



Oregon

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North Cascade District

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"STEWARDSHIP IN FORESTRY"

To: Andy White, Area Director
From: Steve Wilson, North Cascade 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 North Cascade 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 2021 North Cascade District Implementation Plan Major Revision (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.

Also included in the AOP is a minor modification of the District IP. Appendix G summarizes the changes made to the District Landscape Design. Changes of up to 240 acres annually are considered minor changes and can be approved by the District Forester concurrently with the AOP. The signing of this letter will approve these proposed changes.

As prepared, this AOP consists of 8.2 MMBF of harvest volume. This volume will be achieved through 230 acres of partial cut harvest and 156 acres of regeneration harvest. There are 3 primary operations and 3 alternate operations within this plan. The operations are estimated to generate gross revenues of approximately \$4,200,675 and net revenues of \$3,799,070 (\$2,339,322 in Linn County; and \$1,459,748 within Marion County). The volume is in alignment with the IP range of 8 - 15 MMBF for FY 2023.

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:



Steve Wilson

North Cascade District Forester

North Cascade District

FY 2023 ANNUAL OPERATIONS PLAN



NORTH CASCADE DISTRICT

FY 2023 ANNUAL OPERATIONS PLAN

OVERVIEW

This plan describes the activities and outcomes that Oregonians can expect to see on the Santiam State Forest for FY 2023. The Santiam State Forest is an actively managed forest, valued by many Oregonians for its mixture of environmental, economic, and social benefits. This plan supports this mixture and provides a balance of these benefits as required by Oregon Administrative Rule (OAR 629-035-0020). We strive to manage the forest sustainably, so that the benefits from the forest can be delivered into perpetuity. The forest harvesting is planned at a sustainable level; a level that our computer models suggest can be harvested year after year without reduction.

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 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) was 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.

A short summary of activities planned for the coming year:

- Planting approximately 957,000 trees on 2,290 acres and conducting vegetation and animal management activities on an additional 7,190 acres to ensure the survival and growth of these plantations.
- Conducting density surveys for northern spotted owls covering the majority of the district and surveying for the presence of fish habitat if operations include unclassified streams.
- Protecting streams and water resources through a series of buffers and seasonal restrictions.
- Stream improvement projects. An initial screen by ODF's Aquatic and Riparian Specialist suggests that there may be opportunities for stream enhancement in some of the planned sale areas. Further field reconnaissance will be completed by District and Division Staff, along with ODFW, to determine possible locations.
- 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 12 miles of road, constructing approximately 2.3 miles of road, and improving approximately 17 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.
- Reviewing District roads to develop plans to block or vacate roads to help manage trash dumping and target shooting.
- Beginning the planning cycle to harvest approximately 8.2 million board feet of timber volume, through modified clearcuts, and partial cuts generating revenue of an estimated \$3.4 million net value. This harvest level is in alignment with longer-term plans and modeling to ensure it is sustainable and promotes the development of a mixture of habitat types across the landscape.
- Operating and maintaining developed facilities in a safe, clean, and responsible manner.
- Providing a safe and clean environment for the numerous dispersed activities which occur across the forest – hunting, camping, angling, sight-seeing, target shooting, swimming, mushroom picking, etc.
- Maintaining, managing, and patrolling the 6 miles of motorized and 26 miles of non-motorized trail networks, striving to protect the trail investments, provide for user safety, address developing trail issues, and protect water quality
- Providing a firewood cutting program as timber sales are completed
- Supporting ongoing research on the district, in partnership with research cooperatives and universities.

TABLES OF CONTENTS

| | |
|--|-----------|
| SUMMARY | 3 |
| INTRODUCTION | 7 |
| INTEGRATED FOREST MANAGEMENT OPERATIONS | 8 |
| Timber Harvest Operations | 8 |
| Overview of Timber Harvest Operations..... | 8 |
| Harvest Operations within Terrestrial Anchor Sites and Aquatic Anchors | 10 |
| Summary of Timber Harvest Operations by Basin..... | 11 |
| Forest Roads Management | 13 |
| Overview..... | 13 |
| Road Construction | 14 |
| Road Improvement..... | 14 |
| Road Access Management | 14 |
| Road Maintenance | 14 |
| Management of Rock Source/Supply | 15 |
| Land Surveying | 15 |
| Young Stand Management..... | 15 |
| Seedlings / Nurseries | 16 |
| Site Preparation..... | 16 |
| Planting | 16 |
| Tree Protection | 17 |
| Vegetation Management – Release Treatments | 17 |
| Pre-Commercial Thinning (PCT)..... | 18 |
| Pruning..... | 18 |
| Stocking Surveys..... | 18 |
| Invasive Species | 18 |

| | |
|--|-----------|
| Roadside Vegetation Management..... | 19 |
| Recreation Management..... | 19 |
| Overview of Recreation Management | 19 |
| Facilities | 20 |
| Motorized (OHV) Trails | 20 |
| Volunteer Program and Partnerships..... | 22 |
| Unplanned Activities..... | 23 |
| Other Integrated Forest Management Projects..... | 23 |
| Aquatic & Riparian Management | 23 |
| Land Exchange | 24 |
| Law Enforcement and Public Safety | 24 |
| Firewood Cutting Program..... | 24 |
| Non-Timber Forest Products | 24 |
| Planning | 25 |
| Archaeological, Historical and Cultural Resources | 25 |
| Forest Inventory..... | 25 |
| Wildlife Surveys | 26 |
| Research and Monitoring..... | 26 |
| Recreation, Education, and Interpretation (REI) Program Planning | 27 |
| Other Planning Operations | 27 |
| Public Information and Education | 28 |
| Administration | 28 |
| APPENDICES | 30 |
| A. Summary Table | 31 |
| B. Maps | 39 |
| C. Consultation with Other Agencies..... | 44 |
| D. Public Involvement | 46 |

E. Pre-Operations Reports47

F. Land Management Classification System48

G. Landscape Design Minor Modification49

INTRODUCTION

This annual operation plan (AOP) outlines activities on state-owned forestland managed by the North Cascade District for Fiscal Year 2023 (FY23), which begins July 1, 2022, and ends June 30, 2023. By law, ODF must manage state forests for economic, environmental, and social benefits. This plan outlines a balanced approach to meeting this mandate as well as the goals, strategies, and objectives of the *NW Oregon Forest Management Plan (FMP)* and the *North Cascade District 2021 Implementation Plan (IP)*.

The AOP document is divided into five major categories: Integrated Forest Management; Planning and Information Systems; Public Information and Education; Administration and Appendices. Appendix F describes any modifications to the Forest Land Management Classification System. Appendix G describes any modifications to the North Cascade District's Landscape Design*

A 45-day public comment period on these activities was held from March 21 - May 5, 2022. The District Forester reviewed and considered all comments before approving this plan. Changes made to the AOP since the public comment period are discussed in Appendix D.

Unfortunately, some of the Santiam State Forest remains closed to the public due to resource protection and safety concerns caused by the devastating 2020 fires and some areas may not be re-opened in the next few years. As part of our commitment to transparency, we invite you to take a look at our public WebApp map ([Santiam Restoration Public Viewer](#)) – that includes information on the fire effects (including post-fire imagery), and information and maps of planned harvest activities.

The North Cascade District has been working diligently to mitigate safety risks and restore forest resources, which has allowed for five large geographic areas of the forest to be reopened to the public.

- Stout Creek: Limited public access to non-motorized use only
- South Block: Full public access
- Sevenmile Road: Full public access
- Niagara Road: Full public access
- Crooked Finger: Full public access

Maps of all current closures and open areas as well as specific road systems where access can be obtained and general guidelines for these areas are available at this website: [Restoring the Santiam State Forest](#)

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 West Oregon 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 harvest operations will be reviewed by ODF’s wildlife biologists, aquatic specialist, geotechnical engineer, road engineer, and planning manager, as well as fish and wildlife biologists from the Oregon Department of Fish and Wildlife. All of the operations will be 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 8.2 million board feet in volume, generate gross revenues of approximately \$4,200,675 and net revenues of \$3,399,070. The goal is to achieve harvest within the ranges that were set in the North Cascade District 2021 Implementation Plan (see Table 1). Under normal circumstances, the volume proposed in an AOP will be within the target range. However, some events may result in an AOP volume that is outside 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 FY23 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 North Cascade District Financial Summary Table (Appendix A, Table A-1) and vicinity map (Appendix B) for more detail on expected outputs from planned timber sales.

Table 1. Annual Operations Plan objectives compared to annual objectives identified in the North Cascade District 2021 Implementation Plan. Harvest values for partial cut and regeneration are acres, Volume is in MMBF.

| Harvest Objectives | FY21 IP Harvest Ranges | | 2023 AOP |
|------------------------------|------------------------|------|----------|
| | Low | High | |
| Volume (MMBF) | 8 | 15 | 8.2 |
| Partial Cut Harvest (Acres) | 0 | 800 | 230 |
| Regeneration Harvest (Acres) | 0 | 750 | 156 |

Table 1 shows the proposed acres by harvest type. The 156 acres of regeneration harvest planned for FY23 represents <1 percent of the district acreage. All of the regeneration harvest acres will be designed as modified clearcuts. There is one first entry partial cut sale in young stands which will help improve the growing conditions within these stands. 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.

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. Green 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 wind events of December 2006, November 2007 and December 2007 made significant contributions to snag and down woody debris levels despite the salvage of some large concentrations. The residual decadence in turn led to scattered bark beetle outbreaks resulting in additional tree mortality during 2009-2011. The majority of beetle caused mortality is located within the Mad Creek and Rock Creek Basins. Based on these observations (and evaluation of upcoming timber sale areas), snag creation may only be considered on planned sales outside of those basins. In September 2020, a series of catastrophic wildfires impacted approximately half of the Santiam State Forest causing extensive damage to the forest and producing many residual snags and down woody debris components across the landscape where older stands are present. Due to this now extensive legacy snag and down wood component, snag creation will generally not be pursued within basins that were affected by the 2020 fires. If snags are found in an area during sale layout efforts are made to leave them on the landscape where safety permits.

