0	\$590,000								
Total	4.5	\$264,300	65.0	\$1,118,000	\$1,025,480	\$2,997,780	\$32,837,325	9.1%						
Alternate Operations														
Humptys Wall	0.2	\$12,200	8.2	\$123,500	\$38,600	\$174,300	\$1,324,800	13%						
Kingsmen	1.1	\$67,100	4.8	\$62,400	\$0	\$129,500	\$3,757,500	3%						
Little Nicky Thin	0.7	\$42,700	19.6	\$308,100	\$0	\$350,800	\$939,575	37%						
Mill Shack	0.8	\$48,800	12.1	\$157,300	\$0	\$206,100	\$2,523,000	8%						
Shingle Knob	0.0	\$0	7.2	\$93,600	\$0	\$93,600	\$2,091,000	4%						
Tide Flats	0.7	\$35,900	3.1	\$80,600	\$480	\$116,980	\$2,116,800	6%						
Total	3.50	\$206,700	55.00	\$825,500	\$39,080	\$1,071,280	\$12,752,675	8.4%						
Road Projects Not Associated with Harvest Operations in this AOP:					Rock Crushing, Rd Maintenance, Gates	\$590,000								
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										
						\$0								
						\$0								
Total	0.0	\$0	0.0	\$0	\$0	\$0								

Table A-4: REFORESTATION AND YOUNG STAND MANAGEMENT SUMMARY								
District: Astoria			Fiscal Year: 2023			Date: 01/19/2022		
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
Site Prep - Broadcast Burning	0	\$0	\$0			\$0	\$0	\$0
Site Prep - Piling Burning*	1,100	\$7	\$7,700			\$0	\$1,100	\$7,700
Site Prep - Mechanical	0	\$0	\$0			\$0	\$0	\$0
Site Prep - Chemical - Aerial	1,044	\$75	\$78,300			\$0	\$1,044	\$78,300
Site Prep - Chemical - Ground	174	\$155	\$26,970			\$0	\$174	\$26,970
Initial Planting	1,218	\$153	\$186,354			\$0	\$1,218	\$186,354
Interplanting	200	\$120	\$24,000			\$0	\$200	\$24,000
Underplanting	0	\$0	\$0			\$0	\$0	\$0
Tree Protection - Barriers	0	\$33	\$0			\$0	\$0	\$0
Tree Protection - Direct Control	0	\$80	\$0			\$0	\$0	\$0
Release - Chemical - Aerial	600	\$55	\$33,000			\$0	\$600	\$33,000
Release - Chemical - Ground		\$0	\$0			\$0	\$0	\$0
Release - Manual	0	\$0	\$0			\$0	\$0	\$0
Precommercial Thinning	1,000	\$195	\$195,000			\$0	\$1,000	\$195,000
Pruning	0	\$0	\$0			\$0	\$0	\$0
Stocking Surveys*	3,700	\$1	\$3,700			\$0	\$3,700	\$3,700
Invasive Species	70	\$150	\$10,500		\$150	\$0	\$70	\$10,500
Roadside Vegetation Mngt	300	\$150	\$45,000		\$150	\$0	\$300	\$45,000
Other			\$1,000			\$0	\$0	\$1,000
Totals	9,406	--	\$611,524	\$0	--	\$0	\$9,406	\$611,524
* Work to be completed by ODF staff; cost are for materials only								
Projects Conducted by South Fork Crews (costs are for materials only)	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
Site Prep - Broadcast Burning	0	\$0	\$0			\$0	\$0	\$0
Site Prep - Piling Burning	118	\$7	\$826			\$0	\$118	\$826
Site Prep - Mechanical	0	\$0	\$0			\$0	\$0	\$0
Initial Planting	50	\$0	\$0			\$0	\$50	\$0
Interplanting	40	\$0	\$0			\$0	\$40	\$0
Underplanting	0	\$0	\$0			\$0	\$0	\$0
Tree Protection - Barriers	725	\$37	\$26,825			\$0	\$725	\$26,825
Tree Protection - Direct Control	700	\$0	\$0			\$0	\$700	\$0
Release - Manual	250	\$0	\$0			\$0	\$250	\$0
Precommercial Thinning	0	\$0	\$0			\$0	\$0	\$0
Pruning	0	\$0	\$0			\$0	\$0	\$0
Invasive Species	50	\$0	\$0			\$0	\$50	\$0
Other			\$0			\$0	\$0	\$0
Totals	1,933	--	\$27,651	\$0	--	\$0	\$1,933	\$27,651
Grant Funded Activities	Board of Forestry			Common School Forest Lands			District	
Project	Acres Planned	Average Cost*/Acre	Cost	Acres Planned	Average Cost*/Acre	Cost	Total Acres	Total Cost
			\$0			\$0	\$0	\$0

