



Oregon

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Date: June 23, 2014



STEWARDSHIP IN FORESTRY

Re: Information Item—North Cascade District Approved Annual Operations Plan for 2015

The 2015 State Forest Annual Operations Plan (AOP) for the North Cascade District is attached for your information. During my review of this plan, I have found that it conforms to the Oregon Forest Practices Act and is consistent with the Northwest Oregon State Forest Management Plan, the 2012 approved District Implementation Plan and the Annual Operation Planning Standards and Guidance.

The management activities planned for the AOP are consistent with the FY 2015 budget level instructions, reflecting current state budget authorizations. This plan includes various silvicultural treatments that will result in fully stocked plantations consistent with the Oregon Forest Practices Act. However, some intensive management activities will not take place under the current budget scenario. In addition, the Recreation Program will be operating at a base level which will maintain the existing infrastructure and trail systems and provide for public safety.

During its preparation, this plan was reviewed by technical specialists from within the department and biologists from the Oregon Department of Fish and Wildlife. Their comments were received verbally and in writing (written comments are on file at the district office). The draft AOP also underwent a 45-day public comment period. Any public comments for the North Cascade District Annual Operations Plan submitted were reviewed and a District response was provided.

As prepared, this plan consists of 19.0 MMBF of harvest volume. This volume will be achieved through the partial cut harvest of 705 acres and the regeneration harvest of 397 acres. There are six primary operations and seven alternate operations within this plan. The FY 2015 operations are estimated to generate gross revenues of approximately \$6,072,175 with a net value of \$5,162,738. The objectives and specific plans for timber harvesting and the associated project work provide an accurate picture of what will be designed and prepared for contract in FY 2015. 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.

Special Note: The Dirty Dozen sale was previously included in the FY14 AOP as a primary sale. This sale has now been moved into the FY15 AOP as a primary sale. Dirty Dozen was reviewed by staff specialists and underwent a 45-day public comment period during the FY14 AOP review process.

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

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

http://www.oregon.gov/odf/pages/state_forests/annual_plans.aspx

APPROVED:



Steve Wilson, North Cascade District Forester

6/24/14

Date

NORTH CASCADE DISTRICT



“STEWARDSHIP IN FORESTRY”

FY 2015 ANNUAL OPERATIONS PLAN

NORTH CASCADE DISTRICT 2015 ANNUAL OPERATIONS PLAN

OVERVIEW

This plan describes the activities and outcomes that Oregonians can expect to see on the Santiam State Forest for 2015. We welcome your comments, and will use them to improve this plan within the scope of the Department's authority, in alignment with the longer term overarching plans, and bounded by budgets and staff resources.

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 large public forest has its challenges. In addition to the challenges of providing the opportunities described above, the forest is expected to be financially self-supporting. About two-thirds of the revenues from state forest timber sales go to local counties and other taxing districts, including schools. 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. Current financial constraints are currently limiting many activities and you will see this theme throughout the year's plan. We are striving to continue to provide the current opportunities, and are considering a few opportunities for change.

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

Over the next two months, ODF will request review and comments on our plan from others, including Linn, Marion and Clackamas County Commissioners, the Forest Trust Land Advisory Committee (representing the counties that deeded land to ODF), the State Forests Advisory Committee (SFAC - composed of Oregonians representing many interests), Oregon Department of Fish and Wildlife, the US Fish and Wildlife Service, motorized and non-motorized recreation users, hunters, fishermen, and wildlife advocates, as well as Oregonians in general.

During this time, we want to hear your feedback, suggested revisions. In addition, any *thank you* messages to staff and volunteers are welcomed and appreciated. Thanks in advance for your review and engagement.



A short summary of activities planned for the coming year:

- Planting 202,710 trees on 466 acres and conducting vegetation and animal management activities on an additional 592 acres to ensure the survival and growth of these plantations.
- Maintaining a 480 mile road network that provides access to timber harvest as well as various recreational opportunities.
- Conduct 13 operational surveys for northern spotted owls.
- Protecting streams and water resources through a series of buffers and seasonal restriction activities.
- Stream improvement projects: An initial screen suggests that 1 stream near a planned alternate harvest unit could benefit from large wood addition to the stream system. This sale will be looked at for potential projects during sale layout.
- 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.
- Improving and maintaining roads to ensure ditch water is dispersed and filtered as much as possible, keeping runoff from entering streams.
- Review District roads to develop plans to block or vacate roads to help manage trash dumping and irresponsible target shooting.
- Beginning the planning cycle to harvest approximately 20 million board feet of timber volume, through modified clearcut and partial cut harvest, generating revenue of an estimated \$5 Million. This harvest level is in alignment with longer term plans and modeling to ensure it is sustainable and promotes the development of a mixture of habitat types across the landscape.
- Operating and maintaining the following developed facilities in a safe, clean, and responsible manner:
 - 5 campgrounds
 - 6 trailhead facilities
- Providing a safe and clean environment for the myriad of dispersed activities that occur across the forest – hunting, camping, angling, sight-seeing, target shooting, swimming, mushroom picking, etc.
- Maintaining, managing, and patrolling the motorized and non-motorized trail networks, striving to protect the trail investments, provide for user safety, address developing trail issues, and protect water quality.
- Supporting the important volunteer network that assists in forest management including the following programs:
 - Adopt a Trail
 - Trail Maintenance and Construction Work Parties
 - OHV Trail Equipment Volunteer Operator
- Supporting the pre-planned 3 to 5 organized events. Evaluate new proposals for fit with forest goals.
- Providing a firewood cutting program as done in 2014.

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INTRODUCTION

This annual operations plan (AOP) outlines state-owned forestland managed by the North Cascade District for Fiscal Year 2015 (FY15), which begins July 1, 2014 and ends June 30, 2015. This document describes how the activities and projects undertaken by the district will achieve the goals, strategies, and objectives of the *NW Oregon Forest Management Plan (FMP)*, *Santiam State Forest Recreation Action Plan*, and the *North Cascade District Implementation Plan (IP)*. Please refer to the district IP for more specific information on physical characteristics and other district resource information.

The AOP document is divided into five major categories: Integrated Forest Management; Planning and Information Systems; Public Information and Education; Administration and Appendices. A short summary of proposed activities are listed within this introduction.

The proposed operations and activities are planned to be designed, engineered, and submitted for processing during the FY15 time period. Actual on-the-ground operations will likely not occur during FY15 due to the time-lag associated with contract duration, which could be one to three years after auction. In contrast, reforestation, young stand management, recreation management, and planning activities will be carried out during FY2015.

A 45-day public comment period runs from March 17, 2014 through May 2, 2014. The District Forester will consider the comments received during this period and make any changes or modifications that are determined necessary, prior to approving the AOP.

In addition to describing forest management activities for FY 2015, Appendix A of this AOP also describes *major changes** being recommended to the State Forests' Forest Land Management Classification maps, including the implementation of High Value Conservation Areas . At the close of the public comment period, the District Forester will forward these changes with any public comments to the Area Director and State Forester for review and approval.

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

*Major changes and the procedures for making these changes are described in OAR 629-035-0060

**The State Forests' individual district annual reports are available on the Oregon Dept. of Forestry website under "Publications." You can access here:

<http://www.oregon.gov/odf/Pages/pubs/publications.aspx>

INTEGRATED FOREST MANAGEMENT OPERATIONS

Timber Harvest Operations

The following planned commercial forest management activities are within the guidelines and objectives outlined in the North Cascade Districts 2012 Implementation Plan. The FY 2015 AOP is estimated to produce 19 million board feet (MMBF) in volume, generate gross revenues of approximately \$6,072,175 and net revenues of \$5,162,738. The District has included 7 Alternate Operations in this Annual Operations Plan. These alternate operations may be used to replace primary sales that cannot be completed as planned. The district anticipates 1-3 small negotiated salvage sales (342 or 343 contracts) in this sale plan. All activity will remain within the expected volume target for the AOP. Some smaller additional operations targeting infrastructure maintenance will also produce timber volume during the 2015 fiscal year. These small operations are not included as part of the AOP because they affect a very small area, produce little volume or revenue, and do not require significant effort to develop and execute. These sales will be less than \$100,000 in value and comply with all policies and plans.

Table 1 compares the proposed acres by harvest type in this AOP to the harvest acre ranges specified in the North Cascade District 2012 Implementation Plan. Total planned acres in this AOP are 1102 net acres. The anticipated harvest acres, volume, and revenue for each proposed operation in this AOP are listed in the “Harvest Operations – Financial Summary” table in Appendix A, while a vicinity map of these harvest operations can be found in Appendix C. Individual pre-operations reports are available upon request.

Table 1. Annual Operations Plan objectives compared to annual objectives identified in the North Cascade District 2012 Implementation Plan. All values are in acres.

Silvicultural Activity	IP Annual Objective		2015 AOP Objective
	Low	High	
Partial Cut Harvest	290	1170	705
Regeneration Harvest	110	450	397

The partial harvests and regeneration harvests proposed in this operations plan comprise approximately 2% of the total acres within the Santiam State Forest. Approximately 64% of the planned harvest acres are in partial cuts, while the remaining 36% are in regeneration harvests. An active and integrated forest management approach on the Santiam State Forest will provide for high levels of sustainable and predictable timber revenue while concurrently providing key habitat for native fish and wildlife species. The following is a summary of Harvest type definitions:

Regeneration Harvest –The intent of a Regeneration Harvest is to develop a new stand. In general, residual trees left after a Regeneration Harvest are intended to remain on the site through the life of the new stand/cohort.

Modified Clearcut: Clearcuts are modified to leave residual green trees, snags, or trees destined to become snags specifically for their biological or environmental values. In this harvest type, good regeneration results are attained and structural components (green trees, snags, and down wood) are retained that provide value to other resources. A Modified Clearcut resembles a seed tree harvest, but the intent is different. The residual trees from the existing cohort may be distributed across the harvest unit, grouped together in patches, or left along the edge of the harvest unit. Sometimes the residual trees will be grouped along the edges of a harvest unit, in which case, it will look like a Clearcut.

Partial Cut Harvest –The intent of a Partial Cut Harvest is to manage the growth and density of an existing stand. A prescription for a Partial Cut may be designed to increase the structural complexity of a stand, maximize volume growth, or capture tree mortality. A stand may be Partial Cut many times throughout its life. All Partial Cut harvest types retain at least 80 square feet of basal area per acre of trees greater than 11 inches DBH. There are three types of partial cuts:

Heavy Partial Cut: A Heavy Thinning approaches the harvest intensity of a Retention Cut, and the management focus may be on the existing cohort, new cohort, or both. A heavy thinning results in the fast growth of individual trees, but reduces the total volume growth of the stand.

Moderate Partial Cut: Moderate Thinning provides for optimal stand growth and allows vigorous growth of the individual trees. Stand structure will continue to develop with a Moderate Thinning, and depending on species composition and site index, a new cohort of trees may be initiated.

Light Partial Cut: A Light Thinning focuses on maintaining stand growth and health, however in order to achieve these goals, it must occur more frequently than a Heavy or Moderate Thinning in the same stand. More complex stand structure will not be developed with a Light Thinning and a new cohort of trees will not be initiated.

Overall, this sale plan will reduce the district percentage of Closed Single Canopy and Understory (UDS), moving most of the proposed sales toward the eventual development of more complex stand structures. Layered stands (LYR) are in a more developed stage than UDS. A stand reaches Older Forest Structure (OFS) when a Layered stand attains several structural characteristics that are normally associated with older forest conditions. Throughout this plan the term General management (GEN) 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 for complex structures.