Harvest Operations within Terrestrial Anchor Sites and Aquatic Anchors

Supplemental Species of Concern Strategies provide for fish and wildlife species of concern. 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 (TAS)

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. The entire Rhody Lake TAS was within the 2020 fire perimeters. Approximately 83% of the TAS was burned with the majority in a moderate or high burn severity. There are no planned regeneration harvests within the TAS as shown in Table 2. Table 2 also shows the cumulative operations in TAS since the strategy was adopted (AOPs 2012 through 2023).

Table 2. Summary of Harvest Operations within TAS (Acres and Percent)

| Acres within TAS | Current AOP (FY 2023) | | Cumulative Harvest (Since FY 2012) | |
|----------------------------------|--------------------------|-------------|---------------------------------------|-------------|
| | Modified Clearcut | Partial Cut | Modified Clearcut | Partial Cut |
| Rhody Lake TAS (1,376 ac) | 0 | 0 | 0 | 269 |
| % of Acres | 0% | 0% | 0% | 19.5% |

Aquatic Anchors (AAs)

The AAs became effective July 1, 2011. 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 3. Summary of Harvest Operations within AA (acres and percent)

| Acreages | Current AOP (FY 2023) | | Cumulative Harvest (since FY 2012) | |
|--|--------------------------|-------------|---------------------------------------|-------------|
| | Modified Clearcut | Partial Cut | Modified Clearcut | Partial Cut |
| Rock Creek (12,263 ac) | 0 | 33 | 271 | 1,290 |
| % of Acres | 0% | <1% | 2.2% | 10.5% |
| Sardine Creek (3,514 ac) | 0 | 0 | 0 | 0 |
| % of Acres | 0% | 0% | % | 0% |
| All Aquatic Anchors (15,777 ac) | 0 | 33 | 271 | 1,290 |
| % of Acres | 0% | 0% | 1.7% | 8.2% |

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 seven management basins on the North Cascade District. 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 4. Summary of Timber Harvest Operations in each basin. All values are in net acres.

| Basin | 2023 AOP | |
|---------------|-------------|----------------------|
| | Partial Cut | Modified Clearcut |
| Butte Creek | 0 | 59 |
| Cedar Creek | 0 | 0 |
| Crabtree | 0 | 97 |
| Green | 0 | 0 |
| Mad Creek | 197 | 0 |
| Rock Creek | 33 | 0 |
| Scattered | 0 | 0 |
| Totals | 230 | 156 |

Butte Creek Basin

Captain Kirk (Primary): This is a modified clearcut totaling 59 acres. The harvest will take place in 80 to 84-year-old Douglas-fir and western hemlock. The current stand condition is Understory and the majority of the Desired Future Condition is non-complex. There are approximately 5 acres with a Desired Future Condition of complex that will be modified to General. This minor modification is necessary to construct a road and yarder settings to make Unit 1 operationally feasible. The modification area is outside of the draft HCA (See appendix G for more

information). Following completion of harvest, the unit will be planted with species native to the geographic area.

Approximately 0.23 miles of road will be constructed to facilitate harvest and 6.5 miles of road will be improved.

Cedar Creek Basin

No sales are planned for this basin.

Crabtree Basin

Crab Kake (Primary): This is a modified clearcut totaling 97 acres that will harvest 84 year-old stands of Douglas-fir and western hemlock trees. The current condition of the stands being harvested is Understory and the Desired Future Condition is non-complex. Following the completion of harvest the sale area will be planted with species native to the geographic area.

Approximately 1.2 miles of road are planned to be constructed to facilitate the harvest.

Last West (Alternate): This is a 67 acre modified clearcut of 85 year-old Douglas-fir. The current stand condition is Understory and the Desired Future Condition is for 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 0.29 miles of road will be constructed to facilitate the harvest.

Green Basin

No sales are planned for this basin.

Mad Creek Basin

Turnidge Creek Thin (Primary): A six-unit first entry partial cut thinning totaling 230 acres. The sale is in 33 to 47-year-old stands comprised primarily of Douglas-fir trees with a secondary component of Bigleaf Maple, and western hemlock. The current stand condition is Understory, and the Desired Future Condition is for non-complex stands.

197 acres of the sale are within the Mad Creek Basin. The other 33 acres are within the Rock Creek Basin. The 33 acres within the Rock Creek Basin are also within the Rock Creek Aquatic Anchor.

Approximately 1.3 miles of new road are planned to be constructed to facilitate this partial cut sale.

Recreation resources exist within Units 3, 4, and 5. and the Santiam Horse Camp borders the northern boundary of Sale Area 5. The Marketing Unit and Roads 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 trails and facilities and mitigate public use safety concerns. Opportunities will be looked at for facility improvements that could be performed during or post timber sale operations.

The sale may be visible from Hwy 22. This sale is a thinning so the visual impact should be minimal.

Kaupper Top (Alternate): This is a 79 acre modified clearcut of a 95 year-old Douglas-fir and western hemlock stand. The current stand condition is Understory. The Desired Future Condition is for a non-complex stand. Following the completion of harvest, the unit will be planted with a mixture of species native to the geographic area.

Approximately 0.4 miles of road will be constructed to facilitate the harvest and approximately 1.7 miles of road is planned to be improved in conjunction with this sale.

The sale may be visible from Highway 22. This will be taken into consideration while developing a green tree retention strategy for the sale.

A domestic water intake is located downstream of the harvest. A no harvest buffer will be posted along this stream.

Mad Merrill (Alternate): This is a 111 acre modified clearcut of a 87 year-old Douglas-fir and western hemlock stand. The current stand condition is Understory and the Desired Future Condition is for non-complex. Following the completion of harvest, the unit will be planted with a mixture of species native to the geographic area.

Approximately 0.3 miles of road are planned to be constructed to facilitate the harvest. Approximately 3.9 miles of road are planned to be improved.

Approximately 1.5 acres of the sale may be visible from Highway 22. This small area should not make a large impact to the scenic resources but will be taken into consideration when developing a green tree retention strategy for the sale.

Rock Creek Basin

Turnidge Creek Thin (Primary): A portion of this sale (33 acres) is located within the Rock Creek basin. See sale description under the Mad Creek Basin.

Scattered Basin

No sales are planned for this basin.

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.

Road Construction

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

Road Improvement

Road improvement projects will use ODF road inventory protocols to assess existing road drainage, stability, surfacing and vegetation conditions, and to aid in the development of transportation system improvement plans. The majority of this improvement work will be performed on collector and spur roads and will consist of installing new cross drains and disconnect culverts, as well as, replacing culverts, cleaning ditch-lines, updating fish passage culverts, road widening, road surfacing and sidecast pullback sections of road.

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.

Currently some of the Santiam State Forest is closed to the public due to resource protection and safety concerns caused by the devastating 2020 fires. Re-opening will occur in phases as it is safe to do so and ODF can protect forest resources. The district will continue re-opening of areas within the forest as it becomes safe to do so.

Five large geographic areas of the forest have been reopened to the public.

- Stout Creek: Limited public access to non-motorized use only
- South Block: Full public access
- Sevenmile Road: Full public access
- Niagara Road: Full public access
- Crooked Finger: Full public access

Maps of all current closures and open areas as well as specific road systems where access can be obtained and general guidelines for these areas are available at this website: [Restoring the Santiam State Forest](#)

Road Maintenance

Roads will be maintained as necessary to protect water quality and the road system asset value. Road maintenance is accomplished under timber sale contracts for roads used for hauling forest products 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, 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 and recreation opportunities as well as safe public travel and fire protection access. 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 primary Timber Sale road projects; however, these plans are subject to change as timber sale project work is laid out:

- Captain Kirk
- Crab Kake
- Turnidge Creek Thin

The District will continue to explore new rock sources in FY23.

Land Surveying

The fires destroyed property line markers in many areas. These need to be resurveyed or refreshed prior to harvest. Survey work may be accomplished by utilizing the licensed surveyor on staff with ODF or may be done utilizing a contracted licensed surveyor. Land surveying may be necessary on the following sales:

- Turnidge Creek Thin – To Be Determined (TBD)
- Kaupper Top (Alternate) – 0.25 miles

Young Stand Management

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

This section describes the types of reforestation and young stand management activities that will occur in 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 may be completed by utilizing work crews from the Oregon Santiam Correctional Facility. These crews work on activities such as tree protection, mechanical hand release, planting, and noxious weed control.

Seedlings / Nurseries

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 are grown at forest nurseries throughout the Pacific Northwest to meet the reforestation needs. Seedlings are grown in three different stock types: 1) plug seedlings or one-year-old container grown seedlings, 2) plug ones which are grown one year in a container followed by a second year in a bare root bed, and 3) straight bare root seedlings grown from seed in a bare root bed and then transplanted to a lower stocking bare root bed. The budget accounts for a string of growing costs over several years rather than just those costs of the trees being grown and planted in the winter. 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 will be accomplished by burning piles of slash that result from the harvest.
- 2) Mechanical: Mechanical site preparation is the use of mechanized equipment to rearrange or alter forest slash and/or disturb the forest surface layer and vegetation to create seedbeds or planting spots. Planting spots are created in a fairly even distribution. Dense slash concentrations created during timber harvest may be mechanically piled as part of the timber sale contract.
- 3) Chemical: Chemical site preparation involves the application of herbicides to control competing vegetation before planting or natural regeneration and during the early stages of seedling establishment. Applications occur by two primary methods: aerially by helicopter or ground based with the use of backpack application equipment. The objective is to control brush species to allow stand establishment and maintain 2-3 years free of significant competing vegetation. The actual site preparation plan will be prepared in late spring when harvest unit availability and brush development is better known.

