

TILLAMOOK DISTRICT



2018 ANNUAL OPERATIONS PLAN

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OVERVIEW

This plan describes the activities and outcomes that Oregonians can expect to see on the western side of the Tillamook State Forest for 2018. 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 Tillamook 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. Two-thirds of the revenues from state forest timber sales is distributed through local counties to taxing districts including schools, recreation districts, and rural fire departments. 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. 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 Tillamook 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 Tillamook 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 and 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 approximately 900,000 seedlings on 2,450 acres and conducting site prep on 1800 acres while also conducting vegetation and animal management activities on an additional 5,438 acres to ensure the survival and growth of plantations.
- Conduct individual surveys for northern spotted owls over more than 24,000 acres.
- Evaluate over 35 miles of streams to determine flow duration and approximately 4 miles for the presence of fish.
- Protecting streams and water resources through a series of buffers and seasonal restrictions activities.
- Stream improvement projects: An initial screen suggests that 1 stream near a planned harvest unit in the Trask basin could benefit from large wood additions to the stream system. This stream will be evaluated by an ODFW Fish Biologist and/or ODF Aquatic Specialist for potential projects during sale layout.
- Habitat development such as creating snags, retaining green trees in clearcut areas, and leaving down wood, all for wildlife benefits in harvest areas and future forests.
- Maintaining a 1,102 mile road network that provides access to timber harvest as well as various recreational opportunities, forest patrol and protection.
- Improving and maintaining roads to ensure ditch water is dispersed and filtered as much as possible, keeping sediment from entering streams.
- Review District roads to develop plans to block or vacate roads not needed for the district transportation plan.
- Planning to harvest approximately 47 million board feet of timber volume, through modified clearcut, generating gross revenue estimated at \$13.7 million. This harvest level is 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:
 - 3 fee campgrounds
 - 2 fee OHV campgrounds
 - 2 OHV staging areas
 - 5 day use areas,
 - 1 highway wayside interpretive site
 - 3 trailhead facilities
 - 89 designated dispersed campsites
- 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 recreation management
- Supporting the pre-planned 16 organized motorized events and providing support for 1 non-motorized event.
- Providing a firewood cutting program and miscellaneous forest products permits (salal, mushrooms, etc.) as done in 2017.
- Supporting ongoing research and monitoring on the district, in partnership with research cooperatives and universities.

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INTRODUCTION

This annual operations plan (AOP) outlines activities planned on state-owned forestland managed by the Tillamook District for Fiscal Year 2018 (FY18), which begins July 1, 2017 and ends June 30, 2018. 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)*, *Tillamook State Forest Recreation Action Plan*, and the *Tillamook District Implementation Plan (IP)*. Please refer to the district IP for more specific information on physical characteristics and other district resource information.

This AOP, as prepared, aligns with the proposed Forest Land Management Classification modifications described in Appendix F. This proposed modification requires a 30 day public comment period which will be held in conjunction with the Districts 2018 AOP public comment period. This AOP is also consistent with a proposed minor modification to the Landscape Design identified in the District Implementation Plan; this revision is described in Appendix G.

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 harvest operations are planned to be designed, engineered, and submitted for processing during the FY18 time period. Actual on-the-ground operations will likely not occur during FY18 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 FY2018.

A 45-day public comment period runs from March 20, 2017 through May 4, 2017. The District Forester will consider the comments received during this period and make any changes or modifications that determined necessary, prior to approving the AOP. Appendix E, found in the final AOP, will outline the changes made after the public comment period.

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*, *State Forest Advisory Accomplishment 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.¹

¹ 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/Reports.aspx>

INTEGRATED FOREST MANAGEMENT

Timber Harvest Operations

Overview of Timber Harvest Operations

The planned timber harvest operations are within the total acres objective in the Tillamook District IP. Activities in the AOP will allow for stands to be moved toward the Desired Future Condition and contribute revenue to the counties with the overall objective of **47 MMBF**.

In accordance with the guidance on the 2018 harvest levels², the district has included 47.1 MMBF of timber harvest in this Annual Operations Plan (Table A-1).

The FY18 sale plan is estimated to generate gross revenues of approximately \$13,729,000 and net revenues of \$11,859,873. It is estimated that active management will result in producing approximately 37 million board feet of conifer volume, 10.1 million board feet of hardwood volume. In addition to the above revenue and volume, some sales are expected to have pulp removed from sale areas. The amount and value of pulp is difficult to predict during planning process but will likely occur in areas of regeneration harvest on steep slopes and whole tree yarding systems. Refer to the attached Financial Summary table for more detail on volumes and values.

Table 1 compares the proposed acres by harvest type³ in this AOP to the harvest acre ranges specified in the IP. This AOP contains 9 primary operations comprised of 2,148 net acres of regeneration harvest (approximately 0.86% of the district's total acreage) which achieves the annual volume objective. 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-1, while a vicinity map of these harvest operations can be found in Appendix B.

Note that the acres detailed throughout the report express net acres, unless otherwise stated. Net acres are based on orthophotos and GIS and exclude roads, non-required thinning areas, stream buffers, other buffers and green tree retention areas.

The district has included two alternate timber sales (that have a total of 6 areas) and 3 alternate sale areas (totaling 959 acres) in this Annual Operations Plan for public review. These alternate operations may be used to replace regular sales that cannot be completed as planned. In order to make the sale layout and project work preparation process more efficient several sales have both primary and alternate sale areas. The majority of these alternate units are planned for the 3rd and 4th quarters and will be used to adjust any volume shortages or overruns that may be encountered in order to meet the 47 MMBF target. If the volume is under-running then alternate

² Oregon State Forests Guidance 2018 Annual Operations Planning Guidance dated July 1, 2016.

³ The definitions of the harvest types used to describe timber harvesting on State Forests can be found on the [State Forests website](#) under Forest Management and Planning. Briefly, a Modified Clearcut is the most common of three type of Regeneration Harvest (or clearcut) that may occur on State Forests. The defining characteristics of Modified Clearcuts are that they meet the structural component standards of the FMP (green tree, snag, and down wood).

areas will be added as needed. If the volume is over-running then areas will be removed as needed.

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

Silvicultural Activity	IP Annual Objective		2018 AOP Objective
	Low	High	
Partial Cut Harvest	0	3,450	0
Regeneration Harvest	800	3,150	2,148
Reforestation (Initial Planting)			1,800

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 and archeologists from Oregon Department of Transportation. Occasionally, operations may contain a resource or activity where review with another state agency, such as the Department of Agriculture or the Department of State Lands, is warranted. Written comments from the external resource specialists and the resolution of those comments can be found in Appendix C.

Some smaller additional operations may also produce timber volume for the district may be included in this AOP. These sales will be less than \$100,000 in value and comply with all policies and plans.

Table 2 illustrates the IP harvest objective to the planned volume versus the sold volume versus the actual cut out volume history over the life of the current Tillamook District Implementation Plan (2009). This table also shows both the sold cumulative difference from the IP objective and the actual cutout cumulative difference from the objective in order to highlight some cruising issues that the district began working to solve during the layout of the 2015 AOP. The issues identified in the AOP 2010 - 2015 included additional defect and breakage added post cruise, cruises that were more than 3 to 5 years old that were not grown forward, and sale contract with 4 to 5 year contracts that did not have in-growth added to the volume. New post cruise analysis processes and ingrowth standards were implemented approximately halfway through the 2015 AOP sale layout process in order to close the gap between AOP volume sold and AOP volume cutout. The district will continue to monitor these outputs and make additional adjustments if necessary.

Table 1. Accomplishment of AOP Harvest Volume Compared to IP Annual Objective (MMBF)

Fiscal Year	IP Annual Objective	AOP Planned Volume	AOP Sold Volume	Sold Cumulative Difference from Objective ¹	AOP Actual Cutout Volume	Cutout Cumulative Difference from Objective ²
2010	47	47	35.6	-11.4	37.9	-9.1
2011	47	47.2	47.3	-11.1	57.5	1.4
2012	47	47.3	51	-7.1	56.1 ⁴	10.5
2013	47	47.3	43.3	-10.8	57.5	21
2014	47	50.2	50	-7.8	--	--
2015 ⁵	47	47	46.2	-8.6	--	--
2016	47	47.6	47.5	-8.1	--	--
2017 (Current AOP) ³	47	47.1	47.1	--	--	--
2018 (Draft AOP)	47	47.1	--	--	--	--

1. IP Harvest Objective versus Sold Volume

2. IP Harvest Objective versus Actual Cutout Volume

3. Estimated Volume based on completion (prepared / sold volume) of 3% of the planned volume from current AOP

4. AOP year has 1 sale that is still active so additional volume will be added to this total when sale is completed.

5. New post cruise analysis processes were implemented approximately halfway through the 2015 AOP sale layout process in order to close the gap between AOP volume sold and AOP volume cutout. Major issues in AOP 2010 - 2015 included additional defect and breakage calculations, cruises that were more than 3 to 5 years old that were not grown forward, and sale contract with 4 to 5 year contracts that did not have in-growth added

Structural Habitat Components

Green Tree, Snag and Down Wood Strategies

The Forest Management Plan discusses goals for green tree, snag, and down wood at a landscape level and per AOP. The Pre-Operations Reports discuss specific strategies for each operation and harvest unit. A harvest unit includes the sale area(s) and the adjacent buffers and green tree retention areas, with unit boundaries extending to the streams.

Within in a given annual operations plan, green trees may be retained at higher levels in some units and at lower levels in other units. An analysis of the last 5 years (2012-2016) of green tree retention shows that we have averaged approximately 19 green trees per acre in a wide variety of arrangements (located in upland riparian buffers, headwalls, inner gorge areas, in clumps, and scattered) in the harvest boundaries. Some of the harvests, treating slow-growth from SNC and off-site seed, are in stands of younger age classes and may require deferring snag and down wood creation in order to achieve the required size classes.

The timber sales in the 2018 AOP will be developed using the same standards that have been used in the past and that are in alignment with Policy Bulletin SFB 13-02, "Improving Cost Efficient and Effective Implementation of State Forest Management Plans", to create efficient harvest units. Leave trees for snags and green trees will be grouped in riparian

areas, inner gorge areas, headwalls, and other areas with slope stability issues in many sales as allowed by FMP strategies. In stands that have minor components of other species and large diameter trees additional trees may be left scattered or clumped across the sale area where available. It is expected that the 2018 AOP will contribute approximately 13.6 green trees per acre using these strategies. The need for snag creation in each unit is evaluated based on cruise information that documents snags in decay class 1 and 2. Areas with less than 2 hard snags per acre will be evaluated and an appropriate snag prescription will be developed.

Down Wood will continue to be created through bucking practices, leaving felled snags in the unit and tops on ground yarding areas. The 2010 Implementation monitoring report shows the Tillamook District clearcuts average 700ft³ of down wood in decay class 1 and 2 through normal cable harvesting operations and bucking practices.

Harvest Operations within Terrestrial Anchor Sites and Aquatic Anchors

The Tillamook District implemented the State Forests' Species of Concern Strategies that specifically identifies fish and wildlife species of concern on the Tillamook State Forest. Two of these strategies are 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 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. Management within TAS is also to move stands toward the attainment of complex structure more quickly than would occur without management. All areas that were designated as TAS were designated in areas where most of the stands 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 located around streams important to fish in most of the AA basins.

The Species of Concern Strategies provide long term goals for TAS and AA, 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 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.

Since the creation of the TAS in 2011 with the 2012 AOP, the Tillamook District has managed in the Ripple Creek TAS with the 2014 AOP. There are no sales planned in TASs for the 2018 AOP.

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

Terrestrial Anchor Site (TAS)	Current AOP (FY 2018) Planned Harvest		Cumulative Harvest (FY 2012 AOP to Present)	
	Clearcut	Partial Cut	Clearcut	Partial Cut
Entire District (AOP) (250,516 acres)	2148	0	16,238	4710
% of Acres	0.86%	0.0%	6.48%	1.88%
Bastard Creek	0	0	0	0
(5,021 acres) % of Acres	0%	0%	0%	0%
Ripple Creek	0	0	0	559
(3,831 acres) % of Acres	0%	0%	0%	14.6%
Miami	0	0	0	0
(6,396 acres) % of Acres	0%	0%	0%	0%
Hembre	0	0	0	0
(2,981 acres) % of Acres	0%	0%	0%	0%
Boundary	0	0	0	0
(2,138 acres) % of Acres	0%	0%	0%	0%
All TAS (20,367 acres)	0	0	0	559
% of Acres	0.0%	0.0%	0.0%	2.7%

The AAs strategies are applied to approximately 38% of the Tillamook District and focus on the protection of riparian areas within the AA watersheds. Harvest in these basins require additional stream buffers. The harvest rate for each basin is shown below along with the harvest rate for the entire district (see Table 4 As timber sales are sold and harvested there will be acreage updates to the Cumulative Harvest column from the acres reported in the AOP to the actual acres harvested).