A Desired Future Condition (DFC) of **General Forest Management** (GEN) places an emphasis on timber production as well as occupying the full growth potential for the site. Partial cuts are intended to reduce the density of the overstory trees and to maintain or further encourage the understory growth within these stands. Partial cutting will also allow the residual trees within a stand to increase their diameter growth and enhance stand volume and value. Clearcut harvests are typically reserved for DFC general areas but may be used in a DFC complex area as needed but tend to be rare and warrant justification for doing so. All regeneration harvests will be reforested with a mixture of Douglas-fir and western red cedar or for the higher elevation ground, a mixture of Douglas-fir and noble fir seedlings.

A Desired Future Condition (DFC) of **Complex** places an emphasis on increasing or enhancing the biodiversity of a stand. Partial cutting a stand tends to move the stand along the trajectory towards the (DFC). Stand structure in these units begins to develop later when the units reach 10-15 years of age or pre-commercial thinning age. At the time of pre-commercial thinning, the DFC for the unit is re-evaluated since some young stands change dramatically within the first 15 years. The primary management objective for these stands is to enhance stand volume production and value while maintaining or developing structural components important to habitat diversity.

All of the Primary and Alternate harvest operations and many of the other forest management activities have been reviewed by ODF's wildlife biologists, aquatic specialist, geotechnical engineer, road engineer, and operations coordinator, as well as fish and wildlife biologists from the Oregon Department of Fish and Wildlife, however written comments were not received from the Oregon Department of Fish and Wildlife. Information on operations that occur within the provincial circle of a northern spotted owl have been provided to the US Fish and Wildlife Service.

Structural Components

The process of producing an array of forest stand structures across the landscape is a gradual one. A variety of sound silvicultural practices will be used to actively move the forest towards the desired range of stand structures outlined in the Implementation Plan.

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 FY 2015 Annual Operations Plan. In proposed commercial forest management operations, existing down wood, snags, and remnant old growth trees or patches of old growth will be retained. The landscape management goal is to have an average of two snags per acre retained across the landscape. Residual live trees retained in conjunction with clearcut harvests will serve as a source of future snags and down wood as well as provide legacy trees for the new stand being regenerated. Retained trees will include a component of hardwood trees when available. The snags and down wood left in all operations also support future forest needs. The snags provide habitat for cavity-nesting species and provide a future source of down wood. The down wood provides habitat for wildlife species and enables other key functions such as nutrient cycling.

The FMP strategy for hard snags is to manage for at least two per acre on average across the landscape. The need for snag creation for regeneration sales is evaluated on a sale by sale basis. The wind events of December 2006, November 2007 and December 2007 made significant contributions to snag and DWD 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 will only be considered on planned sales in the Butte Creek, Cedar Creek, Green and Scattered Basins. Planned sales in these basins include Zip-Up, Around Gates Hill, and Green Heights (area 2). No snag creation is planned for sales in the Crabtree Basin due to an approved exchange plan that is expected to be revisited in a future AOP.

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. A variety of methods will be used to ensure targets are met in this sale plan such as utilization of residual logging slash, modified bucking practices, and contract required DWD creation. Specific methods will be assigned during the sale preparation phase.

Another opportunity for natural recruitment of snags and DWD is created by laminated root rot disease (*Phellinus weirii*). In severe cases of root rot, we attempt to retard the spread of the disease by cutting out the infected trees. In other cases we do not cut out the infected trees. This allows the disease to spread at a rate of approximately one foot per year, slowly adding snags and DWD to the stand. Whether laminated root rot is treated or untreated, we know from experience that additional trees will be infected by the disease, creating snags and eventually DWD.

In order to protect water quality during active operations, a variety of options will be used to prevent sediment from entering live streams. These methods include (but are not limited to) maintaining or improving existing culverts and ditch lines along active haul routes, adding additional ditch relief culverts when needed to ensure disconnect from live streams, use of sediment control devices in road ditches as necessary during active hauling, and use of seasonal restrictions for logging and hauling operations during wet weather conditions. New culvert installments or culvert replacements in live streams will be conducted during the in-stream work period which occurs generally between July 1 and August 31. Operations outside of this period will be reviewed with the local ODFW fish biologist. Riparian management areas include leave trees and other stream associated vegetation adjacent to the stream which protect stream temperature, provide nutrients, protect stream banks, and eventually provide large wood debris to improve fish habitat.

Minor Landscape Design Modifications

As directed by the 2012 Implementation Plan, the North Cascade District has mapped 35% of the land base in a Landscape Design that designates stands for future complex condition of Layered (LYR) or Older Forest Structure (OFS). The North Cascade DFC landscape design was completed utilizing a “broad brush” approach that incorporated a variety of landscape design principles and strategies. The original Landscape Design mapping process utilized a stand typing approach in place of detailed geographic assessment with the intent that further boundary refinement would be accomplished during future planning processes. Actual boundaries between complex and general DFC’s are determined in the field during the sale planning and layout process. Minor changes in the DFC landscape design may occur on an annual basis for a variety of reasons that include: refinement of DFC field boundaries, forest health issues, reassignment of stand condition based on additional data collected through Stand Level Inventory (SLI) and field observations compiled during the AOP planning process.

Table 2 summarizes proposed minor changes made during the FY 2015 planning process. All changes have been reviewed by ODF Resource Specialists.

Table 2. Minor Landscape Design Modification

Landscape Motive	Modification	Acres added to complex	Acres removed from complex
Shellburg Corner	Exchange GEN to LYR	229	
Green Heights	Exchange LYR to GEN		10
Total Modification:		229	10

Harvest Operations within Terrestrial and Aquatic Anchors

The Implementation Plan has incorporated the State Forests' Species of Concern Strategies which specifically identifies fish and wildlife species of concern on the Santiam State Forest. Two of these strategies include Terrestrial Anchor Sites (TAS) and Aquatic Anchor (AA) sites.

- Terrestrial Anchor Sites (TAS) 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 a TAS is intended to be limited, to emulate natural small-scale disturbance patterns, and to minimize short-term negative impacts to complex habitat and to promote long-term improvements to habitat conditions through management. Areas which were designated as TAS include stands 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 Terrestrial Anchor Sites and Aquatic Anchor sites, with the management activities within those areas 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 specialists will be tracking the harvest trends within these areas to ensure the harvest prescriptions and rate is consistent with the goals of these strategies. Table 2 and 3 summarizes cumulative harvest operations in TAS and AA since the strategy was adopted (AOPs 2012 through 2015). Currently, no operations are scheduled within the TAS for the FY 2015.

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

Terrestrial Anchor Site (TAS)	Current AOP (FY 2015) Planned Harvest		Cumulative Harvest (FY 2012 AOP to Present)	
	Clearcut	Partial Cut	Clearcut	Partial Cut
	High Lakes	0	0	0
% of Acres	0	0	0	16.7
All TA Sites	0	0	0	230
% of Acres	0	0	0	16.7
Entire District	397	705	1133	2106
% of Acres	0.8	1.5	2.4	4.4

Table 3 summarizes proposed harvest operations within the TAS for FY 2015 and the cumulative operational acreage since the strategy was adopted (AOPs 2012 through 2015). Although the High Lakes TA cumulative harvest rate is significantly higher when compared to cumulative district harvest rates, it is important to recognize that the TA is comprised of a comparatively smaller overall land base of 1,376 acres. Because of this, standard harvest operations of equal acreage (when compared to averages across the district land base) will carry a significantly greater percentage weight when applied to the significantly lower land base acreage of the High Lakes TA.

Table 4. Summary of Timber Harvest Operations within AA's (Acres and Percent)

Aquatic Anchor (AA)	Current AOP (FY 2015) Planned Harvest		Cumulative Harvest (FY 2012 AOP to Present)	
	Clearcut	Partial Cut	Clearcut	Partial Cut
	Rock Creek	0	349	15
% of Acres	0.0	2.8	0.1	6.3
Sardine Creek	0	0	0	0
% of Acres	0	0	0	0
All Aquatic Anchors	0	349	15	767
% of Acres	0.0	2.2	0.1	4.9
Entire District	397	705	1133	2106
% of Acres	0.8	1.5	2.4	4.4

Table 4 summarizes proposed harvest operations within the AA's for FY 2015 and the cumulative operational acreage since the strategy was adopted (AOPs 2012 through 2015). Cumulative partial-cut harvest rates for the AA's remain similar to that of the entire district. However, cumulative Clearcut harvest rates remain significantly lower. The difference between the two rates stem primarily from the higher proportion of LYR (layered) and OFS (Old Forest Structure) designation within the AA's.

Summary of Timber Harvest Operations by Basin

In the following section, the harvest operations planned for FY 2015 will be summarized in the context of the seven management basins located within the North Cascade District. Individual pre-operation reports include information regarding riparian protection and structural components such as snags, down wood, and green tree retention. Road projects and standards are discussed in the Roads and Engineering section.

Table 5. Summary of Timber Harvest Operations Acreage by Basin

Management Basin	2015 AOP	
	Partial Cut	Clearcut
Butte Creek	0	0
Cedar Creek	0	135
Crabtree	0	79
Green	356	183
Mad Creek	0	0
Rock Creek	349	0
Scattered	0	0
Total	705	397

Butte Creek Basin

No harvest operations have been scheduled for the FY 2015 sale plan.

Cedar Creek Basin

Zip-Up: Proposed 2 area modified clearcut comprised of approximately 16 acres in area 1 and 119 acres in area 2. Desired future condition for areas 1 and 2 is GEN. Both harvest unit areas will be regenerated with Douglas-fir. If the root disease (*Phyllinus werii*) is identified within the sale areas, western red cedar will be utilized in place of Douglas-fir in order to mitigate advanced occupation of the pathogen.

Crabtree Basin

Camp Creek North: Proposed modified clearcut comprised of approximately 79 acres. Desired future condition for this area is GEN. The harvest unit area will be regenerated with a mixture of Douglas-fir and western red cedar. The western red cedar component will be utilized within areas already identified as maintaining a significant concentration of root disease.

Green Basin

Around Gates Hill: Proposed multi-area modified clearcut comprised of approximately 11 acres in area 1, 72 acres in area 2, and 38 acres in area 3. Desired future condition for all three sale areas is GEN. Approximately 68 percent of the combined sale area is common school land. All three harvest unit areas will be regenerated with Douglas-fir. If root disease is identified within the sale areas, western red cedar will be utilized in place of Douglas-fir in order to mitigate advanced occupation of the pathogen.

Shellburg Corner: Proposed 2 area partial cut comprised of approximately 12 acres of moderate density reduction in area 1 and 215 acres of light density reduction in area 2. Desired future condition for both sale areas is currently GEN. However, due to the tracts wildlife connectivity potential between adjacent State Park and BLM lands, as well as favorable potential for developing complex structure, a reclassification from a DFC of GEN to LYR is being proposed by the District.

Green Heights: Proposed multi-area partial and modified clearcut comprised of approximately 91 acres of light density reduction in area 1, 62 acres of modified clearcut in area 2, and 40 acres of light density reduction in area 3. Desired future condition for all three sale areas is GEN. Harvest unit area 2 will be regenerated with Douglas-fir. If root disease is identified within area 2, western red cedar will be utilized in place of Douglas-fir in order to mitigate advanced occupation of the pathogen.

Mad Creek Basin

No harvest operations have been scheduled for the FY 2015 sale plan.

Rock Creek Basin

Double Arch: Proposed single-area partial cut comprised of approximately 349 acres of moderate density reduction. Desired future condition for the sale area is OFS. The proposed operation will be the first entry into approximately one half of the overall sale area. The combined intent of the proposed entry will be to foster structurally diverse characteristics consistent with a DFC of OFS.