Planting

Tree planting operations are conducted for various reasons. These include meeting Forest

Practices Laws, quickly establishing a new stand of trees after timber harvesting and increasing species diversity in the area and across the landscape. Planting is comprised of matching the appropriate species and stock type to the planting site. Forest health strategies are addressed on a site-specific basis when the planting plan is developed. Site specific prescriptions will incorporate a site-appropriate species mix factoring in seed zone, location, elevation, aspect, presence of root disease, the Desired Future Condition of the site, and hotter, drier conditions as a result of climate change where possible. To accomplish this, a mixture of species and planting densities are utilized to provide for a healthy, productive, and sustainable forest ecosystem over time that is 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: This approach will be utilized to accomplish reforestation goals in areas that have difficult access or safety concerns for planting due to remaining hazard trees and have enough surviving green trees in the overstory to provide seed. This approach will help promote a natural succession pathway that includes a delayed response to conifer regeneration and allow for perennial shrubs and hardwoods to colonize these areas.

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 to help 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 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 dominate to hardwood dominate. In this treatment, 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, 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.

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 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 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 be 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, 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 Vegetation Management

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.

Recreation Management

Overview of Recreation Management

Recreation use has been taking place on the Santiam 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 repairing and improving infrastructure damaged in the 2020 Labor Day wildfires, maintaining current trails and facilities, 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

The Recreation program manages the following developed facilities on the North Cascade District:

- 5 campgrounds
- 1 OHV staging area
- 7 trailheads and parking areas
- Dispersed camping and target shooting opportunities

All open 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 North Cascade District are identified and described in the following table (Table 5).

Table 5. Developed Facility and Dispersed Campsite Projects

| Project Type | Project Name | Work Resources | Project Description |
|----------------------|--|--|---|
| Facility Maintenance | Santiam Horse Camp Informational Kiosk Replacement | Recreation Staff, South Fork AIC Crews | Replacement of a 3-panel informational kiosk |
| Facility Maintenance | Rocky Top Trailhead Information board and site sign replacement | Recreation Staff, South Fork AIC Crews | Replacement of information board and site sign damaged by 2020 wildfire |
| Facility Maintenance | Natural Arch Trailhead Information board and site sign replacement | Recreation Staff, South Fork AIC Crews | Replacement of information board and site sign damaged by 2020 wildfire |
| Facility Maintenance | Monument Peak Trailhead Site Sign Replacement | Recreation Staff, South Fork AIC Crews | Replacement of trailhead site sign damaged by 2020 wildfire |

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.

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 North Cascade District are identified and described in the following table (Table 6).

Table 6. Non-Motorized Trail Projects

| Project Type | Project Name | Work Resources | Project Description |
|---------------------------------------|---|--|--|
| Trail Construction | Shellburg Falls Re-route | Recreation Staff, Santiam Correctional Institution AIC Crews | Trail re-route construction to replace damaged trail infrastructure by 2020 wildfire |
| Trail Construction | Butte Creek Falls Trail | Recreation Staff, Santiam Correctional Institution AIC Crews | Trail construction to connect Butte Creek Falls Campground to Butte Creek Falls Trailhead |
| Trail Bridge Replacement | Shellburg Falls Trail Bridge Replacement | Recreation Staff, Santiam Correctional Institution AIC Crews | Trail bridge replacement of a hiking only trail bridge that was damaged by 2020 wildfire. |
| Trail Bridge Replacement | August Mountain Trail Bridge Replacement | Recreation Staff, Santiam Correctional Institution AIC Crews | Replacement of a hiking, equestrian, and mountain biking trail bridge. |
| Trail Development (Planning) | High Lakes Area Trail System | Recreation Staff | Develop of a recreation plan for the High Lakes Recreation Area |
| Trail Development (Planning) | Shellburg Falls Mountain Bike Trail System Planning | Recreation Staff, Volunteers | Development of a Mountain Bike Trail System Plan in the Shellburg Falls Recreation Area. |
| Trail Bridge Replacement – (Planning) | Turnidge Creek Trail Bridge Replacement | Recreation Staff, Santiam Correctional | Determine if bridge is to be replaced in current location or if trail should be re-routed. |

| | | | |
|--|--|--------------------------|--|
| | | Institution AIC Crews | |
|--|--|--------------------------|--|

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 North Cascade District (6 miles OHV and 26 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 North Cascade 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 and Partnerships

Volunteers contribute labor, supplies, and expertise to the Recreation, Education, and Interpretation Program. Volunteers have partnered with ODF to construct new trails, maintain infrastructure, and preserve natural resources.

ODF will re-engage volunteers and trail adoptees in the restoration and repair of trails and recreation facility infrastructure impacted by the wildfires when areas are deemed safe for public use.

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.

Education and Interpretation

In an effort to collect resources proactively for future interpretive opportunities in relation to the Santiam State Forest wildfire impacts and restoration efforts, the Recreation, Education, and Interpretation Program will complete the following in FY 2023:

- Work to record historical evidence and interpretive resources and data to preserve the record and provide meaning to the Labor Day Fires in relation to the Santiam State Forest. Resources include, artifacts, oral histories, policies, procedures, contracts, photographs, videos, key messages/stories, Tillamook Burn comparisons, maps, media reports, and staff/community member contact information etc.
- Develop a system for monitoring forest cyclic and seasonal post fire (change over time) that provides staff and the public and opportunity to contribute.
- Work towards establishing a database and catalogue resources in an archival collection that is searchable for future use.
- Draft a narrative that includes fire impacts and recovery as it relates to the Santiam State Forest, ODF staff, and surrounding communities.
- Compile a list of future interpretive opportunities for consideration during the development of the REI Program Interpretive Master Plan.

Unplanned Activities

The activities above represent project and program work items for the fiscal year. However, the agency and the Recreation program often receive requests from non-profit and commercial businesses to utilize the forest for their trail use events or business ventures. In fiscal year 2023 the REI Program will not be accommodating any additional event activities.

Other Integrated Forest Management Projects

Aquatic & Riparian Management

All 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) at a minimum. An objective of State Forests' aquatic resources is to maintain, enhance, and restore properly functioning aquatic and riparian functions. This is achieved primarily through riparian buffer strategies specific to the aquatic resource characteristics such as presence of fish, stream size, and flow duration.

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 listed species with Critical Habitat Designations found within the District include Winter Steelhead and Spring Chinook.

Fish Distribution Surveys: Streams are classified in part as supporting anadromous fish, game fish species, or by fish species that are listed as threatened or endangered under either federal or state Endangered Species Acts (Type F) or not supporting fish (Type N). Riparian protection measures depend in part on the presence of fish. Many streams in the past have been surveyed with electro-fishing techniques that established the upper extent of fish use. However, many small streams have not yet been surveyed for fish presence. Streams needing classification in the AOP will be evaluated using a Physical Habitat Survey. This physical survey 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: Following the development of the Santiam State Forest Restoration Plan, approximately 100 acres of riparian areas affected by the 2020 wildfires were identified as high priority for assessment and possible restoration. In FY23, a riparian monitoring strategy will continue to evaluate natural regeneration along with invasive species presence. Where necessary, invasive species will be treated within riparian areas, and they may be replanted with an appropriate seedling mix, targeted to accelerate stream recovery. Recovery goals include riparian shade, future large wood recruitment, sediment filtration and routing, and nutrient input from leaf litterfall. Planting prescriptions will be site specific and utilize available seedlings. Actual number of acres planted will depend on available budget and seedling availability. All aquatic restoration prioritization will consider feedback from, and may be in collaboration with, ODFW, local watershed councils, and other technical experts.

Potential Stream Projects may be associated with the following Timber Sales:

- Captain Kirk
- Kaupper Top (Alternate)

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.

Land Exchange

The process for a potential purchase or land exchange with Weyerhaeuser began in FY21 and will continue in FY23. Weyerhaeuser owns approximately 400 acres directly adjacent to the ODF Shellburg parcel just to the east. Acquiring this parcel will help create a safer public access point to the Shellburg Falls trail network and add 3 more waterfalls to the Recreation Area.

Law Enforcement and Public Safety

Currently the district participates in a Cooperative Law Enforcement program in Linn County and Marion County with other private timber companies.

Firewood Cutting Program

The primary objective of the District Firewood Cutting Program is to provide a source of firewood from State Forests to the public for personal use. The permit fee for personal firewood cutting is \$20 for two cords. Permits are issued for a period of three weeks. Historically firewood cutting has only been allowed outside the months of fire season. The District typically sells 50-75 woodcutting permits each year. Firewood permits will not be issued where there is a public use closure on the Santiam State Forest.

Non-Timber Forest Products

The North Cascade District has suspended its commercial Miscellaneous Forest Products permit program due to lack of staffing resources. Previously, forest products such as mushrooms, vine maple, and salal were available for commercial permit. Many of these

products are available throughout the forest landscape and can be found in the different stand structures on the forest. The permit program policy will be re-evaluated in FY23.

The district does issue personal use permits, consistent with Northwest Oregon Area policy. Gathering of these products is allowed provided that the products and quantities are not removed or exceeded as outlined in ORS 164.813. No personal use permits will be issued where there is a public use closure on the Santiam State Forest.

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 North Cascade FY23 AOP were previously presented as primary or alternate operations in recent years 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 reviewed the 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:

- Railroad Grade: Kaupper Top (Alternate), Mad Merrill (Alternate)
- Road and Railroad Grade: Turnidge Creek Thin

Forest Inventory

In FY22 retying work was done on the North Cascade SLI inventory for stands within the 2020 fire perimeter. This process has set the stands up to be re-inventoried in FY23.

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. However, the 2020 fires on the North Cascade District impacted Lidar-based inventory in two ways: lidar data collected in summer 2020 may no longer match conditions within the burn perimeter and the setup of permanent field plots monitored in partnership with the USFS FIA program was delayed. ODF is applying for grants to collect new lidar data through various funding

opportunities. FIA contractors began setting up permanent plots in FY21 and will continue that work into FY23.