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

Aquatic Anchors (AA)	Current AOP (FY 2018) Planned Harvest		Cumulative Planned Harvest 2014 AOP to Present	
	Clearcut	Partial Cut	Clearcut	Partial Cut
Entire District (AOP) (250,516 acres) % of Acres	2148	0	11,654	2446
% of Acres	0.86%	0.0%	4.65%	0.98%
Ben Smith Creek	253	0	198	56
(3,602 acres) % of Acres	7.02%	0.00%	12.52%	1.55%
Cedar Creek	55	0	1081	0
(7,214 acres) % of Acres	0.76%	0.00%	14.98%	0.00%
Coal Creek	0	0	0	0
(1,237 acres) % of Acres	0.00%	0.00%	0.00%	0.00%
Cook Creek	0	0	1225	249
(18,286 acres) % of Acres	0.00%	0.00%	6.70%	1.36%
East Fork S Fork Trask	278	0	1568	415
(15,627 acres) % of Acres	1.78%	0.0%	10.03%	2.66%
Elkhorn	0	0	330	0

(3,860 acres) % of Acres	0.00%	0.00%	8.55%	0.00%
Foley Creek	0	0	0	0
(4,403 acres) % of Acres	0.00%	0.00%	0.00%	0.00%
Little N Fork Wilson	258	0	799	0
(10,310 acres) % of Acres	2.50%	0.00%	7.75%	0.00%
Miami	0	0	181	0
(13,910 acres) % of Acres	0.00%	0.00%	1.30%	0.00%
Middle Kilchis	115	0	428	0
(14,155 acres) % of Acres	0.81%	0.00%	3.02%	0.00%
S Fork Salmonberry	0	0	0	559
(2,813 acres) % of Acres	0.00%	0.00%	0.00%	19.87%
All Aquatic Anchors	959	0	6,063	1,279
(95,417 acres) % of Acres	1.01%	0.0%	6.35%	1.34%

Summary of Timber Harvest Operations by Basin

In the following section, the commercial forest management operations planned for FY18 will be summarized in the context of the 11 management basins on the Tillamook District. This section is a summary of the operations by basin (North to South) and is not meant to completely describe the planned operation.

Individual pre-operation reports include information regarding riparian protection and structural components such as snags, down wood, and green tree retention. Since the Forest Management Plan strategies provide standards for these components, they are not discussed in the summary. Additional information regarding the harvest operations may be found within Table A-2, the Forest Resources Summary. Several sales have proposed landscape design modifications (refer to Appendix F) to address current stand condition issues or to better align the desired future condition boundaries to coincide with the riparian buffers and move DFC complex to more suitable locations. Road concerns and standards are discussed in the Forest Roads Management section.

Table 3. Summary of Timber Harvest Operations in each Management Basin. (All values are in net acres.)

Management Basin	Partial Cut	Clearcut
N. Fork Nehalem	0	0
Lower Nehalem	0	638
Short Sands	0	0
Miami	0	0
Kilchis	0	224
Tillamook Bay	0	0
Wilson	0	1415
Tillamook River	0	0
Trask	0	716
Nestucca	0	114
Little Nestucca	0	0

North Fork Nehalem Basin

There are no harvest operations planned in this basin for FY18.

Lower Nehalem Basin

Lost Hills (Primary) – This sale consists of three primary sale areas (Units 253, 774, and 775) that total 236 acres of modified clearcut. Unit 253 is a 66 year old Douglas-fir stand with components of red alder and some western hemlock. Units 774 and 775 are 51 year old red alder stands with minor components of Douglas-fir. None of these stand have had active management since initial reforestation.

The desired future condition (DFC) of Units 774 and 775 is General (GEN), while Unit 253 has a DFC of 35 acres of GEN and 11 acres of DFC Layered (LYR). The current portion of Unit 253 that has a DFC of LYR is proposed to be changed to a DFC of GEN (See Appendix G)

Unit 774 is adjacent to Cougar Valley State Park. ODF has entered into a cutting line agreement with Oregon Parks and Recreation Department for the sections of the unit that border the park and is in lieu of an expensive property line survey. This agreement expires December 31, 2023. The park is currently not being used for camping activities, so no additional visual considerations are being made. Buffers and in-unit leave trees will help to break up the landscape. ODF visual classification remains at a level 3.

Clam Bake (Alternate) – This sale is an alternate and is made up of four areas (Units 661, 734, 735, and 736) totaling 402 acres of modified clearcut. The stands range in age from 44 to 64 years old. Units 661 and 735 are mixed Douglas-fir and western hemlock with minor components of red alder. Approximately 40 acres of Unit 735 and 30 acres of 661 were commercially thinned between 2002 and 2004. The desired future condition for both these areas are GEN.

Unit 734 is primarily small red alder mixed with Douglas-fir. No management has been done since the stand was initiated. The majority of Unit 734 has a DFC of GEN except for approximately 15 acres which has a DFC of Older Forest Structure (OFS). These acres are proposed to be changed to a DFC of GEN (See Appendix G).

Unit 736 is primarily western hemlock with scattered Douglas-fir and red alder and approximately 15 acres of Unit 736 were commercially thinned between 2001 and 2003. The current stand condition for the majority of the unit is UDS but approximately 15 acres are identified as having a current stand condition of LYR. While meeting the required DBH measurements used to categorize LYR by the algorithm, a field review with the Area Biologist determined that the dense single cohort stand is lacking in the vertical layering components that are associated with a LYR stand type. Based on the field review this stand will be reclassified as UDS. The majority of this unit (49 acres) has a DFC of GEN while the remaining area (2 acres) has a DFC of OFS. These acres are proposed to be changed to a DFC of GEN (See Appendix G). All of the Clam Bake units are located in the Cook Creek aquatic anchor. There are no fish streams in or adjacent to these stands and no stream projects are scheduled at this time.

The Oregon Biodiversity Information Center (OBIC) database shows Queen-of-the-forest could be in the area. Queen-of-the-Forest is usually found in riparian areas, especially shaded moist stream banks and NW FMP buffers will incorporate most, if not all, of the plant's habitat.

A review of historic maps indicate that a spring is in the vicinity of this sale. During sale layout, foresters will conduct a specific search for potential artifacts. If potential artifacts are found, an archaeologists will be consulted to classify the artifacts and assist in developing management strategies for the site.

Short Sands Basin

There are no harvest operations planned in this basin for FY17.

Miami Basin

There are no harvest operations planned in this basin for FY17.

Kilchis Basin

Kilchis Saddle (Primary/Alternate) – This sale is made up of one primary area (Unit 732) that is 115 acres and one alternate area (Unit 71) that is 110 acres. These stands are 55 year old and are comprised of Douglas-fir, red alder, and a component of western hemlock. These areas are planned modified clearcuts, have had no prior stand management, and have a DFC of GEN. Both of these areas are in the Middle Kilchis River Aquatic Anchor.

Approximately 35 acres are in a northern spotted owl circle. A biological assessment is being drafted.

The OBIC database indicates that a fisher (*Pekania pennanti*) may have been observed in the area in 1980. The Area Wildlife Biologist was consulted during the planning process and recommended that meeting the FMP down wood and snag requirements within the sale will help provide future denning sites.

The OBIC database shows Queen-of-the-forest could be in the area. Queen-of-the-Forest is usually found in riparian areas, especially shaded moist stream banks and NW FMP buffers will incorporate most if not all of the plant's habitat.

Tillamook Bay Basin

There are no harvest operations planned in this basin for FY17.

Wilson River Basin

Franken Fir (Primary) – This sale contains six primary areas (Units 628, 779, 780, 837, 842, and 843) totaling 313 acres of modified clearcut. The sale consists of 51 to 61 year old Douglas-fir with scattered red alder. Unit 779 was pre-commercially thinned in 1969. Portions of Unit 628 were thinned in 1996 (22 acres) and the again in 2002 (10 acres). Unit 780 was entirely thinned in 1996 and again in 2002. There was no other past management activities in the other stands.

The majority of the sale has a DFC of GEN and will be managed in the future with an emphasis on high quality merchantable timber production. Small portions of Units 628, 779, and 842

currently have a DFC of LYR. These acres are proposed to be changed to a DFC of GEN (See Appendix G).

Units 628, 779, and 780 are located in the Little North Fork Wilson River aquatic anchor and Units 837, 842, and 843 are located in the Cedar Creek aquatic anchor. No stream enhancement projects have been identified in association with this sale.

The OBIC database indicates that a fisher (*Pekania pennanti*) may have been observed in the area in 1980. The Area Wildlife Biologist was consulted during the planning process and recommended that meeting the FMP down wood and snag requirements within the sale will help provide future denning sites.

The sale area is in the motorized recreation zone with active OHV use year round. This an active recreation area with OHV and non-motorized trail use, dispersed camping and hunting in the fall. Unit 628 is adjacent to Cedar Butte Trailhead and Cedar Butte Trail.

General Lee (Primary) – This sale consists of three primary units (32, 295, and 326) totaling 262 acres of modified clearcut. All of these stands are predominately Douglas-fir with scattered red alder that is approximately 62 to 65 years old. Unit 32 and the majority of Unit 295 was thinned in 1993 while Unit 326 and a small portion of Unit 295 were thinned in 2002.

A small portion (6 acres) of Unit 326 has a desired future condition of OFS. These acres are proposed to be changed to a DFC of GEN (See Appendix G).

Unit 295 is adjacent to the district boundary between the Forest Grove and Tillamook Districts. The Forest Grove Marketing Unit Manager has been notified and a harvest plan for the area has been established between districts.

Most of the sale units are within the vicinity of Highway 6 and have an ODF visual classification of 2. The harvest units will be broken up by the many stream buffers within and adjacent to the sale. The harvest will be noticeable but the trees adjacent to the highway and stream buffers will help reduce the scenic impact until the new stand is established.

All of the units in this sale are located within the Ben Smith Creek aquatic anchor. The sale area is in the motorized use zone with active trail use year round. The area is heavily used during summer camping season and fall hunting season

Broken Arrow (Primary/Alternate) – This sale consists of three primary areas (Units 29, 30, and 612) totaling 295 acres and one alternate area (Unit 238) that is 110 acres that are planned modified clearcuts. All of the units are comprised of 56 year old Douglas-fir with large pockets of red alder. Approximately 13 acres of Unit 29 was thinned between 1996 and 1999. Units 30, 238, and 612 have had no previous management. All of Units 30 and 612 and the majority of 29 have a DFC of GEN and will be managed for healthy mixed conifer stands providing future timber production. Approximately 5 acres of Unit 29 has a DFC of LYR. These acres are proposed to be changed to a DFC of GEN (See Appendix G).

Alternate Unit 238 has a DFC of LYR. Due to the fact that the location of this unit on the landscape fits well with the Landscape Design the plan is to keep this area in a DFC of LYR. The vision is to harvest the Douglas-fir and hardwoods, retain scattered and clumped leave trees, replant with a mixture of SNC tolerant Douglas-fir, western hemlock, and with small amounts of

western red cedar in order to establish a healthy, vigorous, multi-species conifer stand and manage this towards a LYR structure.

The road building and associated harvesting activities for Unit 238 are challenging and the will entail end-haul construction and steep road grades. Harvesting will involve cable systems hanging in excess of 3500’.

In Units 30 and a small portion of Unit 29 the OBIC database indicates that a fisher (*Pekania pennanti*) may have been observed in the area in 1980. The Area Wildlife Biologist was consulted during the planning process and recommended that meeting the FMP down wood and snag requirements within the sale will help provide future denning sites.

The sale area is within the motorized use zone with active OHV trails in the area. On Jordan Creek Road there are a total of 14 designated dispersed campsites (1 on Archers Rd) and the Jordan Creek Campground and OHV Staging Area. This area is very active with OHV use and camping year round and hunting activity in the fall.

Southern Steamer (primary/alternate) – This sale is comprised of 3 primary sale areas (Units 319, 620, and 622) totaling 293 acres and 1 alternate area (Unit 619) totaling 115 acres that are planned modified clear cuts. All of the primary units are predominately Douglas- fir with a large component of red alder and are approximately 65 years old. The majority of these stands received no previous management. Approximately 35 acres in Unit 620 that was thinned in 2000. Alternate Unit 619 is primarily a Douglas-fir with minor components of red alder and hemlock and was thinned in 2000.

All of the sale units have a DFC of GEN except for a small portion of Unit 319 which is currently designated as DFC of LYR (5 acres) and OFS (2 acres). These acres are proposed to be changed to a DFC of GEN (See Appendix G).