Scattered Basin

No harvest operations have been scheduled for the FY 2015 sale plan.

Forest Roads Management

The primary transportation focus is to provide access for forest management activities. This involves constructing new roads where needed and maintaining or upgrading existing road systems. Other resource management needs and other users are considered in the transportation planning. A well-managed transportation system provides access for timber removal, recreation, fire control and removal of other forest products as well as other uses. The District transportation system is managed to provide efficient and effective access. This AOP represents Level I, II, and III planning as described in the Forest Roads Manual, pg. 2-2.

The transportation activities planned in FY 2015 will be to maintain and improve current access which minimizes resource impacts to water quality while also meeting the District's access needs. An over-arching goal for new road construction and road maintenance is to protect or improve water quality. Over the last 20 years much effort has been made in removing barriers to fish passage and improving road drainage which minimize impacts to water quality. The planned activities within this AOP will help meet transportation objectives.

This AOP includes project work with each proposed primary sale. Roads surfaced with crushed rock make it possible to create and maintain a road surface shape that will drain well and allow for safe and efficient travel of our forest road system. Good surface drainage is critical to minimizing sedimentation from roads and for protecting the sub grade to allow winter hauling where appropriate. Along with good surface drainage, once the water is off the road the water needs to be directed in a way to minimize impacts to water quality.

Cross drainage structures will be reviewed on all proposed haul routes. Connecting spur roads will be upgraded where necessary. The guidelines found in the Oregon Department of Forestry Roads Manual are followed to decide where additional culverts will be installed. Stream crossings will be analyzed on haul routes and the connecting spur roads to make sure culvert sizing meets 50-year flow event minimums. Roadside brushing and roadside spraying will be conducted to control encroaching vegetation.

Some new spur roads will be constructed to provide access for commercial forest management operations planned within the 2015 fiscal year. All new road construction for this Annual Operations Plan falls into the spur road category and will be evaluated during sale preparation for closure after the sale is completed. Spur roads needed for future management activities, but not for immediate use, may be put in a restricted status by partially vacating or simply closing the road. This will reduce maintenance costs and reduce water quality impacts from those roads. All new road construction will be designed, reviewed and administered by foresters with forest engineering experience. Roads will be rocked if winter use is anticipated. It is also desirable to rock roads for reforestation access that must occur in the winter months.

Total cost of project work for FY 2015 is estimated at \$909,437 or 15% of the total gross timber sale value (value excludes alternate sales). Rationale for project work includes elevation of the sale, condition of the existing surface along the haul route and primary logging method of the timber sale area. Additional information regarding roads and engineering can be found in Table 11 located in Appendix A.

Road Construction

The district will construct approximately 4.9 miles of rocked spur road for timber sale access. All road construction for the planned commercial forest management operations described within this Annual Operations Plan will be designed as spur roads. Spur roads are short, generally less than 0.5 miles in length and will be built to standards that minimize road footprint within a harvest area. Road sub-grade widths will be 14 to 16 feet wide and either ditched or outsloped. The majority of proposed operations are partial-cut harvests; therefore, most of the roads will be utilized for future management activities. Some of the roads built will be closed (not vacated) when the operation has been completed. Closed roads will be put in a condition that will require minimal or no maintenance until needed again. This may involve grass seeding and the installation of water bars, tank traps or other road barriers to keep vehicles off the road. If a spur road is vacated, stream crossing structures will be removed to eliminate the possibility of a stream restriction or maintenance problems. In some cases the access will not be vacated to assist with the reforestation effort.

Road Improvement

9.2 miles of road will be improved for the purpose of hauling logs. The road improvement in this plan will consist of minor culvert replacements with some culvert additions, ditch-line maintenance, spreading lifts of rock along major haul routes, some spot rocking and road brushing as needed on collectors and spurs.

Road Access Management

Access to the Santiam State Forest generally is not restricted. However, roads that pose a high risk of damage to water quality are candidates for closure. Closing and vacating roads reduces the District's maintenance cost and helps to minimize impacts to the environment from roads. Not only do these roads cause a maintenance liability; some of these roads become opportunities or locations for dumping of trash. Many of the short spurs constructed for timber sale use will be reviewed for closure. Roads will be assessed for potential closure and vacating during the sale preparation phase.

Road Maintenance

The road maintenance for roads being used for timber sale access becomes the responsibility of the timber sale purchaser once sale activity has begun. Timber sale purchasers during this operating plan will maintain approximately 37 miles of road. Road grading, ditch cleaning, culvert inlet /outlet cleaning and spreading rock as needed during timber haul will all be completed by purchasers.

The District roads not under timber sale contracts are maintained by the District using a grader, front end loader, lowboy and a dump truck. Road grading over much of the District is covered once during the year with some roads graded more frequently due to heavy public use. Small rocking projects will also take place to reinforce weak sub grades or cover road surfaces producing sediment. The District road crew also responds to emergencies such as plugged culverts, removing small slides, clearing slough from ditch lines and blocking roads when necessary. There is a need on the District for a backhoe or small excavator. As budgets improve, the potential for purchase or lease will be considered.

Land Surveying

The District does not currently have an active land survey program. Property line surveys are conducted on a case-by-case basis and in a variety of fashions. Contracting out the work with the use of PLS licensed contractors or cost sharing with adjacent landowners are two examples. Shellburg Corner, Zip-Up, and Around Gates Hill are anticipated to be the only primary operations requiring re-establishment of property lines for the FY 2015 AOP.

Young Stand Management

Young stand management operations occur in forest stands prior to the first harvest. These operations tend not to produce revenue, but are essential in maintaining a healthy forest. The objectives of young stand management are to achieve reforestation, stand structure development, and future revenue generation. The current fiscal year budget constraints limit young stand management to activities that are essential to the establishment of new stands.

Table 14 outlines the costs needed to perform management activities on young stands. These young stands are not associated with the sales described in the pre-operations reports. The reforestation units are from older timber sales which will be planted during fiscal year 2015 and are not necessarily the planned sales mentioned and described in this report.

Reforestation projects will be completed through the use of inmate crews from Mill Creek as well as contracted crews. Mill Creek is a correctional facility in Salem and has joined in a cooperative effort between the Department of Corrections and Oregon Department of Forestry. Prior planning is needed to schedule any inmate crew for these projects; although some emergency situations can be accommodated.

The planned operations necessary to meet landscape and stand structure targets include: site preparation, planting, and vegetation management. Pre-commercial thinning, tree protection and fertilization are not funded in this plan due to budget constraints. The following is a brief summary of each individual activity.

Site Preparation

Site preparation is an important tool used in establishing a stand. Site preparation can affect seedling establishment and survival. Prescribed fire (burning of logging slash), mechanical piling of slash and use of herbicides are just a few tools used in site preparation. Burning or piling logging slash eliminates or manipulates logging debris in order to create plantable areas. Herbicide site preparation is used to control undesirable vegetation that would otherwise compete with planted seedlings. Planting spot development is used when burning is not a viable option. Only heavy concentrations of logging slash are treated, while the majority of the slash is not removed from the site and will be left to decompose on site over time.

Table 6. Planned Site Preparation by Management Basin

Site Preparation	Chemical Hand	Chemical Aerial	Slash Burning	Mechanical	Acres
Butte Creek	0	0	0	0	0
Crabtree	0	242	137	137	516
Cedar Creek	0	0	0	0	0
Mad Creek	0	0	0	0	0
Rock Creek	104	0	78	78	260
Scattered	46	0	32	32	110
Green	74	0	52	52	178
Total:	224	242	299	299	1064

To protect air quality, all burning is planned in accordance with the Oregon Smoke Management Plan. The Smoke Management Plan is designed to reduce emissions from prescribed burning in western Oregon and to minimize smoke intrusions into designated population areas.

When using herbicides on State Forests for site preparation, the District will adhere to Environmental Protection Agency approved herbicide product labels and the Oregon Forest Practices Act.

Any mechanical site preparation will also be monitored to ensure that the Oregon Forest Practices Act requirements are met.

Planting

Reforestation is the planting of tree seedlings following regeneration harvests, patch cuts, root disease removal, severe blow down events, and in certain cases, partial harvests. Initial planting and inter-planting a variety of tree species provide different outcomes.

Initial planting establishes the seedlings to begin a regeneration stand. The species of seedlings planted and the density at which they are planted will influence future management activities within the stand.

Inter-planting is used when initial reforestation has been less successful than desired. Planting additional trees within an area will continue the stand along its desired management path. Due to recent nursery issues regarding quality of seed stock, inter-planting acreage is expected to increase above that of historic annual averages for FY 2015.

Table 7. Planned Initial & Inter-Planting by Management Basin

	Initial Planting Acres	Interplanting Acres
Butte Creek	0	0
Crabtree	242	0
Cedar Creek	0	0
Mad Creek	0	0
Rock Creek	104	150
Scattered	46	0
Green	74	0
Total:	466	150

Vegetation Management

Chemical and manual release treatments will be conducted in plantations in danger of failure due to brush competition.

Table 8. Planned Release Treatment by Management Basin

Release Treatment	Chemical Hand	Chemical Hack & Squirt	Chemical Aerial	Mechanical Hand	Acres
Butte Creek	0	59	0	0	59
Crabtree	0	96	0	20	116
Cedar Creek	0	0	0	0	0
Mad Creek	0	0	0	0	0
Rock Creek	0	97	104	0	201
Scattered	0	0	0	0	0
Green	136	0	0	80	216
Total:	136	252	104	100	592

Tree Protection

Tree protection is used in areas where animal damage (from deer, elk, and mountain beaver) is expected to reduce the number of seedlings below desired stocking levels by placing a Vexar tube over a newly planted seedling and supporting the tube with bamboo stakes. Vexar tubes are generally reserved for tree species damaged by animal browsing. Approximately 15,000 cedar seedlings are scheduled to be planted and protected during FY 2015 in an effort to mitigate root disease areas identified within recently completed timber harvest operations.

Pre-commercial Thinning

No PCT projects have been planned for FY 2015.

Fertilization

No fertilization projects have been planned for FY 2015.

Pruning

No pruning projects have been planned for FY 2015.

Noxious Weeds

Noxious weed and invasive species treatment will occur in areas that can easily be treated and controlled. Smaller treatments are done on a county wide basis; these smaller treatments tend to be less than an acre in size. The goal is to treat smaller populations before they have an opportunity to spread. Individual scotch broom plants found along a road or in a plantation are examples of these smaller treatments.

We have included language in our timber sale contracts which require equipment washing to help control the spread of noxious weeds. The operators are required to wash equipment prior to working on the State Forest and/or prior to moving from a known infested area to an uninfested area on the State Forest.

Recreation Management

The Recreation Program on the Santiam State Forest is managed in accordance with the Recreation Management Plan approved in September 2000, the North Cascade District Implementation Plan approved in June 2012 and the approved 2010 Northwest Oregon State Forest Management Plan. This section of the FY 2015 AOP is designed to provide information about the types of recreation opportunities and activities that are currently in demand on the Santiam State Forest, the developments and opportunities currently available, and the planned projects for the FY 2015 AOP period. Given the current budget constraints, the focus of the recreation projects will be on public safety, sanitation, enhancement of existing assets and facilities maintenance.

Public and Multi-agency Involvement

The Santiam State Forest Citizen Advisory Committee provides assistance with a wide range of recreation and education topics. The Committee convenes once or twice a year to review accomplishments and provide recommendations related to current and future management strategies. In addition the Citizen Advisory Committee assists the district with volunteer recruitment.