Wildlife Surveys

Northern Spotted Owl Surveys

For the FY23 AOP, the District will continue the northern spotted owl (NSO) survey program, 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.

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

The district is actively evaluating past timber sales for compliance with the Oregon Forest Practices Act. The North Cascade District will use the information to assess and improve compliance.

Additionally, the district cooperates with Weyerhaeuser and Oregon State University on a study to help determine the abundance of the Oregon Slender Salamander on the western slopes of the Cascade Range. The study will also help to determine if there is a significant difference in the amount of down-woody debris, the Oregon Slender Salamander's primary habitat, pre- and post-harvest. This cooperative study was originally supposed to last 5 years, which ended in 2020. The study was extended for another year in 2021 and is currently being explored for further funding to keep the study going. The district is still waiting to receive the results and utilize them for analysis on future planning.

In cooperation with ODFW and their bat monitoring program as well as the BLM, the district has had 3 sound meters installed to monitor various species of bats that are found on the Santiam State Forest. The BLM has also installed a sound meter on an adjacent parcel near ODF ownership. This study is ongoing, and we will be receiving more data in the coming years.

In cooperation with ODFW the district also has a blacktail deer study which will occur in the Rock Creek drainage. The study is to determine population densities and the overall health of the blacktail deer population.

USGS has been given a permit to install monitoring equipment on Sardine Creek on the Santiam State Forest. Stream gages will measure precipitation, velocity, and stage as part of the USGS post-burn monitoring program.

Prioritization of research, monitoring, and adaptive management programs on the North Cascade District will be a product of the Santiam State Forest Restoration Plan. In addition, there is great interest among our stakeholders to learn from the 2020 fires. ODF will coordinate with agency, industry, nonprofit, and academic partners to design monitoring, apply for grants, and implement studies. Field work started in FY22 and will continue in FY23 with setting up initial plots to measure baseline conditions. Examples of studies may include tracking stand development, structure, and function in areas with different burn severities that received active management (e.g. aerial seeding, riparian underplanting, or post-fire harvest) versus passive management (i.e. natural regeneration).

In FY 22, ODF began a post-fire riparian monitoring study to evaluate the effects of three riparian treatments in moderate to high severity burned areas – no treatment, conifer only planting, and mixed species tree and shrub planting. Natural regeneration, species diversity, solar irradiance, snags, soil condition, and downed wood will continue to be monitored in FY23.

ODF Biologists are coordinating with ODFW for a Post-Wildfire Biodiversity Monitoring Study. This study will enable ODF and ODFW to understand how wildlife communities respond to changing habitat conditions and ecological succession in post-fire landscapes and provide valuable baseline data compared to unburned areas. The ODFW study will be expanded into the Santiam burn area and ODF will put effort into ODFW's study rather than ODF creating a separate study as was previously planned.

This type of research can inform understanding of how the Santiam State Forest's wildlife species are recovering within areas impacted by the 2020 Labor Day fires.

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.
- 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

Other Planning Operations

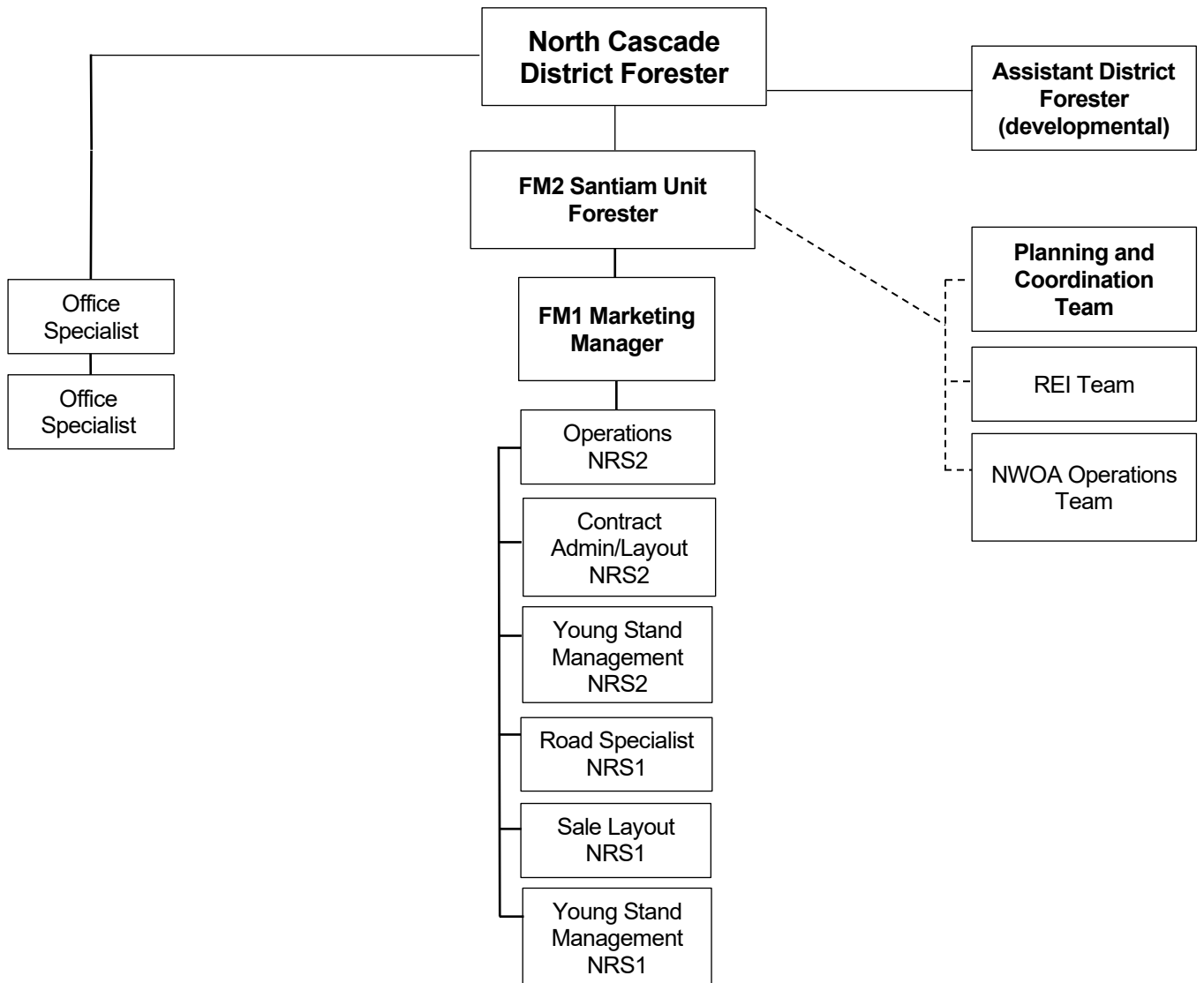
- The District will continue to conduct Hydrological Connectivity Surveys on the road systems as time allows.
- In conjunction with the REI Team, the District will provide input and context to recreation planning.
- The District will also continue to participate in FMP and HCP reviews as needed.

Public Information and Education

Public information and involvement activities will include review and input regarding the FY23 Annual Operations Plan and the 2020 Labor Day fires.

Administration

There are 6 permanent positions whose full-time function is to manage State Forest land on the District and 3 developmental positions who are assisting with management of State Forest land. In addition, the District is 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 2023 Annual Operations Plan. The State Forest Unit is responsible for ensuring that all management approaches, activities, and projects for timber marketing, road management and young stand management 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.



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 Maps

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 on the ODF website.

Appendix A

Summary Tables

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

TIMBER HARVEST OPERATIONS - FINANCIAL SUMMARY

District: North Cascade

Fiscal Year: 2023

Date: 06/01/2022

| Primary Operation | Fund % | | County | Sale Quarter | Net Acres | | Volume (MMBF) | | | Value | | |
|-------------------------------|--------|-----|---------------|--------------|-------------|------------|---------------|------------|------------|---------------------|-------------------|---------------------|
| | BOF | CSL | | | Partial Cut | Clear-cut | Con-ifer | Hard-woods | Total | Gross | Projects | Net |
| Captain Kirk | 100% | 0% | Marion (100%) | 2 | 0 | 59 | 2.8 | 0.1 | 2.9 | \$1,614,800 | \$155,052 | \$1,459,748 |
| Crab Kake | 100% | 0% | Linn (100.0%) | 1 | 0 | 97 | 3.4 | 0.2 | 3.6 | \$1,960,750 | \$139,553 | \$1,821,197 |
| Turnidge Creek Thin | 100% | 0% | Linn (100.0%) | 4 | 230 | 0 | 1.6 | 0.1 | 1.7 | \$625,125 | \$107,000 | \$518,125 |
| Sub-total: | | | | | 230 | 156 | 7.8 | 0.4 | 8.2 | \$ 4,200,675 | \$ 401,605 | \$ 3,799,070 |
| Project WOC Sub-total: | | | | | | | | | | | \$ 400,000 | |
| Total: | | | | | 230 | 156 | 7.8 | 0.4 | 8.2 | \$ 4,200,675 | \$ 801,605 | \$ 3,399,070 |

| Alternate Operation | Fund % | | County | Sale Quarter | Net Acres | | Volume (MMBF) | | | Value | | |
|---------------------|--------|-----|---------------|--------------|-------------|------------|---------------|------------|-----------|------------------|----------------|------------------|
| | BOF | CSL | | | Partial Cut | Clear-cut | Con-ifer | Hard-woods | Total | Gross | Projects | Net |
| Kaupper Top | 100% | 0% | Linn (100.0%) | ALT | 0 | 79 | 3.0 | 0.0 | 3.0 | \$1,629,650 | \$145,645 | \$1,484,005 |
| Last West | 100% | 0% | Linn (100.0%) | ALT | 0 | 67 | 3.6 | 0.2 | 3.8 | \$2,096,600 | \$140,500 | \$1,956,100 |
| Mad Merrill | 100% | 0% | Linn (100.0%) | ALT | 0 | 111 | 3.9 | 0.0 | 3.9 | \$2,117,500 | \$116,004 | \$2,001,496 |
| Total: | | | | | 0 | 257 | 10 | 0 | 11 | 5,843,750 | 402,149 | 5,441,601 |