The sale area is in a motorized recreation zone with active OHV use year round. It is a heavily used recreation that includes motorized trails, a campground/OHV staging area, and 14 designated dispersed sites.

Double Bypass (Primary) – There is approximately 26 acres of this timber sale in the Wilson Basin. Please refer to the Trask Basin for information concerning this sale.

Tillamook River Basin

There are no harvest operations planned in this basin for FY17.

Trask Basin

Double Bypass (Primary) – This sale contains one area (Unit 773) and is 77 acres of modified clearcut. This unit is split by Hembre Ridge with 52 acres in the Trask Basin and the 26 acres in the Wilson Basin. It is comprised of 52 year old Douglas-fir with components of western hemlock and red alder. The Douglas-fir is dense with poor live crown ratios and has moderate to severe symptoms of SNC This stand has not had any past management and has a DFC of GEN.

A review of historic maps indicate that a “trail” was in the vicinity. During sale layout, foresters will conduct a specific search for potential artifacts. If potential artifacts are found, an archaeologists will be consulted to classify the artifacts and assist in developing management strategies for the site.

OHV usage is high in and around this timber sale. Tillamook’s OHV specialist will be consulted during sale prep.

Hopscotch (Primary) – This sale is composed of one area (Unit 632) of 111 acres of modified clearcut. The average age of this stand is 53 and it is composed of Douglas-fir and red alder and had had no prior stand management. The Douglas-fir is dense with poor live crown ratios and has moderate to severe symptoms of SNC and has a DFC of GEN.

The road building for this stand will be a crucial investment to access future stands. This sale will travel down an improved haul route with little project costs.

This sale is in the East Fork of the South Fork Trask River aquatic anchor. The sale area is in the motorized recreation zone with active OHV use year round.

Coast Bill (Alternative) – This sale is made up of two alternate areas (Units 93 and 104) that are planned modified clear cuts, totaling 222 acres. Both units are predominately Douglas-fir stands with a mixture of red alder mostly in the riparian areas and are showing moderate symptoms of Swiss Needle Cast. Unit 93 was pre-commercially thinned in 1990 no other stand management has occurred. The DFC for both of these areas is GEN.

Access to Unit 104 on Coast Range Road South crosses private land and an easement is already in place with the current landowner, Stimson Lumber. This sale will also share a property line with Stimson Lumber. The survey has already been completed, and will just need to be refreshed during layout.

A potential stream enhancement project has been identified with this sale. The project would include wood placement on Bill Creek. Further evaluation of this project will be completed with the Aquatic and Riparian Specialist during sale layout.

The sale area is in the motorized recreation zone with active OHV use year round. Additional recreation traffic includes heavy use in the spring and summer camping seasons and fall hunting season.

Thor’s Summit (Primary) – This sale is composed of five primary areas (Units 334, 746, 749, 750 and 752) of modified clear cut totaling 446 acres. Almost all of Unit 334 is located in the Nestucca Basin and the remaining units are located in the Trask Basin. These stands range in age from 49 to 56 years old. Units 334 and 746 are Douglas-fir with a component of red alder and western hemlock, while Units 749, 750, and 752 are Douglas-fir mixed with red alder. A large part of these stands were thinned between 1998 and 2003. All of these stands have a DFC of GEN.

Existing easements secure access across BLM. A new permit will need to be obtained from Stimson Lumber for accessing the lower end of Unit 746. For Unit 334 an access permit will

need to be obtained to be able to use a landing that is located on BLM. Property lines are shared with BLM and Stimson Lumber, these lines have been recently established..

Units 750 and 752 are in the East Fork of the South Fork Trask aquatic anchor. Wetlands have been found in Unit 334 and Lake Tahoe is located in Unit 749. These areas will be buffered according to the FMP. The Aquatic and Riparian Specialist has had field visits during sale planning and will work with foresters during sale layout.

Unit 752 will require working around Bonneville Power Administration (BPA) power lines. BPA has been notified of the planned operations, and will be contacted prior to commencing operations.

The sale area is in the motorized recreation zone with heavy OHV use year round. Unit 749 includes Lake Tahoe, a popular fishing and camping location that has designated campsites. Access to Lake Tahoe will be closed during active logging operations.

Nestucca Basin

Thor's Summit – Almost all of Unit 334 of this timber sale in the Nestucca Basin. Please refer to the Trask Basin for the information concerning Units 746, 749, 750, and 752 of this sale.

Little Nestucca Basin

There are no harvest operations planned in this basin for FY17.

Forest Roads Management

Overview

The Tillamook District road system consists of approximately 1,027 miles of rocked roads, 75 miles of unsurfaced spur roads, and 294 miles of blocked roads in a self-maintaining state. Roads constructed and improved in this AOP will provide access for silvicultural activities, recreation users, and fire protection. Guidance for Level III Transportation Plans developed under this AOP will include the ODF *Forest Roads Manual (July 2000)* and the *Northwest Oregon State Forests Management Plan (April 2010)*.

The FY 2018 AOP includes approximately 15.2 miles of new road construction or abandoned road reconstruction and 86 miles of road improvement or maintenance. Refer to summary tables in Appendix A (Table A-3, Forest Roads Summary) for more information.

A majority of the 2018 AOP timber sales will occur in the upper Wilson and Trask River Basins. Stockpiles in the Wilson basin will be replenished to allow for adequate road maintenance rock. The North Fork of the West Fork Road, East Ben Smith Road, Firebreak 8, Cedar Butte Road, South Fork Jordan Road, the upper portions of South Fork Trask Road, Toll Road, and East Fork Trask Road will be targeted for alignment improvements and rocking. Also, Odin's Blade (2017 AOP), Coast Bill, and Thor's Summit timber sales will explore new rock source opportunities in the North Fork of the Wilson, South Fork Trask River basin.

FY 2018 timber sales will improve legacy roads and block roads unnecessary for resource management. In the past 4 years, 24 miles of abandoned legacy roads from the Tillamook Burn salvage operations were repaired and improved to modern standards. Also, in the same 4 year period, over 37 miles of roads were blocked.

Road Construction

The majority of roadwork in this AOP is new road construction. Approximately 15.2 miles of new roads are to be new construction or re-construction. Most new construction roads are classified as spur roads. These roads are often short terminal roads to access ridge tops and facilitate harvesting operations. Road construction on steep slopes or through high landslide hazard locations are reviewed by the Area Geotechnical Specialist. Roads are designed to the minimum width necessary to accommodate the planned management activity. Improvement of abandoned roads from the Tillamook Burn salvage operations are considered new construction when there are trees larger than 5 inches in diameter growing in the road bed.

Road Improvement

Road improvement will consist of road surfacing, road widening, side cast pullback, and drainage structures upgrades. Road improvement on the Tillamook District includes approximately 86 miles of improvement and maintenance of existing roads and improvement of abandoned roads. Existing roads have been improved and maintained over the years through timber sales or the district road crew. Work on abandoned roads from the Tillamook Burn salvage operations are considered road improvement when a defined roadbed is present and overgrown with trees less than 5 inches in diameter. Abandoned roads often require sidecast pullback, culvert installation, and resurfacing but the roadbed is defined and minimal equipment work is needed.

All roads are reviewed during sale reconnaissance and preparation for road drainage upgrades. Work for drainage structure improvements are added to contract requirements and appraisals. This work might include measurements for larger culverts, replacing failing culverts or adding culverts (cross drains) to the road to disconnect ditch water from entering live streams. The cross drains will direct water onto the forest floor away from live streams. Where cross drains cannot be installed due to landslide hazards, unstable slopes, or rocky cutbanks settling ponds are utilized or outsloped roads with ditch-outs to move water off road surface.

Road Blocking and Vacating

Unsurfaced roads are waterbarred prior to the wet season and are reviewed for blocking or vacating at the end of the sale. Road blocking is accomplished by pulling culverts, waterbarring, blocking access, and leaving the road in a self-maintaining state. Road vacating will remove culverts, provide dispersed drainage, lessen erosion potential, and remove unstable sidecast. The Forest Roads Manual guidance for road vacating will be followed for this work. Abandoned roads from the Tillamook Burn salvage operations in the vicinity of timber sales will be evaluated for road vacating.

Road Access Management

At the end of timber sales, all roads are re-evaluated to ensure alignment with district's overall transportation system needs for future sales, reforestation and young stand management,

resource considerations, and other use such as firefighting. Roads may be retained, blocked, or vacated based on this evaluation. Road may be left open for a longer period of time to provide access for tree planting operations. After a plantation is free to grow, roads may be blocked or vacated by the district road crew or through timber sale project work.

The district has several check-in points to determine if a road is to be left open, closed or vacated. During the life of a timber sale, all unsurfaced or dirt roads are blocked by waterbarring and blocking in the fall each year and at the end of the sale. After a timber sale, district staff evaluate each road for surfacing, access to future timber sales, and access for tree planting and young stand management. If a road is no longer needed, the timber sale Purchaser will be required to close the road by pulling culverts, waterbarring and blocking. After a plantation is free to grow, the road is evaluated again for future access for young stand management or upcoming timber sales.

North Coast Travel Management Area

The North Coast Travel Management Area (TMA) on the Tillamook State Forest is located on the north end of the forest in the God's Valley area. The TMA regulates vehicle travel on spur roads during archery and the general deer and elk seasons to provide "walk in" hunting opportunities, increase bull/buck escapement, and reduce road damage. Sign maintenance and public contact in the TMA is performed by volunteer and district staff. Enforcement of the TMA is provided by Oregon State Police and County Deputies on a limited basis. Maps of TMA areas are available at ODF and ODFW offices. Tillamook District has partnered with Oregon Department of Fish and Wildlife on this project since 2002.

Tillamook District has begun discussions with ODFW about establishing a Travel Management Area in the North Fork Trask basin. During FY18, ODF will continue to work with ODFW on best location for a TMA designation with minimal OHV trails and good walk-in hunting opportunities. The first year will likely be a signed closure like the God's Valley TMA but over time, a more formal gate closure could occur.

Oregon Hunters Association Gate Program

Every September through November, during hunting season, road closures occur in the Trask and Wilson basins to provide the public with "walk-in" hunting and help with bull/buck escapement. The program uses locked metal gates to restrict vehicle access to selected spur road systems from September 1st through November 30th each year. Gates locations are reviewed each year and moved to new locations as harvest units grow up and are able to provide cover. ODF has partnered with the Oregon Hunters Association (Tillamook Chapter) and ODFW to implement the OHA Gate Program since 2005.

District Gate Closure

In FY18, the district is considering the implementation of a seasonal gate closure to some roads. The goals of the seasonal gate closure are to protect areas with resource concerns, such as near streams, steep landslide prone areas; limit access to adjacent to private ownerships and/or close newly built roads on ridges or into smaller basins. The closures would be for dead end roads. The closures would reduce maintenance cost with less users during winter months, limit potential

resource damage due to road sedimentation as well as allow walk-in hunting and big game escapement.

The district does have some year round gate closures in place now and they have proven to be difficult to maintain due to vandalism and tracking locks or keys. Most of those gates were put in place to address an issue from public use like dumping, illegal shooting, or safety issues. The concept of a seasonal closure, October through February, would allow access during better weather seasons and the hope is to gain more compliance. Foot access would still be allowed through the gates.

Road Maintenance

Timber sale purchasers maintain timber sale access roads and haul routes. The Tillamook District Road Crew maintains roads not covered under timber sale contracts. Road maintenance activities are divided into five basic categories; drainage, surface maintenance, cut and fill slopes, erosion control and vegetation control. Culverts, catch basins and ditches will be cleaned as necessary to ensure proper drainage. Road surfaces will be graded to maintain a smooth, stable running surface and surface drainage. Cut slope ravel will be removed from ditches and unstable fill slope material will be removed to prevent failure. Erosion and sediment control structures, such as culvert downspouts, riprap, dissipaters, sediment fencing, straw bales, bio-bags, sediment ponds and bio-filtration swales will be maintained or repaired as necessary to ensure their proper function.

Management of Rock Source/Supply

A major component of project work costs is crushing and hauling rock. Crushed rock is also used to maintain the haul routes of active timber sales. Having a network of rock sources and crushed rock stockpiles can reduce costs making marginal timber sales financially viable. Annually, the district requires between 7,000 to 12,000 cubic yards of crushed rock stockpiles for appraised road maintenance work. The district will continue to maintain stockpile volumes and explore new rock sources in FY 2018.

Storm Damage

The district transportation system sustained major damage in the Wilson, Kilchis, Miami, and Nehalem drainages from a storm system in early December 2015. Many main roads had area flooding, debris blockages, and debris flow impacts.