Table A-5: RECREATION SITE MANAGEMENT SUMMARY								
District: Astoria			Fiscal Year: 2023			Date: 01/22/2022		
Project	Construction Cost (Funding)		Improvement Cost (Funding)		Operations/Maint. (Funding)		Total Costs	Comments
	ODF (\$)	Other (\$)	ODF (\$)	Other (\$)	ODF (\$)	Other (\$)		
Campgrounds								
Henry Rierson Spruce Run			\$30,000		\$19,000		\$49,000	Sewer & Sanitary Service/Maintenance Spruce Run Flush Toilet Demolition (\$30,000)
Northrup Creek Horse Camp					\$10,000		\$10,000	Sewer & Sanitary Service/Maintenance
Gnat Creek Campground					\$3,500		\$3,500	Sewer & Sanitary Service/Maintenance
Beaver Eddy					\$2,500		\$2,500	Sewer & Sanitary Service/Maintenance
Viewpoint Campground						\$2,500	\$2,500	Sewer & Sanitary Service/Maintenance
Designated Dispersed Campsites								
Misc. Improvements					\$500		\$500	
Lower Nehalem							\$0	
Kerry Road							\$0	
Plympton Ridge Road							\$0	
North Fork Nehalem							\$0	
Day Use Areas								
Lost Lake					\$3,500		\$3,500	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					\$500		\$500	Information Board
Other Operations								
					FDF Total		\$69,500	
					Other Total		\$5,000	
					TOTAL		\$74,500	

Table A-6 RECREATION TRAIL MANAGEMENT SUMMARY

District: Astoria												Fiscal Year: 2023			Date : 01/22/2022	
Project	Construction Projects			Improvement Projects			Operations & Maintenance Projects			Total Costs	Comments					
	Miles	ODF (\$)	Other (\$)	Miles	ODF (\$)	Other (\$)	Miles	ODF (\$)	Other (\$)							
Non-Motorized																
Trail Maintenance							20.0	\$ 1,500		\$1,500	Material costs only					
Trail Sign Maintenance and Replacement								\$ 2,500		\$2,500	Recreation Staff. Fabrication and Installation by South Fork AIC Crews					
Spruce Run Creek Trail				4.0						\$0	Planning, Location , and Design for trail re-route. Recreation Staff					
Motorized																
McNary Loop Trail Bridge replacement*						\$ 35,000				\$35,000	Replacing 2 bridges. OHV Trail Crew Project (Carry over from FY22)					
OHV Equipment Maintenance									\$1,500	\$1,500	ATVs and side by side parts and tires					
Trail Maintenance and Improvement Supplies							30.0		\$5,000	\$5,000	Trail Signs, Bridge Material...etc.					
								FDF Total		\$4,000						
								Other Total		\$41,500						
								TOTAL		\$45,500						