PRIMARY HARVEST OPERATIONS - FOREST RESOURCE SUMMARY

District: North Cascade

Fiscal Year 2023

Date: 06/01/2022

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

| Primary Harvest Operations | Unit (Optional) | Forest Health Issues ¹ | Invasive Species | LYR/OFS Structures ² | Landscape Design LYR/OFS ³ | Install/Replace Culverts on Fish Bearing / Perennial Streams | Harvesting within 100' of Fish Bearing Stream | Domestic Water Source | Potential Stream Habitat Improvement ⁴ | Within Aquatic Anchor | Within Terrestrial Anchor | Operating within a NSO Provincial Circle (BA Required) | Operating within a MIMA (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 | |
|----------------------------|-----------------|-----------------------------------|------------------|---------------------------------|---------------------------------------|--|---|-----------------------|---|-----------------------|---------------------------|--|---------------------------------------|--|---|------------|--|------------------|--------------------|------------------|---------------------------|-------------------------------|
| Captain Kirk | | - | - | x | x | - | - | - | x | - | - | - | - | - | - | - | - | - | - | - | - | 5 acre DFC minor modification |
| Crab Kake | | - | - | - | - | x | - | - | - | - | - | - | - | - | x | - | - | - | - | - | - | |
| Turnidge Creek Thin | | - | - | - | - | - | x | - | - | x | - | - | - | - | - | - | - | x | x | x | | |

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

² A 'x' indicates the harvest operation contains stands that were in pre-fire Layered or Older Forest Stand Structure

³ A 'x' indicate that the operation contains areas that have been designated for the development of complex forest stands (LYR/OFS); operations planned in stands with a pre-fire stand condition of layered or older forest structure are burned and no longer contain living forest components needed for those stand structure types.

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

⁵ This table lists harvest operations (units or log haul routes) that are adjacent to streams that are known to contain T&E fish.

ALTERNATE HARVEST OPERATIONS - FOREST RESOURCE SUMMARY

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

| Alternate Harvest Operations | Unit (Optional) | Forest Health Issues ¹ | Invasive Species | LYR/OFS Structures ² | Landscape Design LYR/OFS ³ | Install/Replace Culverts on Fish Bearing / Perennial Streams | Harvesting within 100' of Fish Bearing Stream | Domestic Water Source | Potential Stream Habitat Improvement ⁴ | Within Aquatic Anchor | Within Terrestrial Anchor | Operating within a NSO Provincial Circle | Operating within a MIMA (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 |
|------------------------------|-----------------|-----------------------------------|------------------|---------------------------------|---------------------------------------|--|---|-----------------------|---|-----------------------|---------------------------|--|---------------------------------------|--|---|------------|--|------------------|--------------------|------------------|---------------------------|
| Kaupper Top | | - | - | - | - | - | - | x | x | - | - | - | - | - | - | - | - | - | x | x | |
| Last West | | - | x | - | - | - | - | - | - | - | - | - | - | - | x | - | - | - | - | - | |
| Mad Merrill | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | x | x | |

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

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

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

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

⁵ This table lists harvest operations (units or log haul routes) that are adjacent to streams that are known to contain T&E fish.

FOREST ROADS SUMMARY

District: North Cascade

Fiscal Year: 2023

Date: 06/01/2022

| 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 | | | | | |
| Captain Kirk | 0.23 | \$28,532 | 6.50 | \$126,520 | \$0 | \$155,052 | \$1,614,800 | 9.6% | |
| Crab Kake | 0.81 | \$105,341 | 0.00 | \$0 | \$34,212 | \$139,553 | \$1,960,750 | 7.1% | Other - Maintenance on Roads in Crabtree Block |
| Turnidge Creek Thin | 1.30 | \$107,000 | 0.00 | \$0 | \$0 | \$107,000 | \$625,125 | 17.1% | |
| Sub-total | 2.3 | \$240,873 | 6.5 | \$126,520 | \$34,212 | \$401,605 | \$4,200,675 | 9.6% | |
| Sub-total WOC (see below) | 0.0 | \$0 | 10.4 | \$400,000 | \$0 | \$400,000 | \$0 | | |
| Totals | 2.3 | \$240,873 | 16.9 | \$526,520 | \$34,212 | \$801,605 | \$4,200,675 | 19.1% | |

Alternate Operations

| | | | | | | | | | |
|--------------|------------|-----------------|------------|------------------|------------------|------------------|--------------------|-------------|-------------------------------------|
| Kaupper Top | 0.40 | \$32,277 | 1.70 | \$38,744 | \$74,624 | \$145,645 | \$1,629,650 | 8.9% | Other - Crush rock in the MC500 Pit |
| Last West | 0.29 | \$14,205 | 0.00 | \$0 | \$126,295 | \$140,500 | \$2,096,600 | 6.7% | Other - Hammond 400 Pit Improvement |
| Mad Merrill | 0.30 | \$43,574 | 3.90 | \$72,430 | \$0 | \$116,004 | \$2,117,500 | 5.5% | |
| Total | 1.0 | \$90,056 | 5.6 | \$111,174 | \$200,919 | \$402,149 | \$5,843,750 | 6.9% | |

| | |
|---|------|
| Road Projects Not Associated with Harvest Operations in this AOP: | None |
|---|------|

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 | | | | | |
| Sardine Creek Road Repair | | | 3.46 | \$220,000 | | \$220,000 | FD | Marion County | Post-fire hazard tree mitigation and road repair. |
| Niagara ML Rocking | | | 5.04 | \$130,000 | | \$130,000 | FD | Marion County | |
| N70 Road Rocking | | | 1.94 | \$50,000 | | \$50,000 | FD | Marion County | |
| Total | 0.00 | \$0 | 10.44 | \$400,000 | \$0 | \$400,000 | | | |

REFORESTATION AND YOUNG STAND MANAGEMENT SUMMARY

District: North Cascade

Fiscal Year: 2023

Date: 06/01/2022

| 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 |
| Site Prep - Piling Burning | | | \$0 | | | \$0 | \$0 | \$0 |
| Site Prep - Mechanical | | | \$0 | | | \$0 | \$0 | \$0 |
| Site Prep - Chemical - Aerial | 1,110 | \$85.00 | \$94,350 | 40 | \$85.00 | \$3,400 | \$1,150 | \$97,750 |
| Site Prep - Chemical - Ground | 1,180 | \$165.00 | \$194,700 | 20 | \$165.00 | \$3,300 | \$1,200 | \$198,000 |
| Initial Planting | 2,290 | \$200.00 | \$458,000 | 60 | \$200.00 | \$12,000 | \$2,350 | \$470,000 |
| Interplanting | 200 | \$210.00 | \$42,000 | | | \$0 | \$200 | \$42,000 |
| Underplanting | | | \$0 | | | \$0 | \$0 | \$0 |
| Tree Protection - Barriers | | | \$0 | | | \$0 | \$0 | \$0 |
| Tree Protection - Direct Control | 1,940 | \$80.00 | \$155,200 | 60 | \$80.00 | \$4,800 | \$2,000 | \$160,000 |
| Release - Chemical - Aerial | 1,790 | \$70.00 | \$125,300 | 60 | \$70.00 | \$4,200 | \$1,850 | \$129,500 |
| Release - Chemical - Ground | 800 | \$160.00 | \$128,000 | | | \$0 | \$800 | \$128,000 |
| Release - Manual | | | \$0 | | | \$0 | \$0 | \$0 |
| Precommercial Thinning | 200 | \$175.00 | \$35,000 | | | \$0 | \$200 | \$35,000 |
| Tube Maintenance | | | \$0 | | | \$0 | \$0 | \$0 |
| Stocking Surveys | 4,000 | | \$0 | | | \$0 | \$4,000 | \$0 |
| Invasive Species | 200 | \$120.00 | \$24,000 | | | \$0 | \$200 | \$24,000 |
| Roadside Vegetation Mngt | | | \$0 | | | \$0 | \$0 | \$0 |
| Other | | | \$0 | | | \$0 | \$0 | \$0 |
| Totals | 13,710 | -- | \$1,256,550 | 240 | -- | \$27,700 | \$13,950 | \$1,284,250 |

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

| Projects Conducted by Santiam Correctional Facility (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 |
| Site Prep - Piling Burning | 220 | \$6.80 | \$1,500 | | | \$0 | 220 | \$1,500 |
| Site Prep - Mechanical | | | \$0 | | | \$0 | 0 | \$0 |
| Initial Planting | | | \$0 | | | \$0 | 0 | \$0 |
| Interplanting | | | \$0 | | | \$0 | 0 | \$0 |
| Underplanting | | | \$0 | | | \$0 | 0 | \$0 |
| Tree Protection - Barriers | 25 | \$380.00 | \$9,500 | | | \$0 | 25 | \$9,500 |
| Tree Protection - Direct Control | 300 | | \$0 | | | \$0 | 300 | \$0 |
| Release - Manual | | | \$0 | | | \$0 | 0 | \$0 |
| Precommercial Thinning | | | \$0 | | | \$0 | 0 | \$0 |
| Tube Maintenance | 62 | | \$0 | | | \$0 | 62 | \$0 |
| Invasive Species | | | \$0 | | | \$0 | 0 | \$0 |
| Other - Road Brushing | 50 | | \$0 | | | \$0 | 50 | \$0 |
| Totals | 437 | -- | \$9,500 | 0 | -- | \$0 | 437 | \$9,500 |