On February 17, 2016 the storm was declared a disaster and federal disaster aid was made available to supplement local recovery efforts. Smaller repairs and debris removal was completed in FY17. Large projects like Cook Creek Road and West Fork Road washed out during the storm and will remain closed while repair or rerouting alternatives are being developed with federal consultations.

Land Surveying

As needed the District will re-witness, maintain, and restore property corners and survey property lines. Surveying work will be accomplished through service contracts with licensed professional land surveyors. No survey work is anticipated for 2018. Opportunities for cost share

surveys and boundary agreements with adjoining federal and private landowners will be pursued where the state will have a current or future need.

Reforestation

A range of silvicultural tools will be employed to achieve the long-term goals of structure-based management and integrated resource management as outlined in the Forest Management Plan. The district's strategy is to use silvicultural tools – aligned with the current restricted budget, to establish and maintain diverse stands of well-adapted natural species throughout the landscape to meet these goals. These tools include site preparation, planting, animal damage control, vegetation management, tree protection, and pre-commercial thinning. Majority of the tools listed above are completed with contract labor. South Fork Inmate Camp provides labor for bud-capping, pre-commercial thinning, and some trapping.

The types and anticipated amounts of reforestation and stand management activities for FY18 are described below and shown in the Young Stand Management Table (Appendix A, Table A-5). 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 adjusted based on completion of sales and on updated assessments and surveys that will occur during and after the 2017 growing season. Current budget constraints limit young stand management mostly to those activities that are essential to the establishment of new stands and preventing loss of present young stands through density management.

Site Preparation

Prescribed Fire (Slash Burning): All burning on the Tillamook District is within accordance to the State Forest Prescribed Burn Policy in order to ensure the safety of employees engaged in burn activities; minimize risk for the Department, its assets, and adjacent landowners; protect environmental resources; and provide a “realistic” scenario for conducting annual fire crew training.

As part of the Northwest Oregon Forest Protection Association, the Tillamook District is using prescribed burns to burn large landing piles in the fall, which helps reduce fuel loading and down slope hazards, and to open ground for planting.

The Tillamook District is coordinating with its Protection staff to conduct a 40-60 acre broadcast burn for fire training purposes. The unit is planned to be burned during the early summer and the cost for this exercise is funded by the district Protection budget.

Mechanical (Slash Piling): None Planned

Chemical Site Preparation: The site preparation objective is to control brush species to allow stand establishment and maintain 2-3 years of free-to-grow status. The current estimate is 1,800 acres. The actual site preparation plan is prepared in late spring when harvest units and brush development is better known. Most chemical site preparation is completed by helicopter spraying.

Planting

Initial Planting: The planting objective is to establish mixed conifer stands at 436 trees per acre on all clearcut areas, both modified clearcuts and retention cuts. Initial plant species will consist of western hemlock, noble fir, western red cedar, and Douglas-fir. Douglas-fir will be included in planting units outside of the areas of severe Swiss needle cast. The target at age 10 is a mixed conifer stand with a minor hardwood component. These stands generally have the most potential to develop into complex stands, are the most resistant to pest and environmental impacts and retain the most future options. The current estimate is 1,800 acres of initial planting (over 780,000 seedlings) using contract crews.

Interplanting: The interplanting objective is to raise conifer stocking in young plantations that are below acceptable levels or below Forest Practices Requirements to a minimum of 200 trees per acre and the State Forest Division goal of establishment and maintenance of healthy, well stocked stands. The current estimate is 630 acres of inter planting (over 120,000 seedlings) using contract crews. Actual plans will be made after stocking surveys have been completed in the fall.

Natural Regeneration: Units or portions of units are assessed prior to planting. Natural regeneration is considered primarily in western hemlock stands that have been salvaged from wind storms, where small gaps and holes less than 2 acres have been created in partial cut units, and in unit rock outcrops or cliffs. Natural regeneration of red alder, Sitka spruce and other minor species is used to provide diversity in all harvest units.

Young Stand Management

Vegetation Management

The release objective is to attain or maintain free to grow status for current conifer or mixed conifer/hardwood plantations by controlling brush species, primarily salmonberry. Release assists with accelerating stand establishment and tree growth for development of complex structures.

Manual (Chainsaw slashing): The current estimate is 338 acres. The actual plan will be developed in early spring when brush and red alder is more developed and actual needs can be assessed. South Fork Inmate Camp will be responsible for accomplishing these acres.

Chemical (Late Foliar) The late foliar chemical release objective maintain stand growth on units that are in current competition with brush species. The current estimate is 200 acres. The actual late foliar plan will be prepared in mid-summer when harvest units and brush development is better known. Most late foliar chemical release is completed by helicopter spraying.

Chemical (Hack & Squirt): The current estimate is 300 acres. The actual plan will be developed in late spring or early summer when competing red alder is more developed and actual needs can be assessed. South Fork Inmate Camp will be responsible for accomplishing these acres.

Tree Protection

The objective is to reduce browse by elk, deer, and rodents allowing trees to attain full height growth potential.

Bud Caps: The current estimate is 2,200 acres. Bud caps are installed on Douglas-fir seedlings in 0-2 year old plantations with heavy elk/deer browse pressure. South Fork Inmate Camp will be responsible for accomplishing this work.

Direct Control: Trapping mountain beaver prior to planting a harvest unit significantly reduces damage from these animals. Follow-up trapping may also be needed in 1-3 year old plantations where small populations have rebounded and are causing damage on young seedlings. The current estimate for trapping in FY18 is 2,300 acres. South Fork Inmate Camp will be responsible for trapping 275 acres.

Controlled Hunts: The district continues to experience heavy elk browse on many of the plantations, at significant cost and loss of growth. ODF will continue to do outreach to controlled hunt applicants to direct hunters to plantations where heavy elk browse has occurred. The goal is to reduce damage to seedlings and move large herds out of the new plantations during the critical winter months. An additional benefit is providing additional opportunities to the hunting community.

Pre-commercial Thinning

No Pre-commercial thinning operations are planned for FY18. The district will continue to survey and monitor potential plantations for PCT need. These surveys are used to determine stocking levels and needs for pre-commercial thinning. The district will look to review 8,971 acres of potential PCT in FY18.

Pruning

No pruning operations are planned for FY18.

Invasive Species

The district has developed a plan for identifying and tracking invasive plants and noxious weeds. The district is a member of the North Coast Cooperative Weed Management Area along with other landowners, managers, and conservation groups (federal, state, and county). The Oregon Department of Agriculture (ODA) has facilitated the establishment of weed management cooperatives for the purpose of coordinating efforts to address invasive weeds on a large scale. The district contributes to the database kept in Salem and annually staff shares information with ODA for contribution to the WeedMapper. WeedMapper is a database which includes information about weeds and locations of noxious weeds throughout Oregon as collected by other contributing federal, state, and local agencies. The district is also a member of the local county partnership PRISM (Partnership for Regional Invasive Species Management).

The district currently tracks and treats knotweed, Scotch broom and false brome. There are other common invasive species, such as tansy ragwort, Scotch broom, Himalaya blackberry, and Canada thistle along road sides and haul routes or in small concentrated patches throughout the

forest. In FY18, the Tillamook District will treat approximately 100 acres, targeting Scotch broom using South Fork Inmate crews.

Most noxious weeds or invasive plants are along roads and have spread into plantations. The main sources for the weeds are car tires, equipment moved in and out of district, and where soil disturbance occurs. The district specifies 100% weed-free grass seed be used and the use of certified weed-free straw for mulch instead of hay for project work on roads and requires equipment washing in the timber sale contracts. Equestrian users are required to use weed-free hay for feeding stock on State Forest Land.

Roadside Spraying

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. The district anticipates chemically treating 170 miles of roadside vegetation to remove brush and retain grasses. This equates to approximately 340 acres of chemical vegetation control. Roadside brushing will be included in timber sale project work where vegetation is too large for effective chemical control.

Stocking Surveys

The district will also conduct stocking and survival surveys in young stands and plantations on approximately 5,400 acres using district staff. The surveys are used to determine seedling stocking levels, needs for tree planting, release or pre-commercial thinning. Low-level photo flights in late spring are also used to evaluate upcoming planting units.

Recreation Management

Overview of Recreation Management

Recreation use includes hunting, fishing, target shooting, OHV riding, mountain biking, hiking, equestrian use, mineral collection, and sight-seeing. River access for day use, white water kayaking and white water canoeing continues to grow while anglers increasingly use walk-in access for remote bank fishing opportunities. Anglers also launch drift boats and pontoon boats from developed sites like Stones Road Boat Ramp, Peninsula, or other Oregon Department of Fish and Wildlife boat ramps. Use levels for all activities continue to increase while resources and budget are being reduced.

At present the district manages 3 fee campgrounds, 4 OHV staging areas 2 of which charge for overnight use, 6 day-use sites, 89 designated dispersed sites, 3 boat launch facilities, 20.1 miles of non-motorized trail, 326 miles of designated OHV trails, plus multiple rustic trailhead facilities that provide access to motorized and non-motorized trail network.

Current direction for management is captured in the State Forest Division Bulletin, "Near Term Direction for Recreation Management and Investment on State Forests", September 2011. The recreation management activities planned for FY 2018 reflect budget reductions. Tillamook District will work to protect the existing infrastructure, provide for public safety and sanitation, and mitigate damage to natural resources. There will be less services provided to the public during summer operations. The service reductions will be seen in less garbage service and "pack

it in pack it out” emphasis; less trail maintenance and less service to dispersed campsites due to fewer staff; and delay in project completion. .

ODF continues to receive All Terrain Vehicle (ATV) Transfer fund dollars administered by Oregon State Parks to support 1 NRS1 OHV Coordinator and associated Service and Supply such as vehicle costs, in the Tillamook District.

Facilities (Campgrounds, View Points, Trail Heads, etc.)

Regular facility maintenance includes protecting assets, infrastructure, and providing for safety and sanitation. Activities include fence repair, sign replacement, fire grate and picnic table repairs, painting, wood preservation, janitorial work, graffiti and moss removal, dust abatement, trash pickup, septic pumping, hazard tree removal, parking lot rocking, and updating information boards.

All facilities, sites, and trailheads will receive some level of maintenance throughout the year.

Table 4. Developed Facility and Dispersed Campsite Project

Project Type	Project Name	Work Resources	Project Description
Signage Replacement	Campground Entry Sign Replacement	Recreation staff, South Fork shop, South Fork crew, road crew	Replace three existing entry signs at Jones Creek, Nehalem Falls, and Jordan Creek Campground. The existing signs were installed in 1994 and 1998. The new signs are transitioning to adopted standard site sign. Signs are more sustainable as they will be installed above ground.
Signage Repair & Reinstall	Kiosk & Site Sign Repair & Reinstall	Recreation staff, South Fork shop, South Fork crew, road crew	Repair by adding new log frame and reinstall above group the kiosks at Jordan Creek and Keenig Creek Campground, and site sign at Sprague Wayside. Current logs are rotting from being installed in-ground at initial installation.
Dispersed campsite management	Foss Road Dispersed Campsites	Recreation staff, South Fork crew, road crew	Rehab five existing dispersed campsites and convert them into designated campsites with a fire grate and sign. These sites will replace 5 dispersed campsites that have been vacated due to resource damage.
Designated Recreation Area Designation & Sign Install	Cedar Creek and North Fork Designated Campsites	Recreation staff, South Fork shop, south fork crew	Obtain Designated Recreation Area status to allow for better management of the Jordan Creek Designated Campsites. Install sign with designation at the entrance.
Dispersed Campsite Fee Collection	Jordan Creek Designated Campsites	Recreation staff, South Fork crew	Install information board and fee box at Equestrian Trailhead and initiate fee collection at the Cedar Creek and North Fork Designated Campsites.
Resource Protection	Campsite Closure	Recreation staff, South Fork Crew, contractor, road crew	Close Cedar Creek Designated Campsite #20 and a dispersed site on West Meusial Creek Road.

Trails

Through FY 2018, the Tillamook District intends to maintain designated motorized and non-motorized trails to the highest standard possible with available funds and workforce. In addition to regular maintenance, winter storm events cause damage that requires more extensive trail repair including bridge damage, slides, slumps, sloughs, and large tree blow down.

Equestrian use of the Wilson River Trail will continue to be accommodated on a seasonal basis from July 1 to September 30 from Jones Creek Trailhead to Elk Creek Campground. The equestrian staging area will be open and users will be responsible for providing water for their stock and packing out manure.

Motorized (OHV) Trails

In FY 2018 the OHV Specialists will start work on long term OHV trail system planning project. This will be a basin-by-basin systematic trail planning effort with public involvement, specialist review, and careful route planning. Part of the planning effort will be to identify areas or sub-basins that should have limited or no OHV trails to allow for other recreation activities. This project will develop a snapshot of the desired future condition of the OHV trail system, providing guidance for future AOP projects, and help coordinate on the ground projects with potential timber sale impacts. Having a detailed outline of future projects will also promote continuity through personnel and policy changes.