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

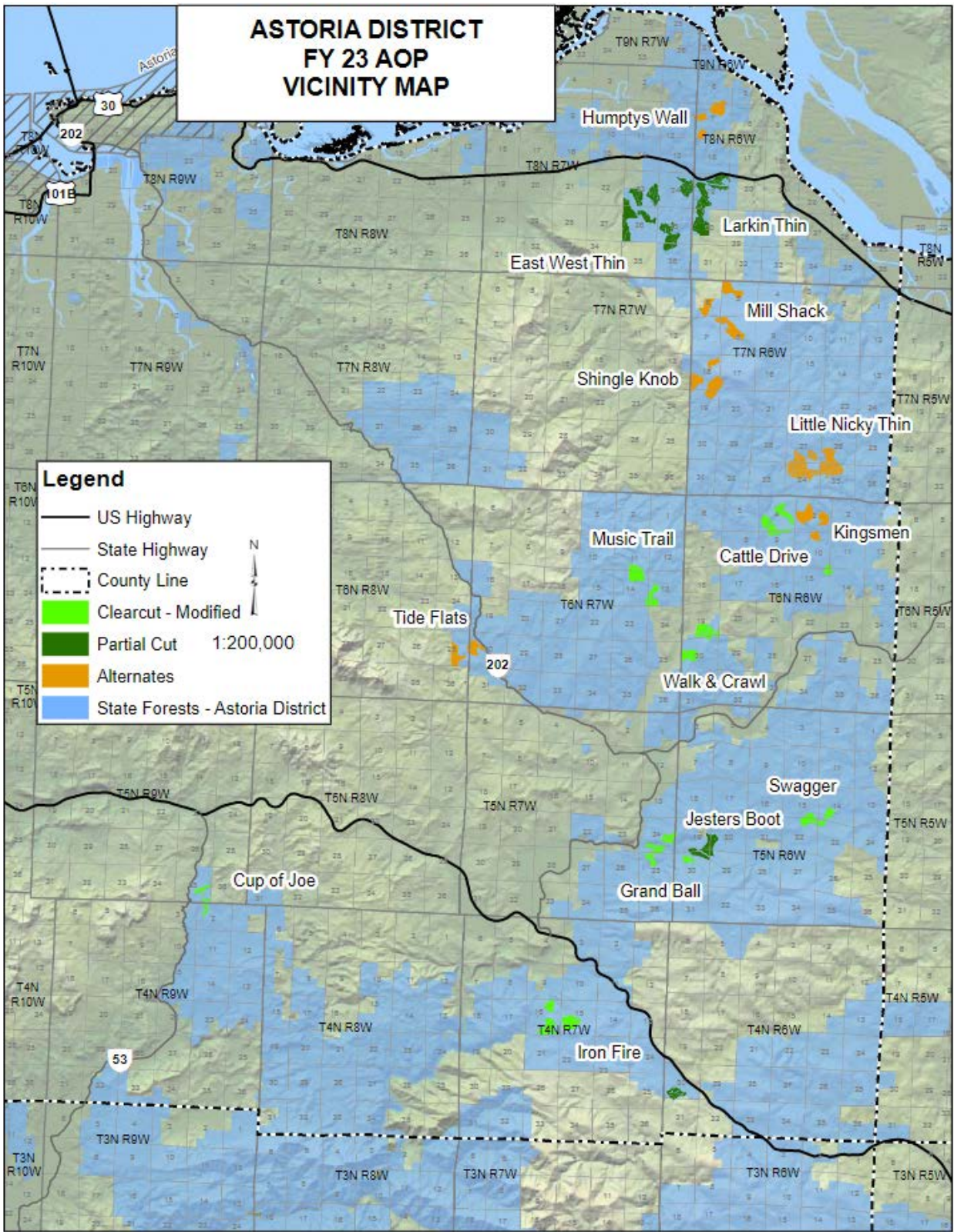
Table A-7 RECREATION GRANT MANAGEMENT SUMMARY