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

RECREATION SITE MANAGEMENT SUMMARY

District: North Cascade

Fiscal Year: 2023

Date : 06/01/2022

| Project | Construction Cost (Funding) | | Improvement Cost (Funding) | | Operations/Maint. (Funding) | | Total Costs | Comments |
|--|-----------------------------|------------|----------------------------|------------|-----------------------------|------------|--------------|---|
| | ODF (\$) | Other (\$) | ODF (\$) | Other (\$) | ODF (\$) | Other (\$) | | |
| Campgrounds | | | | | | | | |
| Butte Creek Falls Campground | | | | | \$550 | | \$550 | Vault Toilet Pumping |
| Rock Creek Campground | | | | | \$3,000 | | \$3,000 | 2 Portable Toilets (5 mo) |
| Santiam Horse Camp | | | | | \$1,100 | | \$1,100 | Vault Toilet Pumping |
| Santiam Horse Camp Information Kiosk | | | \$ 3,000 | | | | \$3,000 | South Fork AIC Crews will fabricate and install 3 panel information kiosk |
| Designated Dispersed Campsites | | | | | | | | |
| Rhody Lake | | | | | \$500 | | \$500 | Vault Toilet Pumping |
| Day Use Areas | | | | | | | | |
| Shellburg Falls Day Use Area | | | \$750 | | \$500 | | \$1,250 | Vault Toilet Pumping , Site Sign Fabrication and Installation |
| Trailheads | | | | | | | | |
| Monument Peak Trailhead | | | \$3,500.00 | | \$1,500 | | \$5,000 | 1 Portable Toilet (5 mo), Site Sign (500), 3 panel kiosk (3000) South Fork Fabrication and Installation |
| Butte Creek Falls Trailhead | | | | | \$550 | | \$550 | Vault Toilet Pumping |
| Rocky Top and Natural Arch Trailhead Information Boards and and Site Signs | | | \$1,500 | | | | \$1,500 | 2 Trailhead Information boards and 2 Site signs. South Fork Fabrication and Installation |
| Crooked Finger OHV Staging Area | | | | | | | \$0 | Maintenance |
| Interpretive Sites | | | | | | | | |
| | | | | | | | \$0 | |
| Other Operations | | | | | | | | |
| Maintenance and Operation Supplies | | | | | \$9,000 | | \$9,000 | Supplies and services for developed and dispersed facility operations - Well water testing (500), county well reviews, well maintenance, fee envelopes, dust abatement, hazard tree removal, firewood, abandoned vehicle removal, tools and equipment, sign repair and replacement, invasive species and weed removal, general operations supplies, trail maps and brochures. |
| | | | | | | | FDF Total | \$25,450 |
| | | | | | | | Other Total | \$0 |
| | | | | | | | TOTAL | \$25,450 |

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

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

RECREATION TRAIL MANAGEMENT SUMMARY

District: North Cascade

Fiscal Year:

2023

Date : 06/01/2022

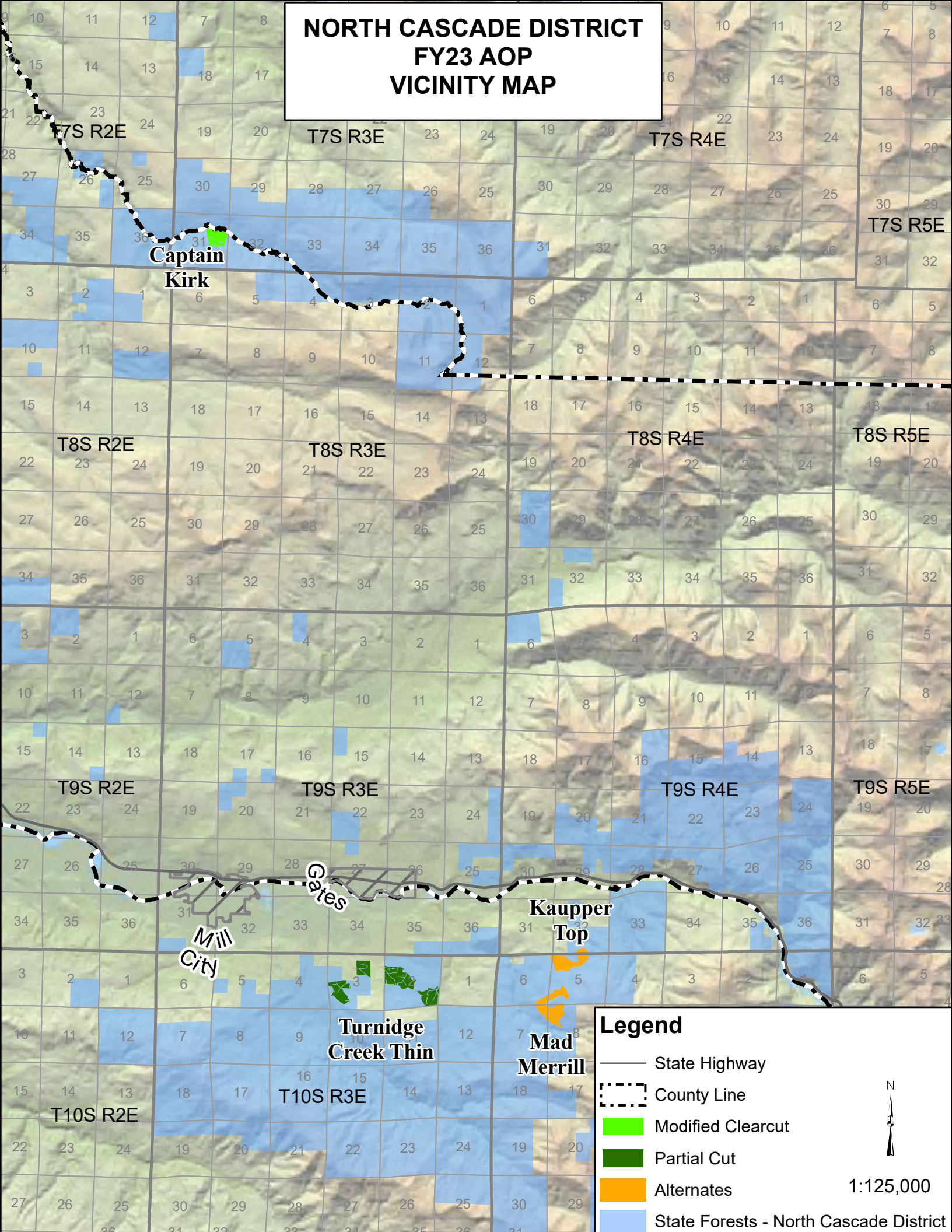
| Project | Construction Projects | | | Improvement Projects | | | Operations & Maintenance Projects | | | Total Costs | Comments |
|--|-----------------------|----------|------------|----------------------|----------|------------|-----------------------------------|----------|------------|--------------|--|
| | Miles | ODF (\$) | Other (\$) | Miles | ODF (\$) | Other (\$) | Miles | ODF (\$) | Other (\$) | | |
| Non-Motorized | | | | | | | | | | | |
| Monument Peak Trail System Maintenance | | | | | | | 8.8 | \$500 | | \$500 | Material costs only |
| Turnidge Creek Trail Bridge Replacement (Planning) | | | | | \$10,000 | | | | | \$10,000 | Planning and design of a 20 foot bridge or pipe. Potential re-route of trail |
| Shellburg Falls MTB Trail System (Planning) | | | | | | | | | | \$0 | Recreation Staff |
| High Lakes Trail System (Planning) | | | | | | | | | | \$0 | Recreation Staff |
| Shellburg Falls Trail Re-route | | | | | | | 0.5 | | | \$0 | Recreation Staff, AIC Crews, and Volunteers (FEMA Project) |
| August Mountain Trail Bridge Replacement | | | | | \$15,000 | | | | | \$15,000 | 30' Bridge Replacement. Recreation Staff, AIC Crews |
| Butte Creek Falls Trail | | | | | | | 0.7 | | | \$0 | Trail Construction. Recreation Staff, AIC Crews |
| Shellburg Falls Trail Bridge Replacement | | | | | | \$35,650 | | | | \$35,650 | Removal, Material, Permits, and AIC Labor (FEMA Project) |
| Trail location and design supplies | | | | | | \$1,000 | | | | \$1,000 | Pin Flags, Flagging...etc. |
| Motorized | | | | | | | | | | | |
| Maintenance | | | | | | | 6.0 | | | \$0 | OHV Program Staff |
| | | | | | | | | | | FDI Total | \$25,500 |
| | | | | | | | | | | Other Total | \$36,650 |
| | | | | | | | | | | TOTAL | \$62,150 |