Maintenance and improvement has focused in the Wilson basin because of its higher use and more developed staging areas. In the last year, three miles of trail reroutes were completed while six miles of trails were closed. Trail closures were due to parallel systems, safety concerns, or resource issues. Similar work is beginning in the Trask Basin and will start to install signage and address trail closures or reroutes where possible.

Table 5. Motorized Trail Projects

Project Type	Project Name	Work Resources	Project Description
OHV Trail Reroute	Muesial-Cedar Butte Connection	OHV Specialist, OHV Equipment operators	Reroute portion of Musial Creek trail to connect with bottom of Cedar Ridge trail. Eliminates OHV traffic on mainline haul route (Cedar Butte Road)
OHV Trail Reroute	BPA, Pshyco Ridge, Cedar Ridge Connections	OHV Specialist, OHV Equipment operators	Reroute BPA, Musial Ridge, and Musial Creek trails to reduce OHV traffic on mainline haul routes/recover lost trail from timber sale impacts
OHV Trail Reroute	Steampot Ridge Trail Reroute	OHV Specialist, OHV Equipment operators	Reroute trail out of stream bottom, eliminating all water crossings from trail

Non-Motorized Trails

The district will seek to maintain 20.1 miles of non-motorized trails in FY 2018. Annual trail work includes bridge inspection, brushing, grade repair, and removal of wind throw. Trail maintenance may be accomplished through a variety of resources including volunteers, and South Fork Inmate crews depending on staffing and availability.

Table 6. Non-Motorized Trail Projects

Project Type	Project Name	Work Resources	Project Description
Trail Development	Tillamook Ridge Mountain Bike-Hiking Trail	Volunteers, Recreation staff,	Work with local volunteer mountain bikers to flag preliminary route to develop the Tillamook Ridge Trails on existing abandoned roads. Trail planning began in 2015 with community volunteers and the BLM. Trail development will be a joint effort between ODF and BLM.
Trail Reroute and Bridge Install	Coal Creek Trail Reroute	Recreation staff, South Fork crew	Reroute a portion of the Coal Creek Trail to mitigate resource damage and address public safety. This redirects the trail off of the old railroad grade that contains three failing short wooden bridges. The reroute will include the installation of three trail bridges above the end of fish use. Resource specialist have assessed the existing bridges, determined fish extent of fish presence and approved the reroute.

Trail Maintenance (Motorized and Non-Motorized)

The district will work with volunteers and South Fork crews to accomplish trail maintenance work on non-motorized and OHV trails. Trail maintenance is done year round through a combination of volunteer, South Fork Inmate crews, OHV Equipment Operators, OHV Specialist and recreation staff efforts.

Volunteer Program

In FY 2018 the Tillamook District will administer a wide variety of volunteer activities including

- Motorized trail work parties and the first annual Single Track OHV Trail Day
- SOLVE Beach & Riverside Cleanup Event
- Trail work parties on non-motorized trails
- Camp Host Program at Jones Creek, Nehalem Falls, & Keenig Creek Campground
- Alternative Spring Break with University of Idaho with college students participating in trail building and maintenance projects.

The Tillamook District will seek to develop a volunteer program that will assist recreation staff in locating and addressing trail needs. The intent is to encourage active trail users to report trail conditions, provide general information to other trail users and to document volunteer hours they spend on the trail. These volunteers would be the eyes & ears of the trail system.

Additionally, the Tillamook District will explore participating in Volunteer Vacations through the American Hiking Society and look for other volunteer opportunities from individuals and groups such as Tillamook High School Senior Projects and Eagle Scouts when staff are available. This may fill a need for hands on experience for the student and much needed trail work for the district.

Event Management

For FY 2018 Tillamook District will administer or review permits for 16 motorized events on the Tillamook State Forest. Events include poker runs, races, 4WD runs, dual sport runs, and observed motorcycle trials.

The Tillamook District Recreation Unit will process and administer a limited amount of permits for recreation related special uses of State Forest Lands. Special uses include commercial and non-commercial activities such as guide services, filming for advertisements, and trail running events. Special use permits for a 25K and 50k running event, a cross country running camp and three hunting guides are planned for renewal in FY 2018.

Additionally, the Tillamook District will work cooperatively with the Forest Grove District on special use permit administration of the Jeep Jamboree. This national Jeep owner's event was held for the first time in the Tillamook State Forest in June 2015. With the success of the event, it has become an annual OHV event that has a positive economic impact on Tillamook County.

Grants

Recreation is planning to apply for the following grants in FY 2018 to support Recreation Operations.

- Apply for a Yamaha and ATV Grant for a double vault toilet at Cedar Creek OHV Staging Area.
- Apply for a Land & Water Conservation Development Fund Grant and an RTP Grant for a vault toilet at Keenig Creek Trailhead.
- Apply for an RTP Grant with matching funds from donations to relocate the Wilson River Trail and bridge located between Jones Creek Campground and the Tillamook Forest Center.
- Work with Invasive Species Specialist to draft an Oregon Weed Advisory Board grant for signing, education materials and enforcement of weed free feed rules.

Other Integrated Forest Management Projects

Aquatic Habitat Improvement

Aquatic and Riparian Conditions: Major streams that drain these forest lands on the Tillamook District are: the Nehalem, North Fork Nehalem, Miami, Kilchis, Wilson, Trask, Tillamook, Nestucca and Little Nestucca Rivers, which flow directly into the Pacific Ocean. These major watershed basins define the basin planning areas in the section entitled "Summary of Timber Harvest Operations by Basin".

There are also several shallow lakes on state forest lands, the largest of which is Lake Tahoe (Approximately 2.5 acres). Beaver ponds and other wetlands are scattered throughout the district. The City of Tillamook Water Department and the Beaver Water District are in the southwest corner of the district encompassing about 3,600 acres of state forest land. In the summer of 2017 the City of Tillamook Water Department has a planned dam removal project on

Skookum Lake. Tillamook District owns approximately 515 acres upstream of the lake and will work with the City on future surface water intakes in the Fawcett Creek Basin if needed.

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. Aquatic Anchors have been established in 11 watersheds in which additional aquatic conservation measures are applied. The Aquatic Anchors include: Coal Creek, Cook Creek, South Fork Salmonberry, Foley Creek, Miami River, Middle Kilchis River, Little North Fork Wilson River, Cedar Creek, Ben Smith, Elkhorn Creek, and East Fork of the South Fork Trask River.

Restoration Goals and Identification Process: The overarching principles for fish habitat restoration are described in the Forest Management Plan. Landscape and site-specific strategies will improve levels of aquatic function in the short term to meet the immediate habitat needs of depressed species and place aquatic habitats on a trajectory toward desired conditions. At the same time actions are carried out to restore the ecological processes and functions that create and maintain self-sustaining habitats over the long term. Restoration strategies include completing assessments to identify limiting factors and identify, design, and implement projects to remedy identified problems. Projects should mimic natural process, use multidisciplinary approach, and consider site-specific as well as watershed scale processes and disturbance regimes. Projects will be designed to re-establish natural physical and biological processes. The overarching approach to habitat restoration is described in the NW FMP (page 4-67 through 4-68) and summarized below:

- Eliminate human-induced conditions on the forest that may contribute to aquatic habitat deficiencies, or that may limit the timely recovery of desired aquatic habitat conditions.
- Promote aquatic habitat conditions that will support the short-term survival needs of depressed salmonids, in order to reduce the potential for further declines in these populations.
- Attain properly functioning aquatic habitat conditions in a timely manner.
- Encourage forest conditions that will support the ecological processes necessary to naturally create and maintain complex aquatic habitats on a self-sustaining basis.

The types of projects in order of priority are: (1) Fish Passage, (2) Road Decommission or Hydrologic Disconnection, (3) In-stream Habitat Projects, (4) Alternative Plans to Manage Riparian Areas, and (5) Beaver Relocation.

Projects can be implemented opportunistically (when operating near streams that would benefit from restoration efforts) or with a more complex and typically larger scale approach both of which will be evaluated for ecological benefits. For the Tillamook District the goals are to:

Implement 2-5 larger scale projects over a 10-year period if resources and partners are available.
Implement 2-3 opportunistic projects per year if resources and partners are available.
Contribute to fish passage improvement and hydrologic disconnection.

For FY18, the Tillamook District will continue to support these projects, as capacity allows and in collaboration with our partners, where habitat restoration projects provide the greatest benefits to species of concern and are cost effective and efficient.

Watershed Analyses have been complete for the Trask, Miami, and Wilson basins along with watershed analysis recommendations and Action Plans developed from the analysis to identify areas recommended for improvement. The program is taking the opportunity to review the work completed to this point on State Forests before beginning new watershed analysis projects. In addition the Oregon Department of Fish and Wildlife completed Fish Habitat Assessments and summarized the findings by district (ODFW 2005-2006).

Limiting factors have largely been identified in the ODFW conservation strategy, the 2005 State of Oregon Coastal Coho Assessment (OCCA) (State of Oregon 2005), and ODF watershed analyses. Common limiting factors include: a lack of large wood in streams, increased fine sediment in riffles, a lack of complex pool habitat, and a need for more off-channel habitat. The task during this AOP is to identify, design, and implement projects to address the limiting factors either through opportunistic projects (e.g. harvest units adjacent to streams that meet certain criteria) or through larger, multi-collaborator, diversely funded projects .

There are potential stream enhancement projects identified by the Aquatic Specialist that could be done in association with sales in this sale plan.

- Prouty Creek crossing will be done during FY18 through a service contract. The previous crossing on Miami Forest Road was partially washed out in December 2015 storm event. The stream is important to several species of fish and was recently rated as high priority enhancement in the Lamprey Restoration Implementation Plan. The project will remove the remaining debris and culvert sections and install a fish passable structure.

Bill Creek - A potential cable placement stream enhancement project on Bill Creek might be possible. Foresters will work with the Aquatic and Riparian Specialist in consultation with ODF&W during sale layout to evaluate project options.

Watershed Council Partnerships: Tillamook District participates in multiple Watershed Councils. The main councils are Lower Nehalem, Tillamook Bay, and Nestucca/Neskowin. The Tillamook Estuaries Partnership (TEP) is also active within the district boundaries. District staff attends meetings throughout the year at Lower Nehalem and Tillamook Watershed Council, provides presentations when requested and participates in workgroups and committees when appropriate.

The district ownership is very small in the Nestucca Basin and there has not been recent opportunities to partner on projects. District staff occasionally attends meetings with the Nestucca/Neskowin Watershed Council and provides presentations and information when requested.

The District participates in the Tillamook-Nestucca Fish Passage. The group has set a goal of establishing fish passage on 95% of the historic available habitat in the Tillamook-Nestucca Sub-basin across multiple landowners. Staff serve on both the executive and technical teams associated with this project.

Fish Distribution Surveys: Streams are classified in part as supporting fish (Type F) or not supporting fish (Type N). Riparian protection measures depend in part on the presence of fish. Fish distribution information varies across the district. Many streams have been surveyed with electro fishing techniques that established the upper extent of fish use. However many very small streams have not yet been surveyed for fish presence. These streams will be evaluated with either an electro-fishing method (through contractual arrangements with private consultants or support from ODFW) or with a Physical Habitat Survey (ODF State Forests Policy Bulletin, February 10, 2009. Determining the Upper Extent of Fish Use and Managing Related Data.) The physical methodology was developed in conjunction with Oregon Department of Fish and Wildlife.

Land Exchange

The district continues to work on a land exchange in FY18 with Tillamook County that is mutually beneficial for management of lands and recreational facilities.

The land exchange would entail exchanging an 80 acre parcel of BOF lands, which is currently managed by the County as a campground/park (Trask River Campground/Park), for a parcel of Tillamook County lands which ODF currently operates and maintains as the Sprague Memorial Wayside for a day use site and rest area. The Sprague parcel is approximately 154 acres. An exchange of these parcels would better facilitate management and be beneficial for both parties.

The district does not have an approved long-range acquisition and exchange plan. However, this is an opportunity with the County that benefits both parties and creates more efficient management of lands and facilities. In 2011, ODF and the county entered an Intergovernmental Agreement (IGA) that allowed the county to manage the park for recreational purposes and allowed ODF to manage a facility on county land. This was agreed upon with the provision that the two parties would work together to complete land exchange, acceptable to both parties, at some point in the future.

The District will continue to pursue this exchange as described in the IGA completing reviews, public meetings, and BOF approval in FY 18.