The recreation staff is currently working in conjunction with Oregon Parks and Recreation Department on proposed trail developments which would link Silver Falls State Park with Shellburg Falls Recreation Area.

Volunteer Contributions

Volunteers contribute labor, supplies and expertise to the District recreation program. Our volunteers have partnered with ODF to construct trail, maintain infrastructure, and preserve natural resources. In recent years Oregon Equestrian Trails, Silver Falls Chapter, has volunteered time and resources toward maintaining trails within the Monument Peak trail system. Boy Scouts of America have accomplished a variety of projects, primarily within the Shellburg Falls Recreation Area. These projects include reconstruction of tent pads within individual camp sites as well as trail cleanup and repair. The Mountain Street Dirt Crew, a Freeride Mountain Biking Association has been an integral partner in creating the freeride mountain biking trails in the Shellburg Falls Recreation Area. The Crooked Finger Riders Association has partnered with ODF to develop a staging area and six miles of trail for ATV and dirt bike use. A new partnership is being developed with the Oregon City Service Learning Academy, in which our employees will be presenting students with careers based in public service with an emphasis on natural resource management. The students will be involved in trail maintenance and repair, campsite maintenance and invasive species removal.

Inmate Work Crews

The recreation staff utilizes 10-person inmate crews from the Mill Creek Correctional Facility for facility and trail maintenance and recreation improvement projects.

Recreation

The recreational facilities and opportunities on the Santiam State Forest consist of four developed campgrounds, one primitive hike in only campground, dispersed camping areas, one developed specialized campground for Equestrian enthusiasts and numerous unique vistas and natural attractions. Combined, there are currently 26 camp sites on the Santiam State Forest.

Visitation to the Santiam State Forest has continued to increase over the years. Over the course of FY 2015, recreation staff and resources will focus on safety, sanitation, asset enhancement and facilities maintenance. Recreation staff is continually seeking partnerships for trail and facility stewardship.

The two most visited areas are the Shellburg Falls Recreation Area and Butte Creek Falls Recreation Area. Shellburg Falls Recreation Area is used both for day use and for overnight camping and receives high visitor use. Butte Creek Falls is used primarily for day-use. The nearby campground receives moderate use during the summer. The third most visited location is the Santiam Horse Camp area. There are four dispersed camp sites along Rock Creek which are often at capacity during summer months.

There is significant use in the Santiam State Forest outside of the designated recreation areas. This includes, dispersed camping, hunting, target shooting, foraging, four wheeling, and other activities.

Trails

There are over 25 miles of non-motorized trails on the Santiam State Forest. The Santiam State Forest trail system provides opportunities for hiking, mountain biking, free-ride mountain biking and horseback riding. Some trails are designated single use only while others are designed for multiple-use.

Motorized vehicles, including ATVs and dirt bikes, are allowed to ride on maintained gravel roads on the Santiam State Forest. Currently, a 6 mile system of designated ATV trails is being managed at the Crooked Finger ATV Area.

Management Activities

At the Rock Creek Campground, staff will be relocating 2 campsites. In addition, the Rock Creek area will be surveyed for the potential addition of a connecting trail between the campground and the Monument Peak trail system. In addition, staff will survey for the installation of future camp sites.

At the Santiam Horse Camp, staff and Mill Creek Inmate crews will be replacing 2 horse corral structures which have failed. Trails throughout the Horse Camp and Monument Peak Trail system will be improved and maintained by a combination of staff, volunteers and inmate crews.

Emphasis will be placed on safety, sanitation, maintenance and enhancement of the Districts existing infrastructure. In addition, staff will also focus on updating and streamlining signage and informative kiosks in designated recreation areas.

Existing partnerships with local agencies, volunteer groups and organized clubs will be bolstered, while new partnerships will be sought out. The Districts goal for FY 2015 is not only to maintain, but to strengthen these relationships as they are highly beneficial given the current budget guidance for the recreation program.

Land Exchange

The North Cascade District has an approved land exchange plan, but due to budget constraints, all ongoing land acquisition and exchanges have been suspended in FY2015. As future budgets allow, acquisition and exchange plans will be revisited.

Other Integrated Forest Management Operations

Firewood

The North Cascade District will continue to issue personal firewood cutting permits in the coming year for areas within completed timber sales.

The public will be notified of firewood cutting permits through the district's telephone recording and posting at the District office. The permit fee for personal firewood cutting is \$20 for 2 cords. Permits will be issued for 3 week periods, during the months outside of fire season.

A limited number of personal firewood cutting permits will be issued, on a first come-first served basis, with a limit of 2 permits per individual or household within a 12 month period. Oregon Department of Forestry does not guarantee the quality or availability of wood when issuing firewood cutting permits.

Designated firewood cutting areas will be marked on the permit map, which excludes active and sold timber sales, recreation sites, and planned operations. Active timber sales will be posted with no firewood cutting signs.

Miscellaneous 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. Other products require specific stand types and growing conditions to be most productive. The most popular products requested in the past are salal, mushrooms and flat rock. Salal can be found over most of the Santiam State Forest, while mushrooms grow best at lower elevations and in younger, dense stands of timber, usually in the under 40-year old closed single canopy stands. The permit program policy will be re-evaluated in FY 2015.

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.

Planning (and Information Systems)

Stand Level Inventory and Other Vegetation Inventories

Due to continued budget constraints, the Stand Level Inventory program maintains a utilization rate less than the capacity of its original intent. However, recent budget allocation will ensure that some stands within the District are scheduled for contract inventory during FY 2015. Over the course of FY 2013, District personnel inventoried three post-harvest thinning units, utilizing Stand Level Inventory procedures, with the intent of better assessing the results of contract prescriptions. District personnel will continue to focus inventory efforts on post-harvest thinning units –time permitting, in an effort to ensure that silvicultural information is available for current stand conditions, harvest scheduling and prescription design.

Wildlife Surveys

In order to remain consistent with the State Forest Management Plan, comply with federal and state Endangered Species Acts, surveys for the Northern Spotted Owl (*Strix occidentalis*) will continue during the 2015 field season. Surveys will be specifically conducted on a portion of active operations identified for the fiscal year 2014, 6 proposed FY 2015 primary operations, and 7 FY 2015 alternate operations. Monitoring surveys for known spotted owl sites will also continue in order to determine site occupancy, nesting, and reproductive status of resident owls.

Table 9. Summary of Surveys for Threatened and Endangered Species

Primary Operations	Species¹ (NSO/MM)	Survey Years²	BA³ Required	Special Considerations
Around Gates Hill	NSO	2012, 2013, 2014	No	
Zip-Up	NSO	2012, 2013, 2014	No	
Green Heights	NSO	2012, 2013, 2014	No	
Shellburg Corner	NSO	2012, 2013, 2014	No	
Camp Creek North	NSO	2012, 2013, 2014	No	
Double Arch	NSO	2013, 2014	No	
<u>Alternate Operations</u>				
Lawhead	NSO	2013, 2014, 2015	No	
P200	NSO	2013, 2014, 2015	No	
Higher Rock	NSO	2013, 2014, 2015	No	
Around Panther	NSO	2013, 2014, 2015	No	
CF 331	NSO	2013, 2014, 2015	No	
1100 Tom	NSO	2013, 2014, 2015	Yes	Preliminary BA required
Camp Six	NSO	2013, 2014, 2015	No	

1. Surveys are conducted according to accepted protocols when habitat for the specific species is determined to be present. NSO – northern spotted owl.
2. Years that surveys have been completed or are planned.
3. A Biologic Assessment is required for this operation due to the presence of NSO in the vicinity of the operation.

Aquatic and Riparian Resources

The North Cascades District is comprised of a variety of habitat types that support many native species found in forests of the Oregon Cascade Range. Appendix E [of the FMP] and the *North Cascade District 2012 Implementation Plan*, "Species of Concern", page 14, contain a list of native fish that are currently known or are likely to exist within the North Cascade District. The streams, rivers, lakes, and other water bodies of the area provide habitat for a variety of fish species. There are approximately 66 miles of known fish bearing streams within the Santiam State Forest.

Rock Creek and Sardine Creek Watersheds are designated as Aquatic Anchors (AAs) and were selected through a collaborative effort with ODFW District Fish Biologists, the State Forests Aquatic Specialist, District Forester, and district staff. The Rock and Sardine Creek watersheds meet the landscape design principles described under the Landscape Design section of the *2012 North Cascade District Implementation Plan*. Fish are well distributed throughout the Rock Creek Watershed and Sardine Creek presents a unique opportunity for an aquatic anchor with amphibian emphasis.

A relatively high percentage of ODF ownership in each watershed means that management actions have a higher likelihood of influencing watershed processes. The proposed forest operations for FY 2015 conform to the aforementioned guiding doctrines by incorporating the additional Species of Concern Strategies that are to be applied within AA's. The intended purpose is to lower short term risk to various salmonids and amphibian species while landscape strategies foster the development of properly functioning aquatic systems and suitable habitat forest-wide.

Research and Monitoring

The District is actively evaluating past timber sales for compliance with the Oregon Forest Practices Act. Several past sales were surveyed in 2013. The North Cascade District will use the information to assess and improve compliance.

Other Planning Operations

Planning activities will include road inventory updates.

Timber sale planning will begin in the spring of 2014 for the fiscal year 2015 Annual Operations Plan. This Annual Operations Plan will be completed in the spring of 2014. The Annual Operations Plan will provide specific details on the harvest operations that will be set up and auctioned in the 2015 fiscal year. The plan will also provide an overview of the roads and engineering projects, non-commercial forest management operations, recreation management, planning, public information and education and administrative activities that will take place during fiscal year 2015. This plan is developed according to guidance and standards found in the *NWO State Forests Management Plan*, *North Cascade District Implementation Plan*, *Santiam State Forest Recreation Plan* and the *Oregon Forest Practices Act*.

Public Information and Education

Public information and involvement activities will include review and input regarding the FY 2015 Annual Operations Plan. Following that review, a public involvement summary will be added as an Appendix to this document. In addition, public involvement activities concerning the Recreation program will include planning and facilitating periodic Citizens Advisory Committee meetings, periodic Adopt-A-Trail meetings with cooperators, user group club meetings, and involving individuals or clubs in various district projects.

The District often receives requests for job shadowing opportunities. Job shadowing usually involves a high school student or occasionally a college student who is interested in natural resources. The District arranges for these students to spend a work day with a district employee in a position they may be interested in. The District has also conducted school to work tours in cooperation with the Human Resources.