Appendix B

Vicinity Maps

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

NORTH CASCADE DISTRICT FY23 AOP VICINITY MAP



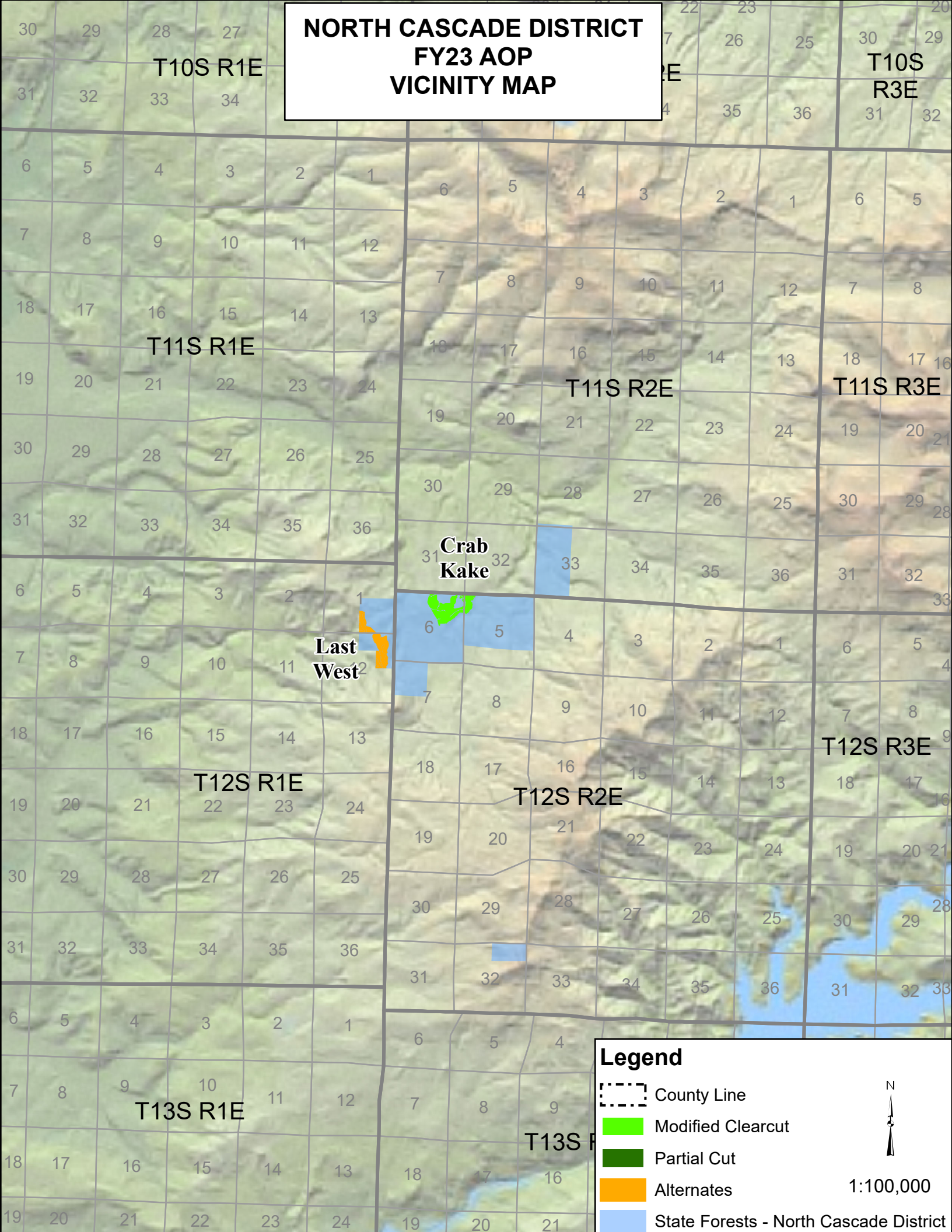
Legend

- State Highway
- County Line
- Modified Clearcut
- Partial Cut
- Alternates
- State Forests - North Cascade District








1:125,000

NORTH CASCADE DISTRICT FY23 AOP VICINITY MAP



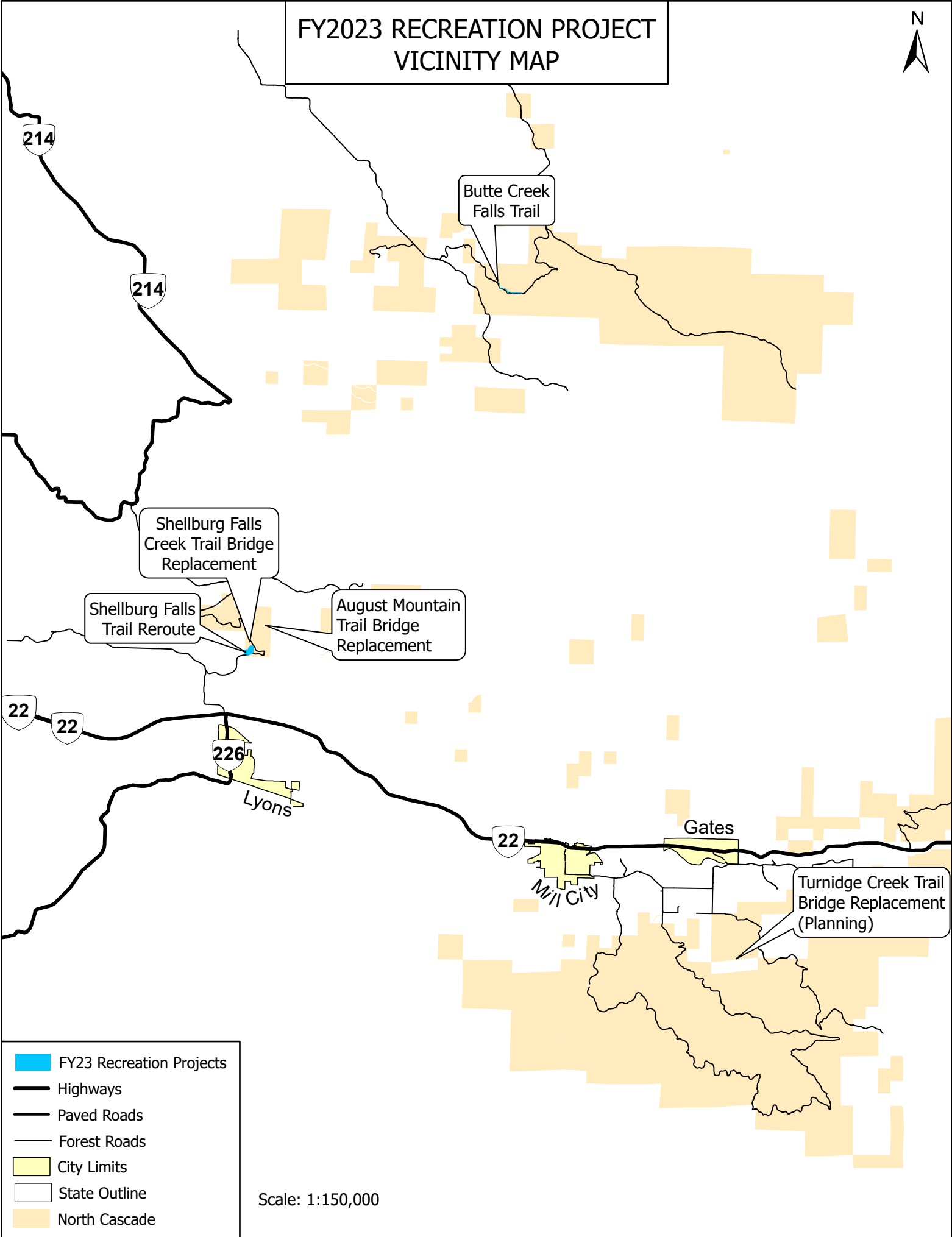
Legend

-  County Line
-  Modified Clearcut
-  Partial Cut
-  Alternates
-  State Forests - North Cascade District



1:100,000

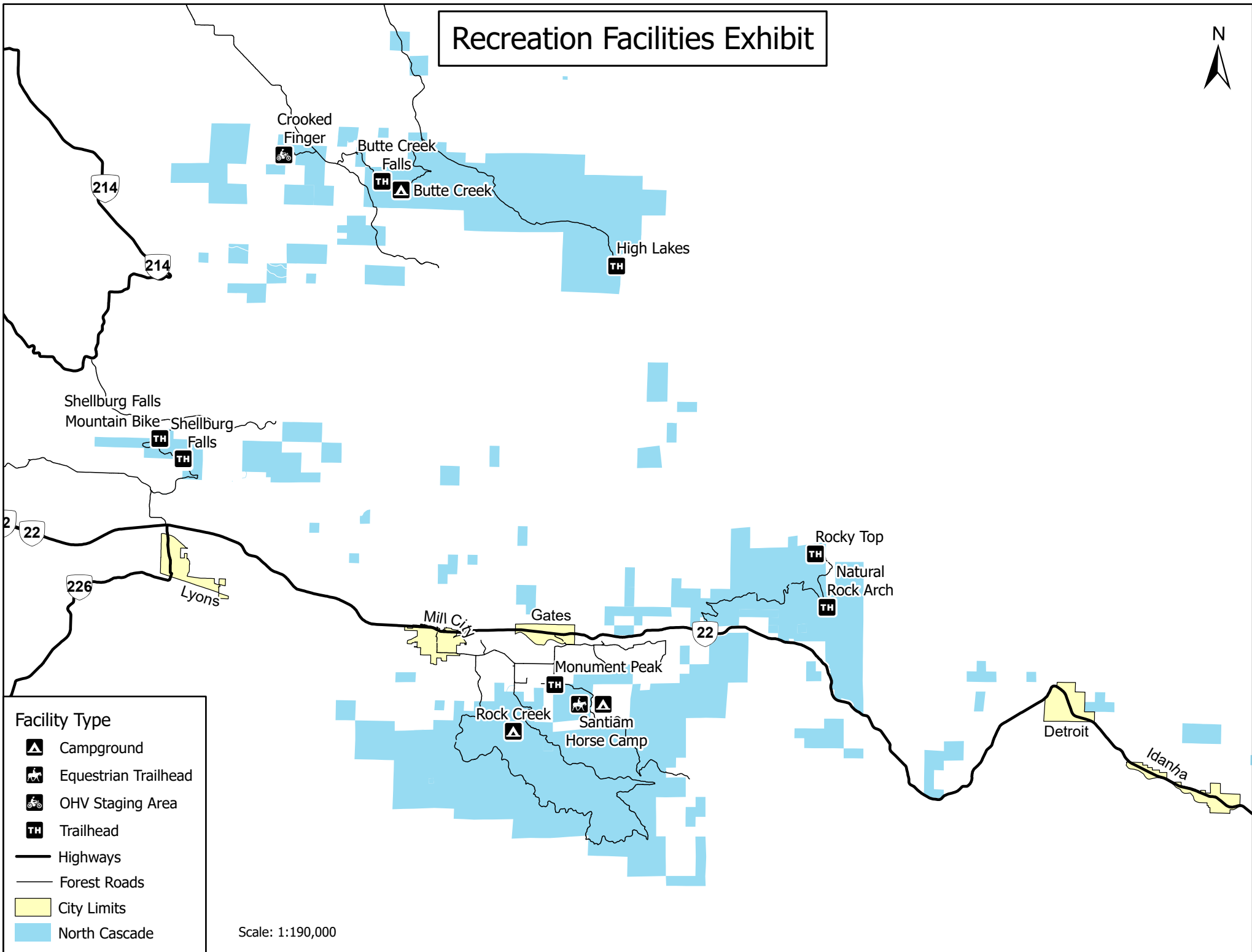
FY2023 RECREATION PROJECT VICINITY MAP



- FY23 Recreation Projects
- Highways
- Paved Roads
- Forest Roads
- City Limits
- State Outline
- North Cascade

Scale: 1:150,000

Recreation Facilities Exhibit



Facility Type

- Campground
- Equestrian Trailhead
- OHV Staging Area
- Trailhead

- Highways
- Forest Roads
- City Limits
- North Cascade

Scale: 1:190,000

Appendix C

Consultations with Other State Agencies

Oregon Department of Fish and Wildlife (ODFW):

ODFW fish and wildlife biologists were provided the harvest units for review. The following is a summary of their feedback:

What is the process to coordinate support from ODFW for seeding roads after construction? Would ODF consider forage seeding (legume mix) newly constructed road shoulders for Grouse forage?