Law Enforcement and Public Safety

ODF and the Tillamook County Sheriff's Office (TCSO) partner to maintain 3 full time forest deputies that are funded through ATV grants and ODF dollars. Tillamook District staff work closely with the forest deputies and the Forest Grove District staff to facilitate law enforcement activity on the district.

The forest deputies enforce state, county, and forest recreation laws with an emphasis on ATV enforcement as they patrol the forest in both the Tillamook and Forest Grove Districts. Deputies provide search and rescue services as needed. Fire laws pertinent to recreation use are enforced by county deputies, fire protection, and recreation staff. The forest deputies are essential to the success and overall management of the forest and their presence benefits all forest users.

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 District has an ongoing firewood cutting program, which includes both commercial and individual wood cutting permits.

The Tillamook District issues personal firewood cutting permits as shown on maps attached to the permits. The individual woodcutting permits are sold by area, with the district divided into four (4) unique areas. Exclusions include active and sold timber sales, recreation sites, critical wildlife sites, and planned operations. Down and dead trees within 100 feet of a road are allowed for removal.

Commercial woodcutting sales are for more specific areas and are used to remove trees adjacent to roads, clean up landings, and salvage windthrow in concentrated areas where down wood levels are above FMP targets. These sites are often large, volumes greater than 10 cords, and have short timelines.

Non-Timber Forest Products

Special Forest Products are available on the district commercially and for personal use. Commercial permits vary in price and cover harvest of poles, beargrass, ferns, moss, salal, tree seedlings from ditches or cut-banks, and vine maple.

Collection for Personal Use is allowed without a permit for a variety of products but in small quantities limited per person. The public can get information at the district office of specific use volumes, permit costs, and availability.

Planning

The Tillamook District will use a variety of tools, data sources, and other information for the planning and implementation of the AOP. These consist of computer programs (ArcMap, SuperACE, GPS programs, etc), inventories (Road Inventories and Stand Level Inventories (SLI), surveys (T&E, fish habitat, perennial streams), and field reconnaissance. These tools and the data that is collected will assist in setting resource goals for the district, and to monitor progress in achieving those goals. During the FY18, the district will be undertaking the following projects in order to update existing data and acquire new information.

District Management Boundary

During FY 17 the district updated the management boundary data to reflect new and updated ODF ownership information; updated County Resolution Lands stewardship designation; and the termination of the county land management agreement. These changes will be reflected in the 2018 AOP and is included in the proposed FLMC modification and Implementation plan revision.

District Harvest Modeling

The district will continue to update and improve information which identifies resources and physical features on the district. This information is important to decision making and for future modeling runs. The district will continue reviewing model runs and evaluating the process.

Stand Level Inventory and Other Vegetation Inventories

There are currently 6,077 SLI stands on the Tillamook district, totaling 250,516 acres. Currently the district has 1,279 1,824 inventory stands measured using stand level inventory procedures on the Tillamook District, which represents 21% of district stands. The measured stands represent approximately 98,836 acres or 35% of State Forest land in the Tillamook District. There are also 545 stands that have other vegetation inventories (stocking surveys and planting records). These represent 9% of district stands and approximately 20,658 acres or 9% of the State Forest land in the Tillamook District. New SLI data collection for 120 stands is planned for FY18. The contract for inventory measurement will be managed through the Salem office.

Wildlife Surveys

Northern Spotted Owl Surveys

In FY18 the district will continue its northern spotted owl survey program in order to comply with ODF’s responsibilities under the State Endangered Species Act. The survey method utilized by ODF is the Protocol for Surveying Proposed Management Activities That May Impact Northern Spotted Owls. This protocol was originally dated March 1991 and was most recently revised in January 2012 and endorsed by the USFWS. The district determines survey requirement for planned timber sales with potential habitat according to the ODF Policy Guidance: Northern Spotted Owl Surveying on State Forest Lands.

See the table below for a summary of required timber sale surveys for northern spotted owls and marbled murrelets for FY18 sales. There will be 43 sales surveyed for northern spotted owls in FY18, for current, previous and future sale plans, to complete protocol surveys. There will also be additional surveys for spot checks for 16 active timber sales and for district monitoring purposes on 11 northern spotted owl activity centers.

Table 7. Summary of Surveys for Northern Spotted Owls

Operation*	Survey Years¹	BA² Required	Special Considerations
Broken Arrow	2014 - 2017	No	
Clam Bake	2016 - 2017	No	
Coast Bill	2016 - 2017	No	
Double Bypass	2016 - 2017	No	
Franken Fir	2016 - 2017	No	
General Lee	2016 - 2017	No	
Hopscotch	2015 - 2017	No	
Kilchis Saddle	2016 - 2017	Yes	
Lost Hills	2016 - 2017	No	
Southern Steamer	2015 - 2017	No	
Thor’s Summit	2016 - 2017	No	

* Indicates operations surveyed using the Density Survey Protocols

¹Years that surveys have been completed or are planned.

²A Biologic Assessment is required for this operation due to the presence of NSO or MM in the vicinity of the operation.

Marbled Murrelet Surveys

The district normally conducts a marbled murrelet survey program in order to comply with federal and state Endangered Species Acts and to contribute to Forest Management Plan goals. Survey requirements are determined in accordance with ODF Policy & Guidance. Different strategies are being applied to two different zones in the north coast. Operational surveys, as described in the October 2012 ODF Policy Guidance are being applied to sales within the Operational Survey Zone. The Operational Survey Zone is referred to as the North Coast Survey Zone in the current policy and is the zone closest to the coast where all known occupied sites are located. East of the Operational Survey Zone is the Systematic Survey Zone, where high quality potential murrelet habitat is being surveyed systematically and operational surveys are not being conducted. All surveys are conducted according to the Pacific Seabird Group protocol (2003).

There will be 6 sales with 2nd year surveys and 6 sale sales planned for first year surveys for marbled murrelets in FY18.

Table 8. Summary of Surveys for Marbled Murrelets

Operation	Survey Years¹	BA² Required	Special Considerations
Clam Bake	2016 - 2017	No	

¹ Years that surveys have been completed or are planned.

² A Biologic Assessment is required for this operation due to the presence of NSO or MM in the vicinity of the operation

Contractors complete all surveys and develop final reports for ODF. For both marbled murrelets and northern spotted owls, end of year (survey season) reviews will be done to discuss survey results. This end of season meeting is an opportunity to meet with surveyors to discuss findings and determine future survey needs and/or needed modifications to proposed operations.

T&E Plants

The proposed harvest operations were screened against the database from the Oregon Biodiversity Information Center - OBIC (previously known as the Oregon Natural Heritage Database) and other known locations on the district to identify potential conflicts with plant species listed in the district IP as requiring protection measures. These include Threatened or Endangered plants along with Candidate and Special Concern plants identified in the district IP.

Queen-of-the-Forest (*Filipendula occidentalis*) a Candidate plant, was identified in 1979 in the vicinity of the lower Wilson drainage. A range was established for the plant and the Clam Bake (Unit 736) and Kilchis Saddle sales fall inside the range identified. No plants have been found on the sale areas. Queen-of-the-Forest is usually found in riparian areas, especially shaded moist stream banks and NW FMP buffers will incorporate most if not all of the plant’s habitat.

Species of Concern Wildlife

The Kilchis Saddle, Franken Fir, and the Broken Arrow (Unit 30 and a small portion of Unit 29) sales fall within the range of a fisher (*Pekania pennanti*) that may have been observed in the area in 1980. The Area Wildlife Biologist was consulted during the planning process and recommended

that meeting the FMP down wood and snag requirements within the sale will help provide future denning sites.

Research and Monitoring

The Tillamook District will be involved in a variety of research and monitoring projects in FY18. Study sites and plots will be maintained on the district. District employees may participate in these projects. The following sections provide brief summaries of current research.

Swiss Needle Cast Cooperative Studies: (ODF Districts and SNCC)

- Monitoring of SNC disease conditions through periodic measurements.
- Installation of new monitoring plot network to take place of aging Growth Impact Study Plot network in stands 10 to 20 years old.

Trask River Paired Watershed Study: (ODF, Weyco, OSU, BLM)

ODF State Forests Monitoring Program is working on a project in the Trask River to evaluate if upland, riparian, and aquatic management strategies are effectively achieving goals for riparian and aquatic resources. The goal of the Trask River Watershed Study is to understand how aquatic systems, particularly small headwater stream, respond to harvest and if harvest effects are transferred to downstream fish bearing reaches. The overall objectives are to determine:

- The effects forest harvest have on the physical, chemical and biological characteristics of small headwater streams;
- The extent to which alterations in stream conditions caused by harvest along headwater channels influence the physical, chemical and biological characteristics of downstream fish bearing streams.

Post-Trask Study: (ODF, USGS FRESC)

The Trask Watershed Study (2006 - 2016) was designed in part to assess the downstream effects on fish communities from forest harvest adjacent to non-fish bearing streams in the headwaters. ODF State Forests Monitoring Program is working on a Post-Trask study that assesses the direct impact of a State Forest harvest on the fish community. The new study will continue the monitoring at two of sites used in the Trask Watershed study. The treatment will be the Pothole habitat reach, which will be harvest (Little Bumps timber sale) and Rock Creek habitat reach will continue to serve as the reference. The overall objective of this study is to assess the impacts of a State Forests modified clear-cut, FY17 Little Bumps timber sale, on a fish-bearing stream (fish, temperature, shade, turbidity) utilizing the 12 years of previous data that was collected with the Trask WSS.

East Fork Trask Macro-Invertebrate Monitoring Study: (ODF, TEP, OSU)

ODFW has decommissioned the East Fork Trask acclimation pond in partnership with ODOT by removing the dam and fish ladder in the summer of 2016. ODF State Forests Monitoring Program in conjunction with the Tillamook Estuaries Partnership and Oregon State University designed a study to assess the impact on the downstream macroinvertebrate community from the sediment load released from behind the dam. This study will assess the impact of the dam removal on the macroinvertebrate community using a before-after-control-impact-paired study

design (BACIP). The sample area will include two sites (above and below) and one control located in the South Fork Trask. The overall objective of this study is to detect change in the macroinvertebrate community composition (richness and abundance) downstream of the dam removal site relative to upstream and reference sites. The first data collection was in 2016.

T&E Surveys: (ODF, Contractors)

See the above section on fish and wildlife for more detail of surveys for spotted owls and marbled murrelets.

Northern Spotted Owls On-going Monitoring: (ODF, Contractors)

On-going monitoring is occurring of known sites of Northern spotted owls. The objective of these surveys is to determine continued occupancy of the site and movement within designated owl over time.

Marbled Murrelet Systematic Surveys: (ODF, Contractors)

Systematic surveys on the highest potential habitat sites in the area identified as the Systematic Survey Zone may be conducted in the district during FY15. The objective of these surveys is to survey areas which have not been previously surveyed to determine if marbled murrelets have started to use the potential habitat further inland. The Systematic Survey Zone⁴ is defined as “all of the Forest Grove District and portions of the Astoria and Tillamook Districts that are east of the North Coast Survey Zone.” Surveys in these areas over the last two decades have resulted in no detections.

Other Planning Operations

Wood Accounting and Log Tracking (WALT)

In FY18 State Forest will continue development of the new business Enterprise System to track timber sale volume and value from the beginning of the planning process through the end of the timber sale. The Tillamook District has assisted with the design and testing of all phases of the project. In FY18 Tillamook District personnel will continue to work on the design, review, and testing of Contractor, the contract creation feature of the program. 2018 AOP timber sales have been created in the Geo-Planner function of the program.

Board of Forestry

The district will support the Board of Forestry Work Plan for State Forest. In FY18 the district will focus on the following priorities for the Board.

- Participation in development of programmatic ESA compliance tool
- Participation in Business Improvement Workgroups: Recreation, Education, Interpretation, Marketing, and Strategic Workforce Planning

⁴ ODF Marbled Murrelet Operations Policy, August 28, 2013, 1.1.6.20
TILLAMOOK DISTRICT 2018 ANNUAL OPERATIONS PLAN
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PUBLIC INFORMATION AND EDUCATION

The district will maintain supporting information for the Implementation Plan, Land Management Classification System, and Annual Operations Plans for public review. Public involvement will include public review and input on the FY18 Annual Operations Plan and minor revisions to the 2009 Implementation Plan. Additional public involvement will take place during the public hearings on the proposed land exchange. District personnel will participate in public education opportunities such as assisting the Tillamook Forest Education and Interpretation program, watershed council meetings, recreation planning meetings, school field trips and other public events as the opportunity arises. The district will continue to meet with concerned citizens or groups when they have specific questions.