Public Education

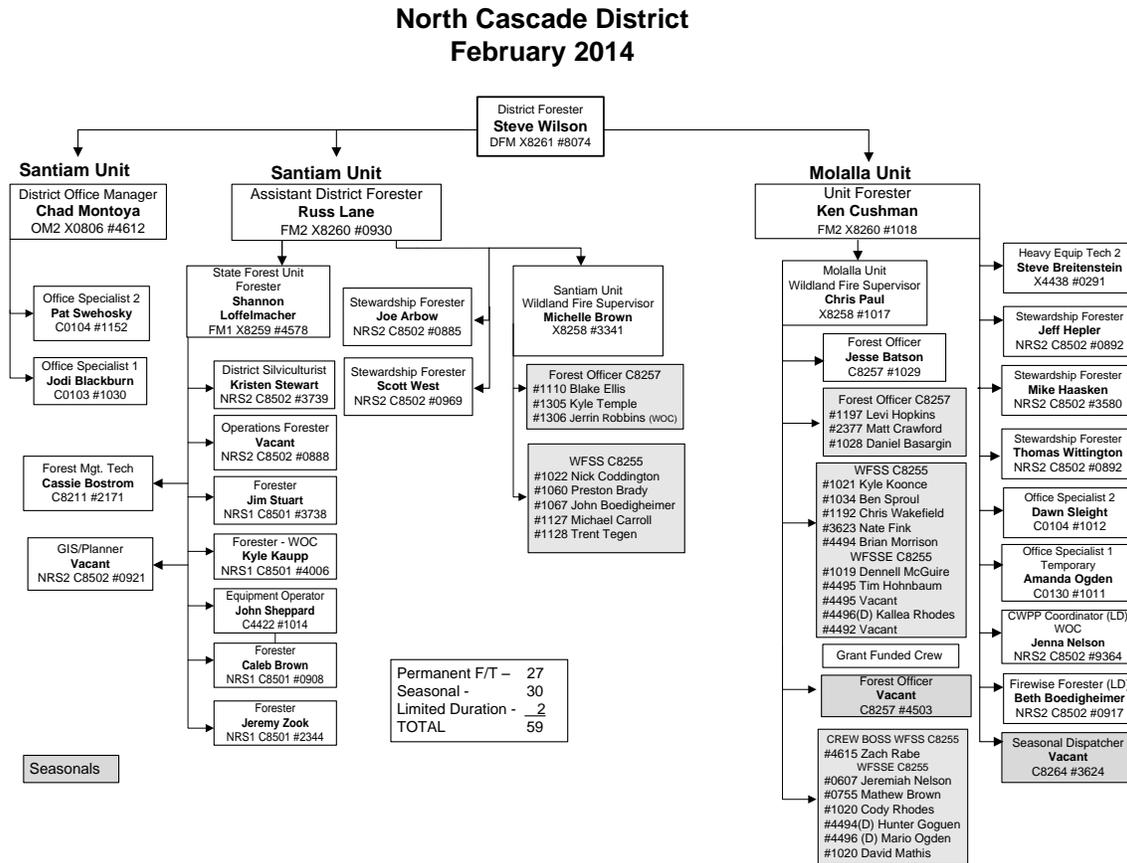
The District is involved in a variety of projects focused on informing and educating the public and interpreting the natural and cultural history of the Santiam State Forest.

Activities will include:

- Maintenance of the Santiam State Forest web page.
- Development of information board messages.
- Modifications to and reprints of the OHV and Non-motorized trail guides.
- Writing articles for user group newsletters.
- Support and participation in NWOA Forestry education and interpretive programs when funding constraints allow.

Administration

The current Santiam State Forests Unit is comprised of 10 full-time permanent positions. In addition, the District Forester and Assistant District Forester provide key leadership and support to the program. The organization is structured as follows:



The organization has integrated into one functional unit supervised by the Management Unit Forester. Responsibilities of the Forest Management Unit include forest-level planning, (SLI) Stand Level Inventory, commercial and non-commercial forest management operations, young stand management, roads and recreation. The unit produces the AOP, timber sale contracts, reforestation and young growth management contracts, and administers the special forest products and firewood programs. Transportation plans, road maintenance plans and schedules, and other engineering related plans are in progress. The State Forests Unit also produces the plans and contracts needed to develop campgrounds, trails, and associated facilities. The recreation personnel coordinate most of the public information on the district.

The organization fits well within the budget instructions and guidance that is available for next fiscal year at this point in time. The young stand management program is highly cyclical in workload due to the nature of projects such as tree planting, fertilization, and vegetation management.

Appendices

Appendix A: Forest Land Management Classification Changes

This appendix describes major changes to the Forest Land Management Classification and includes maps of the specific changes.

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Oregon

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"STEWARDSHIP IN FORESTRY"

To: Liz Dent, State Forest Division Chief
From: Doug Decker, State Forester
Date: June 25, 2014

Subject: Implementation of the Revised Forest Land Management Classification Rule on State Forests

This memo addresses approval of the implementation of the revised Forest Land Management Classification System (FLMCS) rule, including the new High Value Conservation Areas and Special Use classifications, on State Forest lands managed by the following districts: Astoria, Coos, Forest Grove, North Cascade, Southwest Oregon, Tillamook, West Oregon, and Western Lane.

On June 5, 2013, the Oregon Board of Forestry adopted a revision to the FLMCS rule (OAR 629-035-0055) that added the classifications of High Value Conservation Area and Special Use while removing the Special Stewardship Classification. The purpose of this rule revision was to increase the visibility of the important conservation strategies that were already occurring on State Forests.

It was clear that implementation of this rule revision would result in a major change to the FLMCS maps/data and would be required to be available for public comment for 30-days (OAR 629-035-0060). Upon approval of the rule revision, the districts were directed to begin the task of updating the FLMCS data with the goal of having draft maps available for a public comment process that would occur concurrently with the normal 45-day public comment period for the Annual Operations Plans.

The public comment period occurred between March 17 and May 2, 2014 and included three open houses that focused on the implementation of the revised FLMCS rules, especially the location and purpose of High Value Conservation Areas. The open house were held early in the public comment period at the Forest Grove, Astoria, and Tillamook district offices. In response to the public comment period, the Division received:

- Eight letters/emails
- Approximately 1,700 form letter type emails
- Fifteen comments generated through an on-line survey

Almost all of the comments were generally supportive of the implementation of the FLMCS. Many of the comments included a request that the Department improve the durability of the High Value Conservation Areas; this issue is currently being addressed through the Alternative Forest Management Plan Project.

Several individuals indicated that old growth should be classified as High Value Conservation Areas. After reviewing the management strategies for old growth in the Northwest Oregon, Southwest Oregon, and Elliott State Forest Management Plans, I have found that old growth stands (as defined in those plans) qualifies for classification as High Value Conservation Areas under the Unique, Threatened, or Endangered Plants subclass. I have directed the districts to include existing old growth stands as High Value Conservation Areas in their final FLMCS designations.

After reviewing the draft FLMC maps/data, the public input, the recommendations from the District Foresters and Area Directors, and consistent with OAR 629-035-0060 (2), I am approving the revised FLMCS for Astoria, Coos, Forest Grove, North Cascade, Southwest Oregon, Tillamook, West Oregon, and Western Lane Districts.



Doug Decker
State Forester

6.25.14

Date

APPENDIX A

Forest Land Management Classification System (FLMCS) Major Change Notification

The FLMCS is a method of describing the management emphasis of parcels of State Forest Land. The management emphasis identifies the extent to which a parcel of land can be managed for a variety of forest resources. It also identifies when a particular forest resource may need a more focused approach in its management, or possibly an exclusive priority in its management.

The framework of the FLMCS places all State Forest Land within one of four land management classifications. The classifications are: (1) General Stewardship, (2) Focused Stewardship, (3) Special Use, and (4) High Value Conservation Areas. Subclasses are assigned for the specific forest resources that require a Focused Stewardship, Special Use, or High Value Conservation Area classification.

A major modification of the FLMCS is defined as one that cumulatively exceeds 500 acres within one year. A 45 day public comment period will be held in conjunction with the FY 2015 AOP comment period.

The current FLMC for the North Cascade District was revised in 2013. The Board of Forestry has approved an additional FLMC rule change for FY 2015 that replaces the Special Stewardship classification with two new classifications: High Value Conservation Areas and Special Use Areas. Pending the Public Comment Period, this reclassification is scheduled to take effect July 1, 2014. At the close of the Public Comment Period, the District Forester will forward these changes along with any public comments to the NWO Area Director and the State Forester for review and approval.

The following tables from the North Cascade District Implementation Plan, 2012 have been modified to reflect this change:

Table 10. North Cascade District Acres, by Stewardship Class and Fund

Classification	Board of Forestry	Common School	Total Acres
Focused Stewardship	54039	933	54972
Special Use	3621	6	3628
High Value Conservation Area	5347	83	5430
General Stewardship	12094	182	12277

*Acres include overlapping classifications.

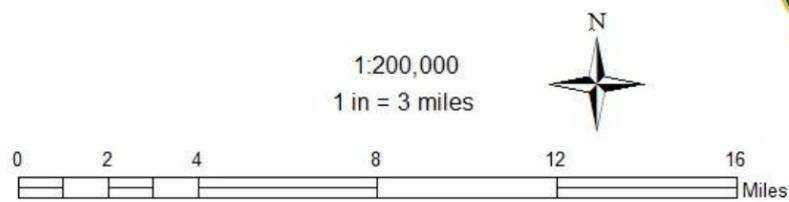
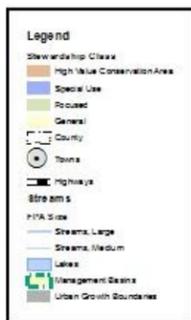
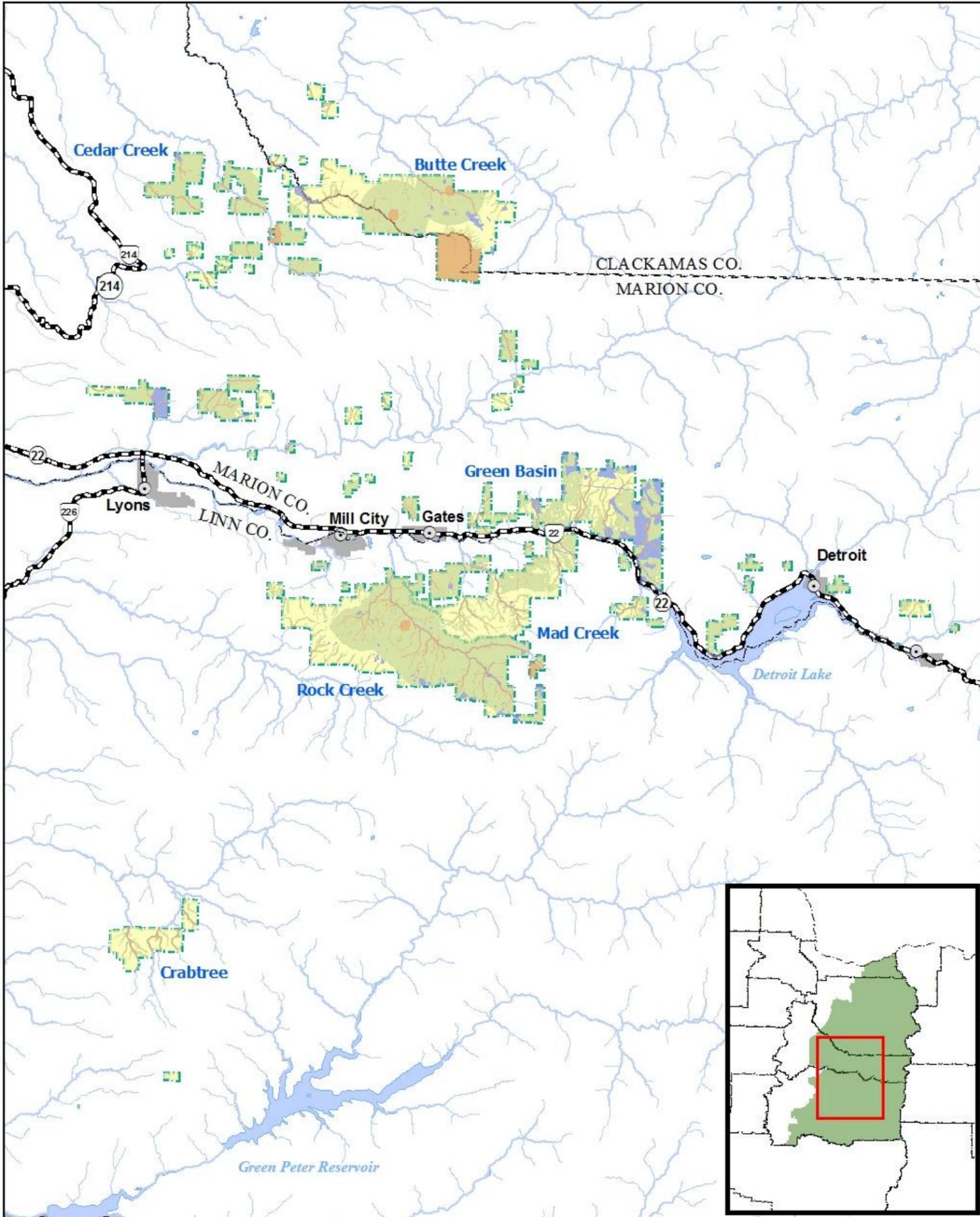
Table 11. North Cascade District FLMC – Focused and Special Subclasses (Acres)