ODFW can work with individual Operations Coordinators at each district to coordinate seed mix and seed spreading.

Does ODF ever plant willow for beaver habitat?

ODF currently doesn't actively plant willow within riparian management areas due to lack of sunny sites needed along streams. There is a pilot project thinning out alder to allow enough light for willow introduction. This is a trial project and there is consideration on whether removal of existing shade is an appropriate action. Planting of willow is occurring in some riparian management areas within the Beachie Creek Fire Perimeter to help get it re-established.

ODFW would like to be present when available during field review of potential stream enhancement projects.

The ODF Riparian Specialist will coordinate with ODFW on field days.

ODFW suggested more irregular boundaries on harvest units to promote more edge effect for habitat.

ODF will look for opportunities where irregular boundaries are a possibility. Most operation edges are tied to stream buffers, roads, and ridges.

ODFW asked about the design of stream crossings for fish passage on recreation projects.

ODF's Riparian Specialist reviews all recreation projects against Tech Note 4 of the Oregon Forest Practices Act which was written to meet ODFW standards.

Does ODF track the amount of use at recreation sites?

Currently ODF does not track the number of users. However, there is a current pilot project which should help develop mechanisms for measuring recreation use. These mechanisms can then be used for monitoring projects involving recreation.

ODFW asked about the status of the post-fire wildlife camera project.

ODF Biologists are now coordinating with ODFW for a Post-Wildfire Biodiversity Monitoring Study rather than a separate wildlife camera project. ODF will put effort into

ODFW's study with ODFW likely putting plots within the burn area of the Santiam State Forest.

Appendix D

Public Involvement and Summary of Changes

The Oregon Department of Forestry issued a Press Release in March 2022, announcing a formal 45-day public comment period for the North Cascade FY 23 Annual Operation Plan from March 21, 2022, through May 5, 2022.

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

The following changes have been made to the North Cascade District FY23 AOP since the Public Comment Period:

Summary Document:

- Minor language and content edits for consistency with other District's Summary Documents:
 - Changes to section and heading names for consistency with other Districts
 - Added road construction miles to summary section
 - Language changes to the Forest Road Access management section
 - Removed discussion of Archeological Review from Appendix C. The language is now in the section, "Archaeological, Historical and Cultural Resources"
 - Additional details in the Summary of Timber Harvest Operations by Basin section

Summary Tables:

- Removed mention of staff time from Table A-6

Pre-Operation Reports and Maps:

- Added recreation trails to the Turnidge Creek pre-op map.

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 – North Cascade District Implementation Plan Minor Modification Notice

As described in the North Cascade District 2021 Implementation Plan (IP), the district has mapped a Landscape Design that designates 35% of the district acres in a future complex condition, either Layered (LYR) or Older Forest Structure (OFS). The term General management (GEN) or non-complex will be used to describe the Desired Future Condition (DFC) of stands that are not planned for OFS or LYR in the North Cascade District’s landscape design. The DFC landscape design for the North Cascade District was done using a “broad brush” method incorporating a variety of landscape design principles and strategies. The original Landscape Design mapping process used stand types instead of geographical breaks to define the future complex stand boundaries with the intent that the boundaries could be fine-tuned during the planning process. Actual boundaries between complex and general DFC’s are determined on the ground during the sale planning and preparation process. Minor changes in the DFC landscape design may occur on an annual basis due to a variety of reasons. These reasons may include; refinement of the DFC boundary on the ground, forest health issues, and fitting a stand to a more appropriate or realistic pathway based on additional data collected through Stand Level Inventory (SLI) and field observations during the AOP planning process. Changes of up to 240 acres annually are considered minor changes and can be approved by the District Forest concurrent with the Annual Operation Planning process.

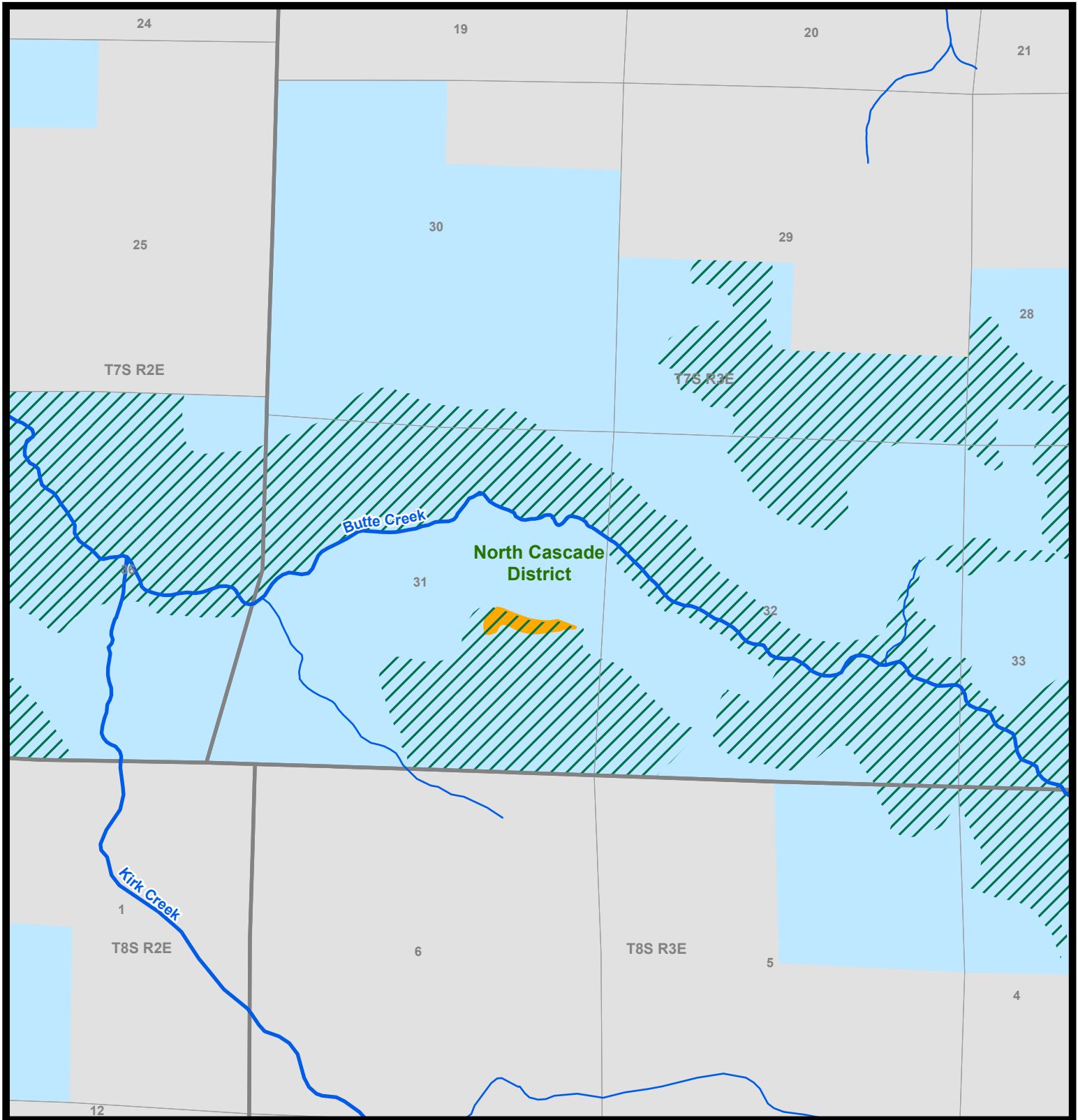
Description of change: The district is proposing to change 5 acres that have a current DFC of Layered to non-complex or “general”. These acres are being removed to create an operational timber sale boundary for FY23. These areas will be reviewed with ODFW and various ODF resource specialists and biologists.

The designation of DFC complex on the North Cascade District is still 35% following the proposed changes.

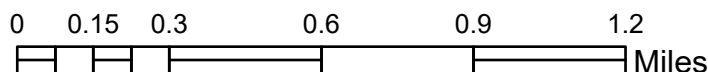
| Summary of Minor Landscape Design Modification | | | |
|--|-------|--------------------------|-------|
| Acres Removed | | Acres Added | |
| Desired Future Condition | Acres | Desired Future Condition | Acres |
| OFS | 0 | OFS | 0 |
| LYR | 5 | LYR | 0 |
| Total Acres Removed | 5 | Total Acres Added | 0 |

North Cascade District

Landscape Design - Desired Future Condition Revision



- Streams - Stream Size**
- Large Stream
 - Medium Stream
- fpasize**
- Current DFC Complex
 - Change From DFC Complex to Non-Complex
 - State Forest Land
 - Adjacent Districts



This product is for informational purposes, and may not be suitable for legal, engineering or surveying purposes. This information or data is provided with the understanding that conclusions drawn from such information are the responsibility of the user.

02/07/2022