The Tillamook Forest Center at mile post 22 on the Wilson River Highway. Typical activities on-site during this time will include: routine maintenance of the building and grounds; guided and self-guided public use of the trails including many school groups; access to the river by interpretive trails. The Center hosts more than 50,000 people per year. The Smith Homestead Day Use Area, located ½ mile east of the Center, hosts many school groups, family activities, and other visitors. The Tillamook Forest Center will be closed from the Monday after Thanksgiving in November 2017 through the end of February 2018 because of the limited operational budget.

In FY18, the Tillamook District will assist the Tillamook Forest Center (TFC) with the set up and administration of a small thinning project and a 2 to 3 acre harvest that will clear the site for the new Education Pavilion. The thinning project is plan for the timber adjacent to the TFC that consists mainly of Douglas-fir and Grand fir planted during the 1950's. There are also minor amounts of natural and planted conifer seedlings from 1 to 10 years old. The current stand is dense with a Stand Density Index (SDI) of 60% and needs to be thinned to maintain its health and longevity. A number of trees in the stand are in poor condition due to Laminated root rot, Armillaria root disease, suppression, drought, low water table, construction damage, and fir engraver beetles. The proposed light thinning would remove the infected and damaged trees to improve the stand health, safety of TFC visitors, and manage for Older Forest Structure (OFS) along the Wilson River riparian area. The trees for removal will be marked by ODF foresters and evaluated by the Salem Staff pathologist to insure all hazard trees are removed at the time of harvest. ODF also will be working with ODOT on removal of a row of trees on the north side of Highway 6 just west of the TFC entrance to enhance visibility for east bound traffic.

The thinning, to a SDI of 37-40%, will remove mostly the smaller trees. Some of the large dominant trees have root disease and will need to be removed to maintain stand health and visitor safety. Snags and trees that are a safety hazard may be topped to provide wildlife habitat and maintain diversity in the stand. The thinning will occur during the winter of 2018 while the TFC is closed to the public. South Fork crews will be utilized where necessary to clear trails, protect structures and clear slash. After the over story removal the understory reprod will be thinned to maintain diversity and health of the stand. A trial camera may be set up to record the harvest activities to show TFC visitors.

ADMINISTRATION

District Organization

There are 31 permanent positions whose full-time function is to manage State Forest land on the Tillamook District and five (5) permanent positions who work part-time on management of State Forest land. All are responsible for implementing the 2018 Annual Operations Plan. These positions are divided into five functional groups: Forest Management, Forest Roads, Reforestation, Recreation, and Administration. See the attached organizational chart.

There are two forest management units (Planning and Timber Contracts) responsible for all aspects of timber marketing. These activities include planning, unit layout, assisting with road layout and design, timber cruising, timber sale appraisal, contract writing, and contract administration. The Planning unit prepares the Annual Operations Plan and the Pre-Operations Reports for the individual sales in the AOP and administers contracts for cruising. The Planning unit is also responsible for identifying candidates for future sale plans five to ten years into the future and other planning efforts like land exchange, basin planning, harvest scheduling, and transportation planning. The Timber Contracts unit completes field work and contract preparation as well as administers all of the timber sale contracts for the district. The Contracts Unit also manages commercial firewood sales and special low volume timber sales.

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

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

The Recreation unit is responsible for implementation of the *Tillamook State Forest Recreation Action Plan* and operation of the overall recreation program including facility maintenance. Program elements include the operation and maintenance of campgrounds, day use areas, trailheads, staging areas, motorized and non-motorized trails, boat ramps, event management, South Fork crew coordination, law enforcement coordination, volunteer recruitment and management, and contract administration. The recreation unit also reviews planned timber sales and provides input into the Pre-Operations Reports on individual timber sales and works closely with the forest management units for trail protection during road and harvest operations or trail rehabilitation after operations.

Administration consists of the District Forester, Assistant District Forester, Office Manager, Purchasing Specialist, and two Office Specialists. The District Forester and Assistant District Forester provide policy direction, budget development, and oversight to the field units.

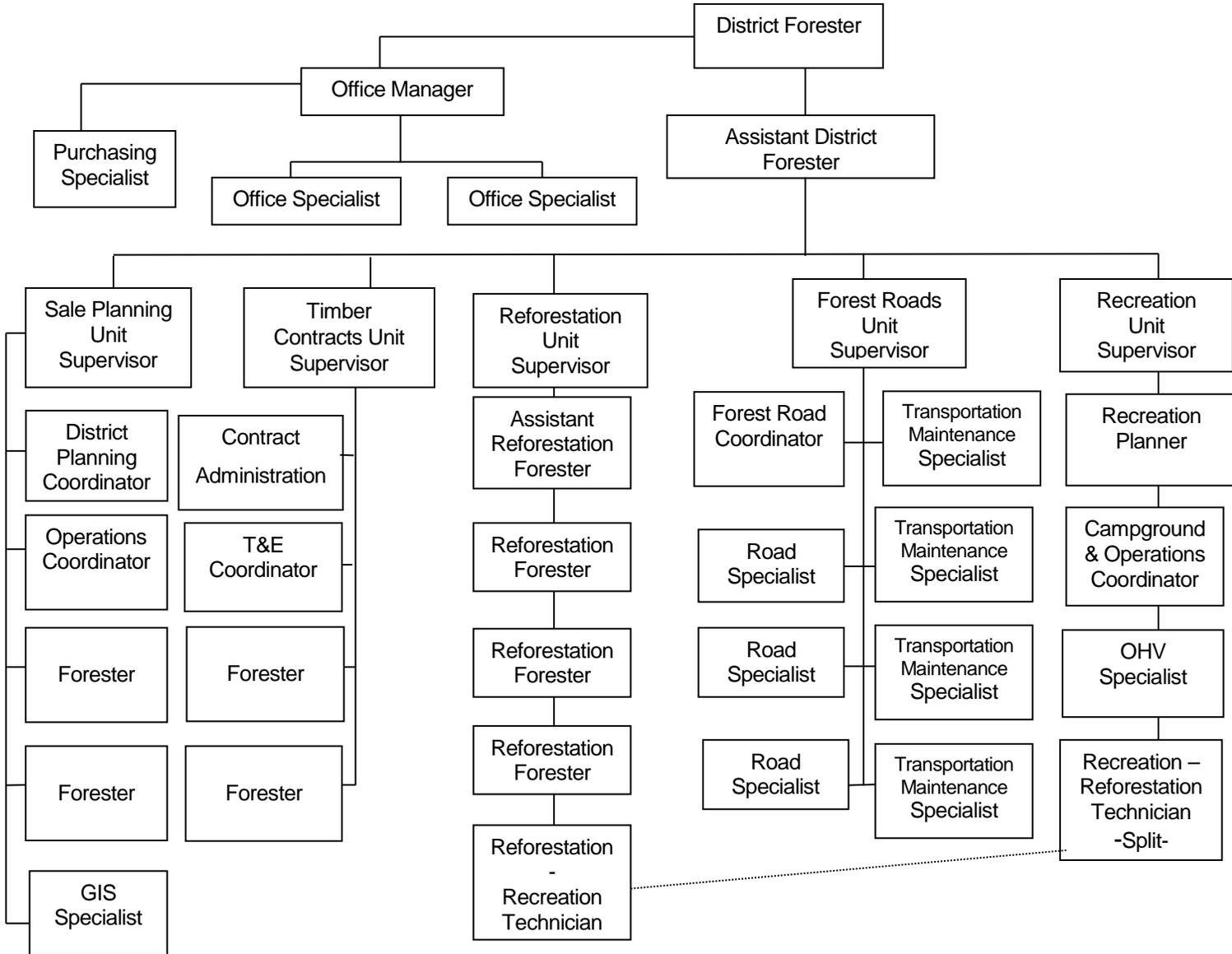
The Office Manager, Purchasing Specialist, and Office Specialists provide clerical support to State Forest Management. These positions are responsible for initial public contact, distribution and

filing of documents, and providing assistance at timber sale auctions. The Office Specialist is also responsible for issuing permits for firewood cutting, and special forest products.

The GIS Specialist works with all of the above units but is managed through the planning unit. The GIS Specialist assists the units with creating GIS displays for timber sale layout, contracts, and planning documents. The GIS manager also completes maintenance and timely updates to the GIS database and provides overall IT support.

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

Tillamook District Organization Chart



APPENDIXES

A. Summary Tables

- A. Harvest Operations – Financial Summary
- B. Harvest Operations – Forest Resource Summary
- C. Forest Road Management Summary
- D. Reforestation and Young Stand Management Summary
- E. Recreation Management Summary

B. Map Section

- a. Harvest Operations Vicinity Map
- b. Include other maps that support the AOP

C. Consultations with Other State Agencies

This appendix summarizes the results of consultations with the Oregon Department of Fish and Wildlife and other agencies, as appropriate. This appendix contains any written comments that we received from state agencies.

D. Public Involvement

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

E. Pre-Operations Reports

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

F. Forest Land Management Classification Changes

This appendix describes major changes to the State Forests' Forest Land Management Classification maps, including maps of the specific changes.

G. Minor Implementation Plan Modifications

This section describes any minor modifications to the district implementation plans, including minor changes to the landscape design.

TIMBER HARVEST OPERATIONS - FINANCIAL SUMMARY

District: Tillamook

Fiscal Year: 2018

Date: 06/21/2017

Primary Operation	Fund %		County	Sale Quarter	Net Acres		Volume (MMBF)			Value		
	BOF	CSL			Partial Cut	Clear-cut	Conifer	Hardwoods	Total	Gross	Projects	Net
Broken Arrow	100%	0%	Tillamook	3	0	295	4.6	1.4	6.0	\$1,599,329	\$135,824	\$1,463,505
Double Bypass	100%	0%	Tillamook	1	0	77	1.7	0.2	1.9	\$515,673	\$33,852	\$481,821
Franken Fir	100%	0%	Tillamook	2	0	313	5.2	1.4	6.6	\$1,845,261	\$169,776	\$1,675,485
General Lee	100%	0%	Tillamook	4	0	262	6.4	0.5	6.9	\$2,164,375	\$212,686	\$1,951,689
Hopscotch	100%	0%	Tillamook	3	0	111	1.6	0.7	2.3	\$632,700	\$94,910	\$537,790
Kilchis Saddle	100%	0%	Tillamook	2	0	115	1.7	1.1	2.8	\$560,796	\$102,701	\$458,095
Lost Hills	100%	0%	Tillamook	1	0	236	1.4	2.6	4.0	\$1,042,675	\$124,360	\$918,315
Southern Steamer	100%	0%	Tillamook	1	0	293	4.9	1.7	6.6	\$2,047,790	\$600,275	\$1,447,515
Thor's Summit	100%	0%	Tillamook	4	0	446	9.5	0.5	10.0	\$3,320,401	\$394,743	\$2,925,658
Total:					0	2,148	37.0	10.1	47.1	\$ 13,729,000	\$ 1,869,127	\$ 11,859,873
Alternate Operations												
Broken Arrow - Alt Area 238	100%	0%	Tillamook	Alt	0	110	1.8	0.4	2.2	\$ 586,432	\$ 145,453	\$440,979
Clam Bake	100%	0%	Tillamook	Alt	0	402	5.4	3.5	8.9	\$ 2,018,908	\$ 306,053	\$1,712,855
Coast Bill	100%	0%	Tillamook	Alt	0	222	2.9	1.3	4.2	\$ 1,323,485	\$ 429,274	\$894,211
Kilchis Saddle - Alt Area 71	100%	0%	Tillamook	Alt	0	110	1.5	0.5	2.0	\$ 425,040	\$ 184,874	\$240,166
Southern Steamer - Alt Area 619	100%	0%	Tillamook	Alt	0	115	2.6	0.7	3.3	\$ 1,113,890	\$ 55,424	\$1,058,466
Total:					0	959	14.2	6.4	20.6	\$ 5,467,755	\$ 1,121,078	\$ 4,346,677

PRIMARY HARVEST OPERATIONS - FOREST RESOURCE SUMMARY

District: Tillamook

Fiscal Year 2018

Date: 06/21/2017

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	Landcape Design LYR/OFS ³	Install/Replace Culverts on Fish Bearing / Perennial Streams	Harvesting within 100' of Fish Bearing Stream	Domestic Water Source	Potential Stream Habitat Improvement ⁴	Within Aquatic Anchor	Within Terrestrial Anchor	Operating within a NSO Provincial Circle (BA Required)	Operating within a MMMA (BA Required)	Murrelet Timber Sale Screening Process Required (MM Policy 2.27)	T&E Fish Adjacent to Harvest Unit / Haul Route ⁵	T&E Plants	Geotechnical Issues Needing Field Review	Recreation Sites	Cultural Resources	Scenic Resources	Other Resources or Issues
Broken Arrow		X	-	-	X	X	-	-	-	-	-	-	-	-	X	-	X	X	-	-	Permanent plot in 612
Double Bypass		X	-	-	-	-	-	-	-	-	-	-	-	-	X	-	X	X	-	X	--
Franken Fir		X	-	-	X	X	-	-	-	X	-	-	-	-	X	-	X	X	-	-	--
General Lee		-	X	-	X	X	-	-	-	X	-	-	-	-	X	-	X	X	-	X	Power lines; Permanent plot
Hopscotch		X	X	-	-	-	-	-	-	X	-	-	-	-	X	-	-	X	-	-	Permanent plot within 1/4 mile
Kilchis Saddle		-	X	-	-	X	-	-	-	X	-	X	-	-	X	-	-	-	-	-	--
Lost Hills		-	-	-	X	X	-	-	-	-	-	-	-	-	X	-	X	-	-	-	State Park adjacent
Southern Steamer		X	X	-	X	X	-	-	-	-	-	-	-	-	X	-	X	X	-	-	Permanent plot in 622
Thor's Summit		X	X	-	-	X	-	-	-	X	-	-	-	-	X	-	X	X	-	-	Power lines; Three study plots

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

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

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

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

⁵ This table lists harvest operations (units or log haul routes) that are adjacent to streams that are known to contain T&E fish. The Pre-Operation Report identifies whether T&E fish are present in the basin.