	Focused Stewardship	Special Use	High Value Conservation Area
Administrative Sites		11	
Aquatic and Riparian Habitat	8914		3528
Cultural Resources	2	24	
Domestic Water Use	15944		
Energy and Minerals		36	
Operationally Limited - NEF ¹		2771	
Plants			86
Recreation	620	492	
Research and Monitoring	24	24	
Transmission		197	
Visual	7992	73	
Wildlife Habitat	21478		1817

*Acres include overlapping classifications

1. Not Economically Feasible

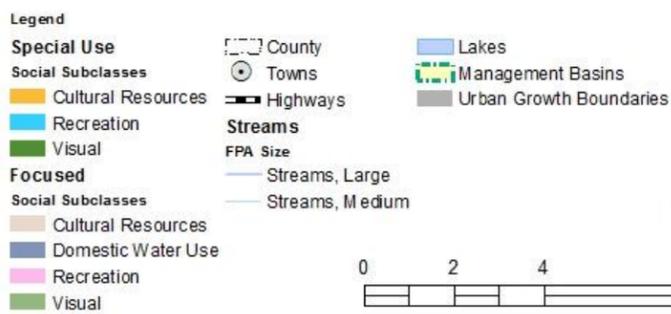
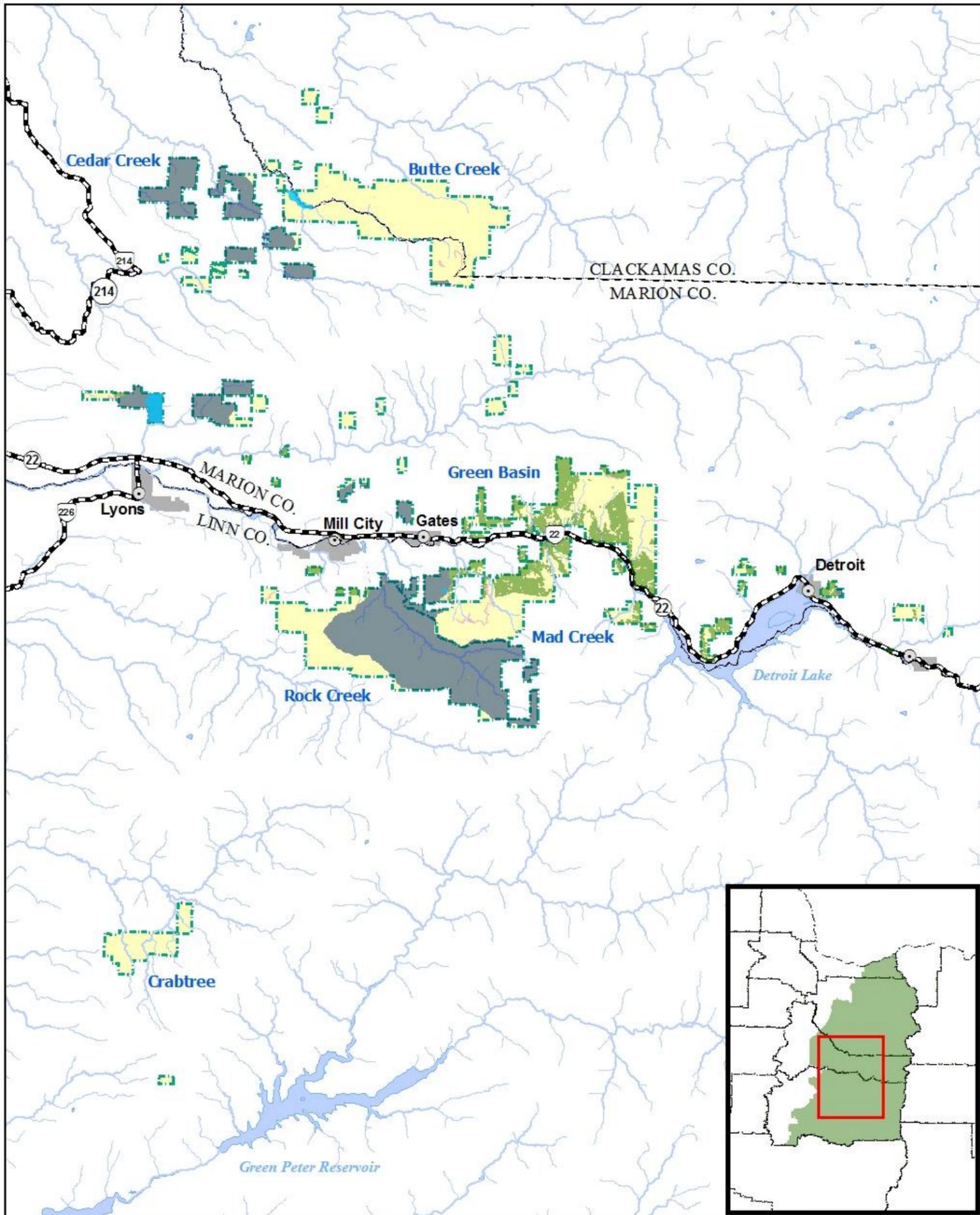
North Cascade District Stewardship Classifications



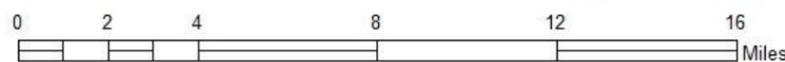
This product is for informational purposes, and may not be suitable for legal, engineering or surveying purposes. This information or data is provided with the understanding that conclusions drawn from such information are the responsibility of the user.

Created By: Kyle Kaupp
Date: 3/13/2014

North Cascade District Stewardship Classifications - Social Subclasses



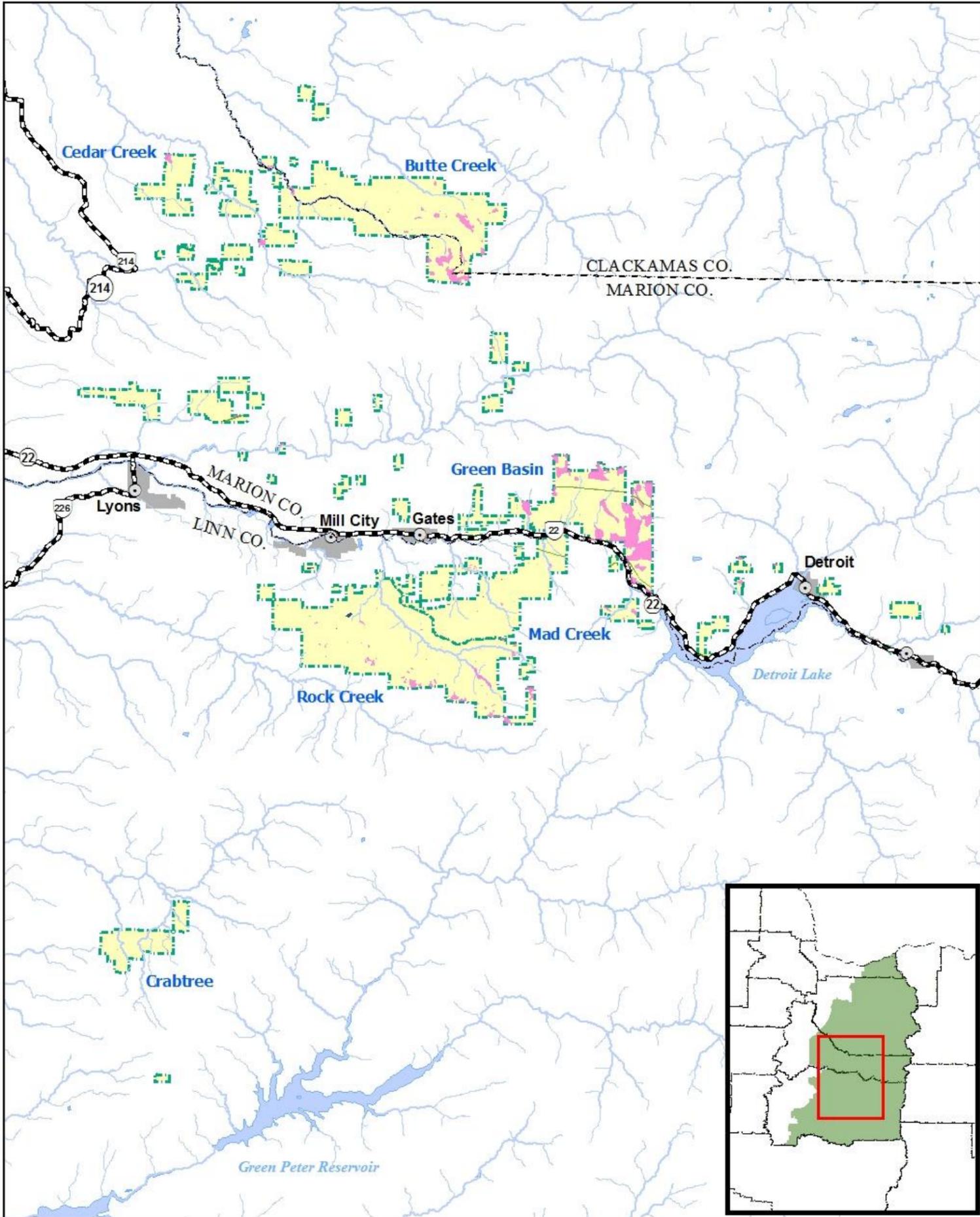
1:200,000
1 in = 3 miles



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.