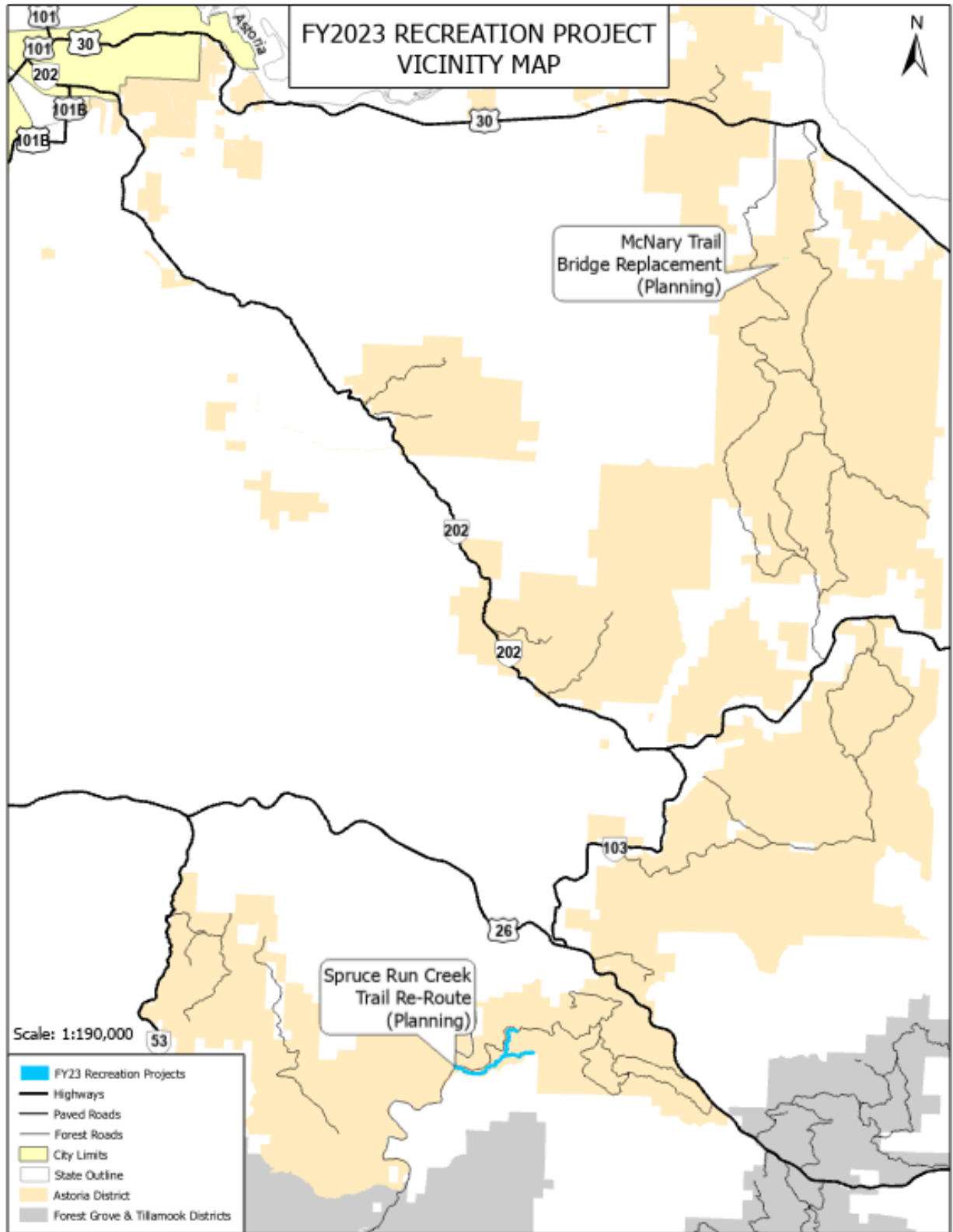
District: Astoria		Fiscal Year: 2023			Date : 01/22/2022			
Grant	Status	Award Date (actual or anticipated)	Recreation Leadership Approval	Goals/Purpose	Funding		Project Total	Comments
					Grant (\$)	Match (\$)		
Land and Water Conservation Fund/ EDA		Spring of 2024		Purchase and Installation of CXT Toilet Building	\$22,500	\$22,500	\$45,000	Exploring funding options
							\$0	
					Grants Total		\$22,500	
					Match Total		\$22,500	
					TOTAL		\$45,000	