Created By: Kyle Kaupp
Date: 3/13/2014

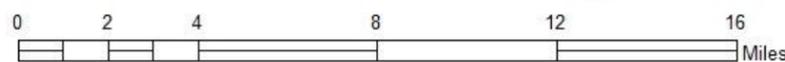
North Cascade District Stewardship Classifications - Management Subclasses



Legend

- | | | |
|------------------------------|-----------------|-------------------------|
| Special Use | County | Lakes |
| Management Subclasses | Towns | Management Basins |
| Administrative Sites | Highways | Urban Growth Boundaries |
| Energy and Minerals | Streams | |
| Operationally Limited - NEF | FPA Size | |
| Research/Monitoring | Streams, Large | |
| Transmission | Streams, Medium | |
| Focused | | |
| Management Subclasses | | |
| Research/Monitoring | | |

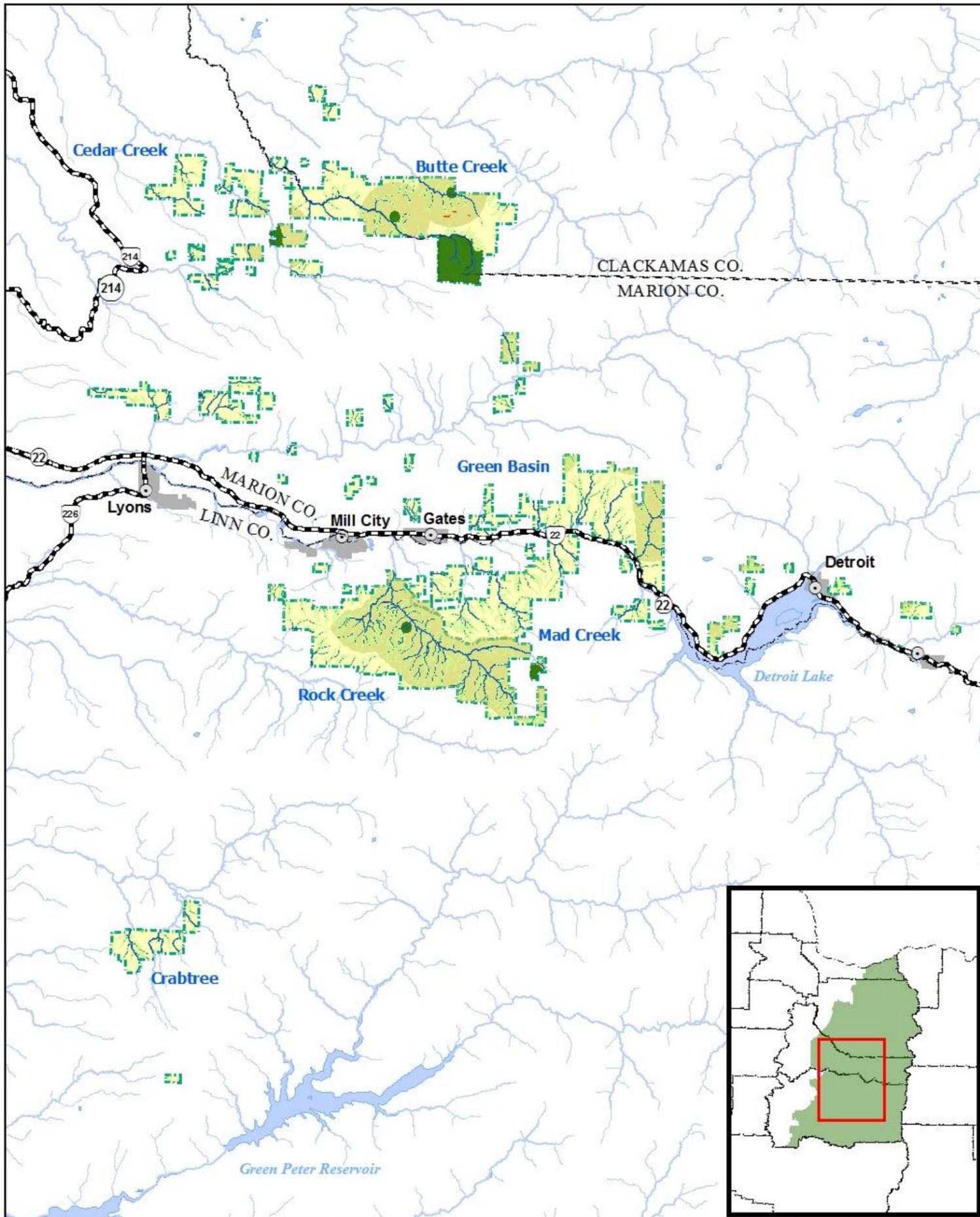
1:200,000
1 in = 3 miles



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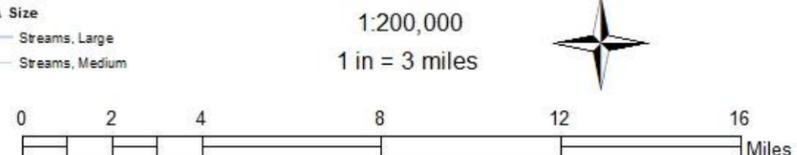
Created By: Kyle Kaupp
Date: 3/13/2014

North Cascade District Stewardship Classifications - Biological Subclasses



- Legend**
- High Value Conservation Area**
- Biological Subclasses**
- Aquatic and Riparian Habitat
 - Unique, Threatened or Endangered Plants
 - Wildlife Habitat
- Focused**
- Biological Subclasses**
- Aquatic and Riparian Habitat
 - Wildlife Habitat

- County
 - Towns
 - Highways
 - Lakes
 - Management Basins
 - Urban Growth Boundaries
- Streams**
- FPA Size**
- Streams, Large
 - Streams, Medium



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.

Created By: Kyle Kaupp
Date: 3/13/2014

APPENDIX B

Table 12. Financial Summary

TIMBER HARVEST OPERATIONS - FINANCIAL SUMMARY												
District: North Cascade			Fiscal Year: 2015							Date: 6-Jan-14		
Fund %			Net Acres			Volume (MMBF)			Value			
Primary Operation	BOF	CSL	County	Sale Quarter	Partial Cut	Clear-cut	Conifer	Hard-woods	Total	Gross	Projects	Net
Around Gates Hill	32%	68%	Marion	1	0	121	2.7	0.0	2.7	\$1,106,700	\$115,523	\$991,177
Zip-Up	100%	0%	Marion	1	0	135	4.0	0.0	4.0	\$1,536,000	\$195,525	\$1,340,475
Green Heights	100%	0%	Marion	2	131	62	2.3	0.0	2.3	\$652,600	\$150,812	\$501,788
Shellburg Corner	100%	0%	Marion	3	225	0	2.7	0.0	2.7	\$665,000	\$130,477	\$534,523
Camp Creek North	100%	0%	Linn	3	0	79	2.6	0.0	2.6	\$977,625	\$83,034	\$894,591
Double Arch	100%	0%	Linn	4	349	0	4.5	0.0	4.5	\$1,134,250	\$234,066	\$900,184
Total:					705	397	19	0.0	19	\$6,072,175	\$909,437	\$5,162,738
Alternate Operations												
Lawhead	100%	0%	Linn		0	75	2.1	0.0	2.1	\$639,000	\$57,770	\$581,230
P200	100%	0%	Linn		0	84	3.7	0.0	3.7	\$1,293,600	\$112,840	\$1,180,760
Higher Rock	100%	0%	Linn		179	0	1.4	0.0	1.4	\$358,000	\$75,200	\$282,800
Around Panther	100%	0%	Clackamas		0	114	2.5	0.0	2.5	\$718,200	\$151,124	\$567,076
CF 331	100%	0%	Marion		85	0	0.8	0.0	0.8	\$207,500	\$42,499	\$165,001
1100 Tom	100%	0%	Linn		234	0	2.3	0.0	2.3	\$576,000	\$148,966	\$427,034
Camp Six	100%	0%	Linn		0	90	2.6	0.0	2.6	\$850,500	\$166,011	\$684,489
Total:					498	363	15	0.0	15	\$4,642,800	\$754,410	\$3,888,390

Table 13. Forest Resource Summary

PRIMARY HARVEST OPERATIONS - FOREST RESOURCE SUMMARY																				
District: North Cascade		Fiscal Year: 2015										Date: 02/10/2014								
This table lists Forest Resources and other issues addressed within Pre-Operations Report due to their presence within or near harvest operations																				
Primary Harvest Operations	Unit (Optional)	Forest Health Issues ¹	Invasive Species	Lyr/OFS Structures ²	Landscape Design Lyr/OFS ³	Install/Replace Culverts on Fish Bearing/Perennial Streams	Harvesting within 100' of Fish Bearing Stream	Domestic Water Source	Potential Stream Habitat Improvement ⁴	Within Aquatic Anchor	Within Terrestrial Anchor	Operating within a NSO Provincial Circle	Within 1/4 mile of MMMA	T&E Fish Adjacent to Harvest Unit / Haul Route ⁵	T&E Plants	Geotechnical Issues Needing Field Review	Recreation Sites	Cultural Resources	Scenic Resources	
Green Heights			x		x			x												
Double Arch			x	x	x					x										
Shellburg Corner			x		x	x											x			x
Around Gates Hill			x																	
Camp Creek North			x	x																
Zip-Up			x																	
ALTERNATE HARVEST OPERATIONS - FOREST RESOURCE SUMMARY																				
Alternate Harvest Operations	Unit (Optional)	Forest Health Issues ¹	Invasive Species	Lyr/OFS Structures ²	Landscape Design Lyr/OFS ³	Install/Replace Culverts on Fish Bearing/Perennial Streams	Harvesting within 100' of Fish Bearing Stream	Domestic Water Source	Potential Stream Habitat Improvement ⁴	Within Aquatic Anchor	Within Terrestrial Anchor	Operating within a NSO Provincial Circle	Within 1/4 mile of MMMA	T&E Fish Adjacent to Harvest Unit / Haul Route ⁵	T&E Plants	Geotechnical Issues Needing Field Review	Recreation Sites	Cultural Resources	Scenic Resources	
Lawhead			x	x																x
P200			x	x																x
Higher Rock			x	x	x					x										
Around Panther			x																	
CF 331			x	x	x												x			
1100 Tom			x	x	x					x								x		
Camp Six			x																	

¹ A 'x' (in any column) indicates yes the resource or other issue occurs within or near the harvest operation and is addressed by the Pre-Operations Report
² A 'x' indicates the harvest operation contains stands that are currently in a Layered or Older Forest Stand Structure
³ A 'x' indicate that the operation contains areas that have been designated for the development of complex forest stands (Lyr/OFS)
⁴ The final decision on these projects will occur during sale preparation and in consultation with ODFW.
⁵ This table lists harvest operations (units or log haul routes) that are adjacent to streams that are known to contain T&E fish. The Pre-Operation Report identifies whether T&E fish are present in the basin.

Table 14. Forest Structure Summary

TIMBER HARVEST OPERATIONS - FOREST STRUCTURE SUMMARY									
District: North Cascade		Fiscal Year: 2015				Date: 02/10/2014			
<u>Current Structure</u>		<u>Post Harvest Structure</u>					<u>Desired Future Condition</u>		
	Total	REG	CSC	UDS	LYR	OFS	GEN	LYR	OFS
REG									
CSC	10			10			10		
UDS	664	318		346			664		
LYR	428	79			349		79		349
OFS									
Total	1,102	397	0	356	349	0	753	0	349

Table 15. Forest Roads Summary

FOREST ROADS SUMMARY									
District: North Cascade			Fiscal Year: 2015				Date: 2/10/2014		
Primary Operation	Construction		Improvement		Other Projects	Total Project Costs	Gross Value of Operation	Total Cost as a percent of Gross Value	Comments
	Miles	Cost	Miles	Cost					
Around Gates Hill	1.5	\$80,853.00	1.4	\$34,670.00	\$0.00	\$115,523.00	\$1,106,700.00	10.4%	Rd rock developed on site
Zip-Up	0.4	\$27,598.00	2.7	\$167,927.00	\$0.00	\$195,525.00	\$1,536,000.00	12.7%	Use Abiqua Pit
Green Heights	0.8	\$61,394.00	1.7	\$89,418.00	\$0.00	\$150,812.00	\$652,600.00	23.1%	~ 6 miles to pit
Shellburg Corner	0.8	\$83,528.00	0.4	\$46,949.00	\$0.00	\$130,477.00	\$665,000.00	19.6%	Stout Cr. Pit (Weyco)
Camp Creek North	0.5	\$40,035.00	0.3	\$42,999.00	\$0.00	\$83,034.00	\$977,625.00	8.5%	Hammond 400 Pit
Double Arch	0.8	\$48,409.00	2.7	\$67,912.00	\$117,745.00	\$234,066.00	\$1,134,250.00	20.6%	Halfway Cabin Pit
Total:	4.9	\$341,817	9.2	\$449,875	\$117,745	\$909,437	\$6,072,175	15.0%	

Alternate Operation	Miles	Cost	Miles	Cost	Other Projects	Total Project Costs	Gross Value of Operation	Total Cost as a percent of Gross Value	Comments
P200	0.4	\$58,871.00	2.4	\$53,969.00	\$0.00	\$112,840.00	\$1,293,600.00	8.7%	Mad Creek stockpile
Higher Rock	0.4	\$27,643.00	1.1	\$64,077.00	\$0.00	\$75,200.00	\$358,000.00	21.0%	Tom Rock Pit (TR500)
Around Panther	0.8	\$85,974.00	2.7	\$46,450.00	\$18,700.00	\$151,124.00	\$718,200.00	21.0%	Panther Pit (BC720)
CF 331	0.0	\$0.00	3.1	\$32,408.00	\$10,091.00	\$42,499.00	\$207,500.00	20.5%	Crooked Finger Pit
1100 Tom	1.4	\$92,063.00	4.6	\$56,903.00	\$0.00	\$148,966.00	\$576,000.00	25.9%	Tom Rock Pit (TR500)
Camp Six	0.0	\$0.00	1.5	\$26,494.00	\$135,517.00	\$166,011.00	\$850,500.00	19.5%	Crush in Monument Pit
Total:	3.0	\$282,551.00	15.9	\$320,071.00	\$164,308.00	\$754,410.00	\$4,642,800.00	16.2%	

Table 16. Reforestation and Young Stand Management Summary

REFORESTATION AND YOUNG STAND MANAGEMENT SUMMARY								
District: North Cascade		Fiscal Year: 2015					Date: 02/10/2014	
ODF Funded Activities	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
Management Activity	466	\$280.00	\$130,480.00				466	\$130,480.00
Initial Planting	466	\$280.00	\$130,480.00				466	\$130,480.00
Interplanting	150	Mill Creek	\$27,405.00				150	\$27,405.00
Tree Protection-Barriers	25	Mill Creek					25	\$0.00
Site Prep-Chemical- Aerial	242	\$30.00	\$7,260.00				242	\$7,260.00
Site Prep-Chemical- Hand	224	\$100.00	\$22,400.00				224	\$22,400.00
Site Prep -Slash Burning	260	\$30.00	\$7,800.00				260	\$7,800.00
Site Prep -Mechanical	260	Timber Sale Contracts					260	\$0.00
Release-Chemical- Aerial	100	\$30.00	\$3,000.00				100	\$3,000.00
Release,-Chemical-Hand	132	\$100.00	\$13,200.00				132	\$13,200.00
Release-Chemical Hack & Squirt	252	Mill Creek					252	\$0.00
Release-Mechanical-Hand	80	Mill Creek					80	\$0.00
Animal Damage Control	350	Mill Creek					350	\$0.00
Totals	2541	--	\$211,545.00				2,541	\$211,545.00

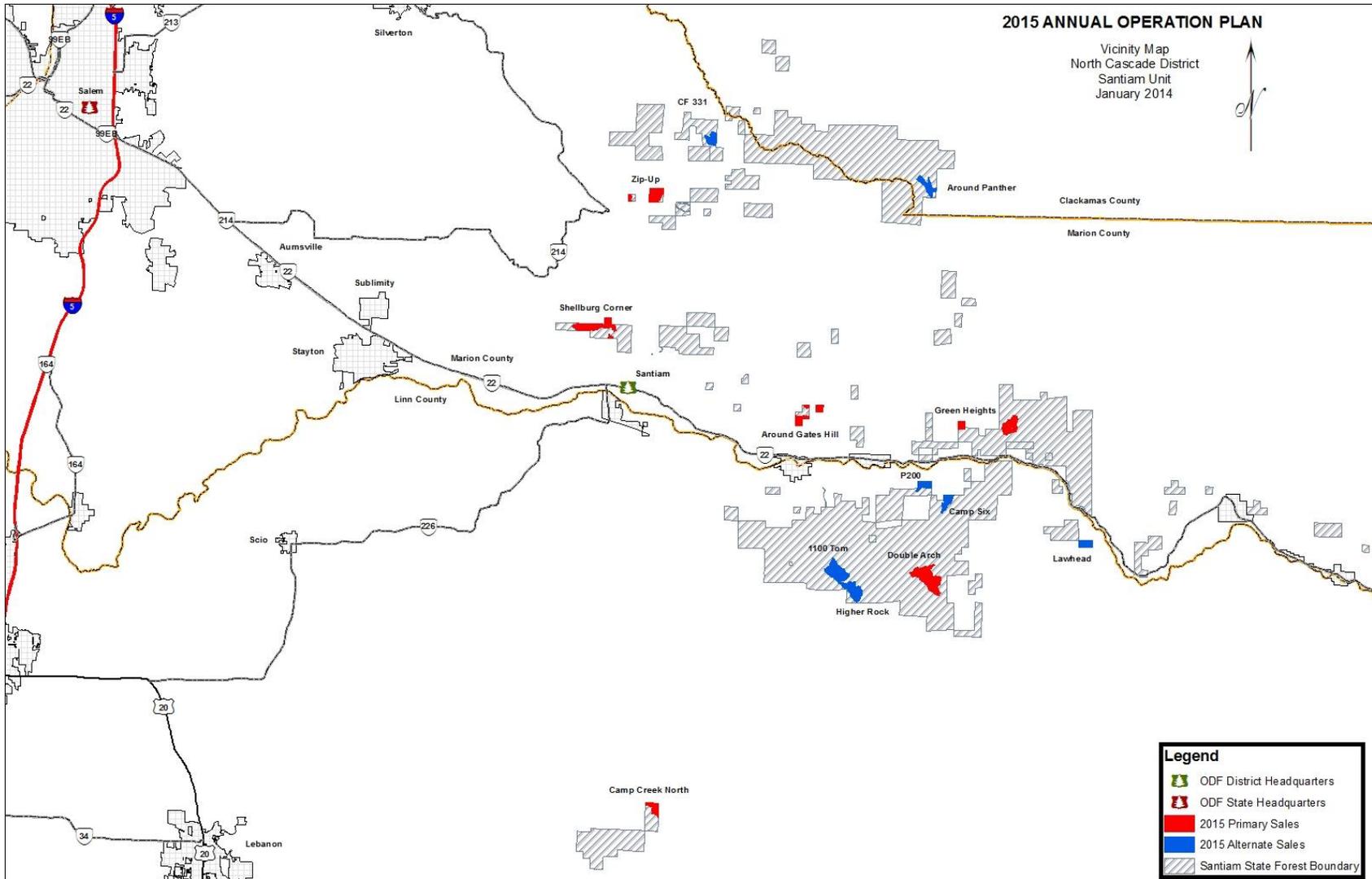
Planting costs include all costs including seedlings*

Table 17. Recreation Management Summary

RECREATION MANAGEMENT SUMMARY										
District: North Cascade			Fiscal Year: 2015					Date: 02/10/2014		
Operation	Unit of Measure	Current	Construction Projects	Construction Cost		Improvement Projects	Cost		Total Cost	Comments
				ODF	Other		ODF	Other		
Facilities										
Campsites	Sites	26				Rock Creek campsite removal and reconstruction			\$2,700	ODF Staff
						Reconstruct 2 horse corrals in Horse Camp			\$0	Mill Creek
Day Use Areas		2				Update Kiosks and improve signage			\$500	ODF Staff/Mill Creek
Trailheads		7				Update signage and maps			\$500	ODF Staff
Interpretive Sites (Other)	Sites	0							\$0	
Trails										
Non-Motorized	Miles	25				Install culverts where needed			\$100	ODF/Mill Creek
						Construct new connecting trails (various locations)			\$0	ODF/Mill Creek
Motorized	Miles	6				Update trail inventory			\$0	ODF Staff
Total:									\$3,800	

APPENDIX C

Vicinity Map



APPROVED JUNE 2014

APPENDIX D

Consultation with other State Agencies

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

Representatives from ODFW were in attendance with ODF's resource specialists to discuss the management activities proposed in this AOP. The district has received written comments from ODFW regarding one proposed primary operation and two alternates: Zip-Up, Around Panther, and CF 331, respectively.

The USFW service submitted comment regarding potential impacts to the federally-listed northern spotted owl (*Strix occidentalis caurina*). Their review of the North Cascade 1100 Tom alternate timber sale concurred with the initial ODF assessment indicating that the risk of negatively affecting spotted owls is low due to: the remaining percentage of suitable habitat post-harvest, the distance from the activity center of the proposed harvest, and the low quality of the habitat potentially affected by the proposed harvest.

APPENDIX E

Public Involvement

The purpose of the Public Comment Period was to provide an opportunity for the public to review the AOPs, ask questions, make recommendations, and offer comments. As a public agency, ODF operates in the best interest of Oregonians, conducting business in an open way with opportunities for scrutiny to foster and maintain public confidence that ODF operations are benefiting Oregonians. Past experience has shown that public comments have the potential to improve plans, so the objective was not only to inform the public, but to receive feedback that would help to clarify the AOPs, improve their consistency with the long range FMPs and IPs, and to become aware of any new information that could affect planned operations or improve efficiency and effectiveness.

The North Cascade District received one letter of comment regarding the FY 2015 AOP. The District response to this comment can be viewed on the following page. Public comments can be viewed at:

http://www.oregon.gov/odf/pages/state_forests/annual_operations_plans.aspx



Oregon

John A. Kitzhaber, MD, Governor

Department of Forestry

North Cascade District
22965 North Fork Road SE

Lyons, OR 97358

503-859-2151

FAX 503-859-2158



"STEWARDSHIP IN FORESTRY"

June 5, 2014

Dear Mr. Green,

Thank you for reviewing our North Cascade District, Santiam State Forest Annual Operations Plan. We greatly appreciate your time and interest in the planning process. Your public comment was received through the on-line survey and the District offers the following response: The Santiam State Forest is comprised of 47,625 total acres of which 7,266 acres lie within Clackamas County. This is a 15% representation of the total land-base of State Forest acres within the North Cascade District. Managing across the landscape and providing a comparable representation of timber sales proportionately across all three counties is an overarching goal of our State Forest program. However, a variety of constraints can and do enter into the equation such as elevation, durability of the road systems in place, Northern Spotted Owl occurrences, etc. As a point of interest since the year 1997 approximately 70% of the available acres within Clackamas County have been managed i.e. with either a regeneration harvest or partial cut prescription.

Looking forward, Clackamas County can expect to see a timber sale prepared on average every other Operating Plan. The following table on page 2 represents the timber sales prepared and sold for Clackamas County over the past 10 year period.

Sale Year	Timber Sale Name	Harvest Type	Sale Volume
2005	Looney Bhin	74 Modified Clearcut	1,796 MBF
2006	No planned sale		
2007	No planned sale		
2008	No planned sale		
2009	South Gawley	131 acres Regeneration Harvest	3,134 MBF
2010	Party Butte	128 acres Regeneration Harvest	3,795 MBF
2011	Boar Plus	347 acres Partial Cut & 90 acres Regeneration Harvest	6,523 MBF
2012	No planned sale		
2013	No planned sale		
2014	By Gawley & *Dirty Dozen	143 acres Partial Cut	1,823 MBF
2015 Will be sold	*Moved Dirty Dozen forward to 2015 AOP	72 acres Modified Clearcut	1,585 MBF

This represents an average of 1.696 MBF of harvest volume per year.

Sincerely,

Shannon Loffelmacher
State Forests Unit Manager
North Cascade District

APPENDIX F

Pre-Operations Reports

Pre-Operation Reports and Recreation Project Reports are available upon request.