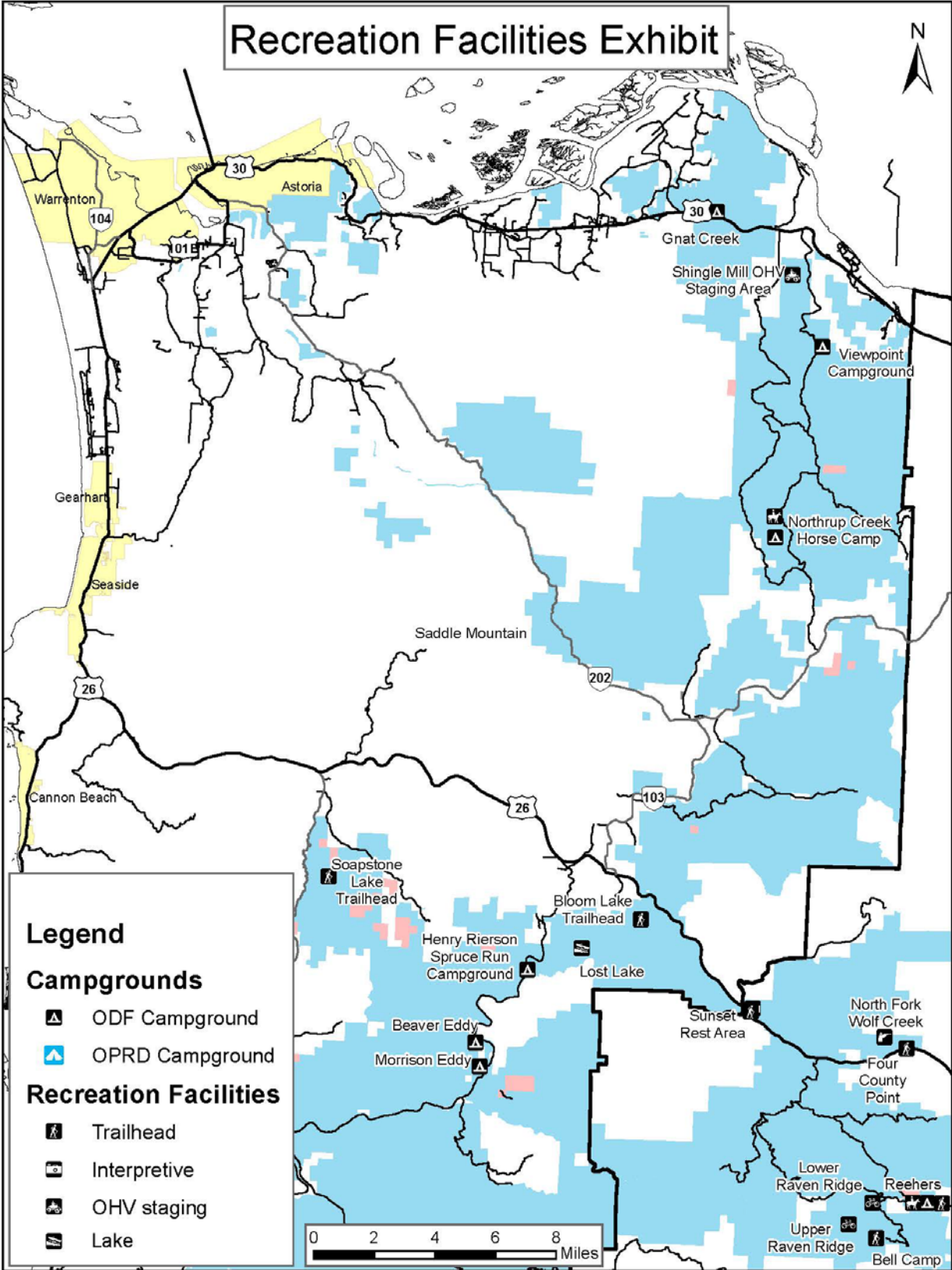
Appendix B

Vicinity Maps

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







Appendix C

Consultations with Other State Agencies

ODFW biologists were provided the Summary Document and Pre-Operations Reports for review. A follow up cooperator/specialist meeting was held to address questions and concerns. ODF&W expressed an interest in working with ODFs Stream Specialist on identifying potential stream enhancement projects and prescriptions throughout the coming fiscal year.

Appendix D

PUBLIC COMMENT PROCESS FOR THE FY22 ANNUAL OPERATIONS PLAN

The Oregon Department of Forestry issued a Press Release in March 2022, announcing a formal 45 day public comment period for the FY23 Annual Operations Plans from March 21, 2022 through May 5, 2022.

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

The following changes have been made to the Forest Grove FY23 AOP since the Public Comment Period:

Pre-Operation Reports:

- Additional detail was added to the Recreation Resource information on the East West Thin, Mill Shack and Cattle Drive Sales
- Easement information was updated on the Grand Ball Timber Sale
- Adjacent Operations was updated on Shingle Knob sale.
- Stream survey language was updated in the following sales
 - East West Thin
 - Mill Shack
 - Larkin Thin
 - Swagger
 - Music Trail
 - Kingsmen
- Updated language in Other Resource Considerations for the East West Thin sale to provide more information on the research site. Acres were modified to No Harvest - Other to reflect the extent of this area
- Updated acres, volume, and value of the Kingsmen sale to reflect contract stream survey changes
- Updated acres, volume, and value of the East West Thin sale to reflect changes from Research Area

Summary Document

- Minor formatting fixes on Summary Document and Individual Sale Reports
- Updated Road Access Language to be consistent across Division
- Updated Summary Sheets to match Pre-Op reports and better reflect work order costs
- Updated Table A-6 to reflect that trail maintenance costs are for materials only
- Updated Summary of Timber Harvest narrative to reflect planting a mix of “species” instead of a mix of “seedlings”

Below is a link to a summary of all comments received for the FY23 AOPs and ODF’s responses to those comments.

<https://www.oregon.gov/odf/documents/aboutodf/2023-aop-public-comment-summary.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 FY23 AOP.

Appendix G

Landscape Design – Astoria District Implementation Plan Minor Modification Notice

No modifications are proposed with the FY23 AOP.