ALTERNATE HARVEST OPERATIONS - FOREST RESOURCE SUMMARY

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

Alternate Harvest Operations	Unit (Optional)	Forest Health Issues ¹	Invasive Species	LYR/OFS Structures ²	Landcape Design LYR/OFS ³	Install/Replace Culverts on Fish Bearing / Perennial Streams	Harvesting within 100' of Fish Bearing Stream	Domestic Water Source	Potential Stream Habitat Improvement ⁴	Within Aquatic Anchor	Within Terrestrial Anchor	Operating within a NSO Provincial Circle	Operating within a MMMA (BA Required)	Murrelet Timber Sale Screening Process Required (MM Policy 2.27)	T&E Fish Adjacent to Harvest Unit / Haul Route ⁵	T&E Plants	Geotechnical Issues Needing Field Review	Recreation Sites	Cultural Resources	Scenic Resources	Other Resources or Issues
Broken Arrow - Alt Area 238		X	-	-	X	X	-	-	-	-	-	-	-	-	X	-	X	X	-	-	
Clam Bake		-	-	X	X	X	-	-	-	X	-	-	-	-	X	X	X	-	-	-	Permanent plot adjacent to 661
Coast Bill		X	-	-	-	X	-	-	X	-	-	-	-	-	X	-	X	-	-	-	Progeny site adjacent to 104
Kilchis Saddle - Alt Area 71		-	X	-	-	X	-	-	-	X	-	X	-	-	X	X	-	X	-	-	--
Southern Steamer - Alt Area 619		X	X	-	X	X	-	-	-	-	-	-	-	-	X	-		X	-	-	

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

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

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

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

⁵ This table lists harvest operations (units or log haul routes) that are adjacent to streams that are known to contain T&E fish. The Pre-Operation Report identifies whether T&E fish are present in the basin.

FOREST ROADS SUMMARY

District: Tillamook

Fiscal Year: 2017

Date: 06/21/2017

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					
Broken Arrow	1.8	\$ 105,891	7.4	\$ 29,934	\$ -	\$ 135,824	\$ 1,599,329	8%	
Double Bypass	0.1	\$ 3,182	9.1	\$ 30,670	\$ -	\$ 33,852	\$ 515,673	7%	
Franken Fir	2.3	\$ 93,668	7.4	\$ 76,109	\$ -	\$ 169,776	\$ 1,845,261	9%	
General Lee	2.2	\$ 94,286	10.9	\$ 118,400	\$ -	\$ 212,686	\$ 2,164,375	10%	
Hopscotch	0.9	\$ 66,424	6.1	\$ 28,486	\$ -	\$ 94,910	\$ 632,700	15%	
Kilchis Saddle	0.1	\$ 8,537	9.5	\$ 94,164	\$ -	\$ 102,701	\$ 560,796	18%	
Lost Hills	2.1	\$ 88,710	6.5	\$ 35,650	\$ -	\$ 124,360	\$ 1,042,675	12%	
Southern Steamer	2.6	\$ 353,112	12.3	\$ 247,163	\$ -	\$ 600,275	\$ 2,047,790	29%	
Thor's Summit	3.1	\$ 137,248	16.9	\$ 257,495	\$ -	\$ 394,743	\$ 3,320,401	12%	
Total	15.2	\$951,057	86.3	\$918,070	\$0	\$1,869,127	\$13,729,000	13.6%	

Alternate Operations

Broken Arrow - Alt Area 238	1.0	\$ 145,453	0	\$ -	\$ -	\$ 145,453	\$ 586,432	25%	
Clam Bake	2.2	\$ 241,563	19.8	\$ 64,490	\$ -	\$ 306,053	\$ 2,018,908	15%	
Coast Bill	3.0	\$ 294,090	8.16	\$ 135,184	\$ -	\$ 429,274	\$ 1,323,485	32%	
Kilchis Saddle - Alt Area 71	2.1	\$ 177,534	3.67	\$ 7,340	\$ -	\$ 184,874	\$ 425,040	43%	
Southern Steamer - Alt Area 619	0.6	\$ 26,724	2.44	\$ 28,700	\$ -	\$ 55,424	\$ 1,113,890	5%	
Total	8.9	\$ 885,363	34.1	\$ 235,714	0.0	\$ 1,121,077	\$ 5,467,755	21%	

Road Projects Not Associated with Harvest Operations in this AOP

Operation	Construction		Improvement		Other Projects	Total Project Costs	Funding Source	Comments
	Miles	Cost	Miles	Cost				
Bridge Inspections		\$ -		\$ -		\$ 15,000.00	FDF	Periodic Bridge Inspections
		\$ -		\$ -		\$ -		
		\$ -		\$ -		\$ -		
Total	0.0	\$ -	0.0	\$ -	0.0	\$ 15,000.00		

REFORESTATION AND YOUNG STAND MANAGEMENT SUMMARY

District: Tillamook

Fiscal Year: 2018

Date: 06/21/2017

Projects Conducted by ODF Staff or Contractors	Board of Forestry			Common School Forest Lands			District	
	Acres Planned	Average Cost*/Acre	BOF Cost	Acres Planned	Average Cost*/Acre	CSL Cost	Total Acres	Total Cost
Seedling / Nursery Costs			\$471,613			\$0	0	\$471,613
Initial Planting	1,800	\$200.00	\$360,000			\$0	1,800	\$360,000
Interplanting	630	\$116.00	\$73,080			\$0	630	\$73,080
Underplanting			\$0			\$0	0	\$0
Tree Protection - Barriers			\$0			\$0	0	\$0
Tree Protection - Direct Control	2,025	\$80.00	\$162,000			\$0	2,025	\$162,000
Site Prep - Chemical - Aerial	1,800	\$49.32	\$88,776			\$0	1,800	\$88,776
Site Prep - Chemical - Hand			\$0			\$0	0	\$0
Site Prep - Broadcast Burning			\$0			\$0	0	\$0
Site Prep - Piling Burning*	1,800	\$7.27	\$13,086			\$0	1,800	\$13,086
Site Prep - Mechanical			\$0			\$0	0	\$0
Release - Chemical - Aerial	200	\$42.32	\$8,464			\$0	200	\$8,464
Release - Chemical - Hand			\$0			\$0	0	\$0
Release - Mechanical - Hand			\$0			\$0	0	\$0
Precommercial Thinning			\$0			\$0	0	\$0
Pruning			\$0			\$0	0	\$0
Invasive Species			\$0			\$0	0	\$0
Road Side Spraying (1mi = 2ac)	340	\$65.50	\$22,270			\$0	340	\$22,270
Stocking Surveys*	5,400		\$0			\$0	5,400	\$0
Precommercial Thinning Review*	8,971		\$0			\$0	8,971	\$0
Totals	22,966	--	\$1,199,289	0	--	\$0	22,966	\$1,199,289

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

Projects Conducted by Inmates	Board of Forestry			Common School Forest Lands			District	
	Acres Planned	Average Cost*/Acre	BOF Cost	Acres Planned	Average Cost*/Acre	CSL Cost	Total Acres	Total Cost
Initial Planting			\$0			\$0	0	\$0
Interplanting			\$0			\$0	0	\$0
Underplanting			\$0			\$0	0	\$0
Tree Protection - Barriers	2,200	\$34.21	\$75,262			\$0	2,200	\$75,262
Tree Protection - Direct Control	275	\$55.77	\$15,337			\$0	275	\$15,337
Site Prep. - Chemical Aerial			\$0			\$0	0	\$0
Site Prep - Chemical - Hand			\$0			\$0	0	\$0
Site Prep - Broadcast Burning			\$0			\$0	0	\$0
Site Prep - Piling Burning			\$0			\$0	0	\$0
Site Prep - Mechanical			\$0			\$0	0	\$0
Release - Chemical - Hand	300	\$61.34	\$18,402			\$0	300	\$18,402
Release - Mechanical - Hand	338	\$107.15	\$36,217			\$0	338	\$36,217
Precommercial Thinning			\$0			\$0	0	\$0
Pruning			\$0			\$0	0	\$0
Invasive Species	100	\$13.50	\$1,350			\$0	100	\$1,350
Special Projects	NA	NA	\$4,876			\$0	0	\$4,876
Totals	3,213	--	\$151,443	0	--	\$0	3,213	\$151,443

Grant Funded Activities	Board of Forestry			Common School Forest Lands			District	
	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: Tillamook

Fiscal Year: 2018

Date : 06/21/2017

Project	Construction Cost (Funding)		Improvement Cost (Funding)		Operations/Maint. (Funding)		Total Costs	Comments
	ODF (\$)	Other (\$)	ODF (\$)	Other (\$)	ODF (\$)	Other (\$)		
Campgrounds								
Diamond Mill						\$3,700	\$3,700	trash, septic pumping ATV Transfer Fund
Jones Creek					\$16,000		\$16,000	trash, septic pumping, electricity,
Keenig					\$3,600		\$3,600	trash, septic pumping
Jordan Creek						\$2,600	\$2,600	trash, septic pumping
Nehalem Falls					\$4,000		\$4,000	trash, septic, phone, electricity
Designated Campsites								
North Fork Wilson					\$2,100		\$2,100	portble toilet
Cedar Creek					\$3,500		\$3,500	portable toilets
Jordan Creek						\$50	\$50	signs, posts, fire grate maint.
North Fork Trask							\$0	signs, posts, fire grate maint.
East Fork Trask					\$100		\$100	signs, posts, fire grate maint.
South Fork Trask					\$50		\$50	signs, posts, fire grate maint.
Morrison Eddy					\$1,800		\$1,800	portable toilet
Day Use Areas								
Stones Road Boat Launch					\$50		\$50	sign repair as needed
Beaverslide Boat Launch					\$50		\$50	sign maintenance
Jones Creek Day Use					\$3,900		\$3,900	trash & septic
Trailheads/OHV Staging Areas								
Cedar Creek OHV Staging						\$5,000	\$5,000	trash, 1-portable toilet ATV Transfer fund
Footbridge Trailhead					\$3,100		\$3,100	trash
Hollywood OHV Staging						\$50	\$50	signs posts fire grates
Peninsula TH & Boat Launch					\$100		\$100	signs & posts, table repairs
Interpretive Sites								
Sprague Wayside					\$2,200		\$2,200	septic pumping, electricity
Other Operations, Service & Supply								
Dust abatement					\$2,300		\$2,300	Jones Cr. only - limited application
Field Supplies & Services					\$26,000		\$26,000	tumber, concrete, hardware, paint, signs, camp host propane, garbage bags, TP, crew support, well pump service, crushed rock, office supplies, all field related expenditures grouped together
1 waste water disposal cistern					\$1,500		\$1,500	begin replacement of old style culvert cisterns with new DEQ required waste water disposal units.
5 picnic tables					\$3,250		\$3,250	\$650 each
Garbage Service Dist. Compound					\$350		\$350	
Fee Envelopes					\$1,600		\$1,600	RR Doneley
Fee boxes (2 new Ft. Knox boxes)					\$1,452		\$1,452	Ft. Knox fee box \$726 ea
Water testing					\$416		\$416	quarterly water testing required by State Health Division
Field supplies ATV Transfer Fund						\$1,300	\$1,300	hoses, parts, tires, ATV transfer fund
County Permit fees					\$800		\$800	estimated permit fee for Morrison Eddy restroom
Bridge inspections					\$2,100		\$2,100	yearly contract bridge inspections
							District Total	\$80,318
							Other Total	\$12,700
							TOTAL	\$93,018

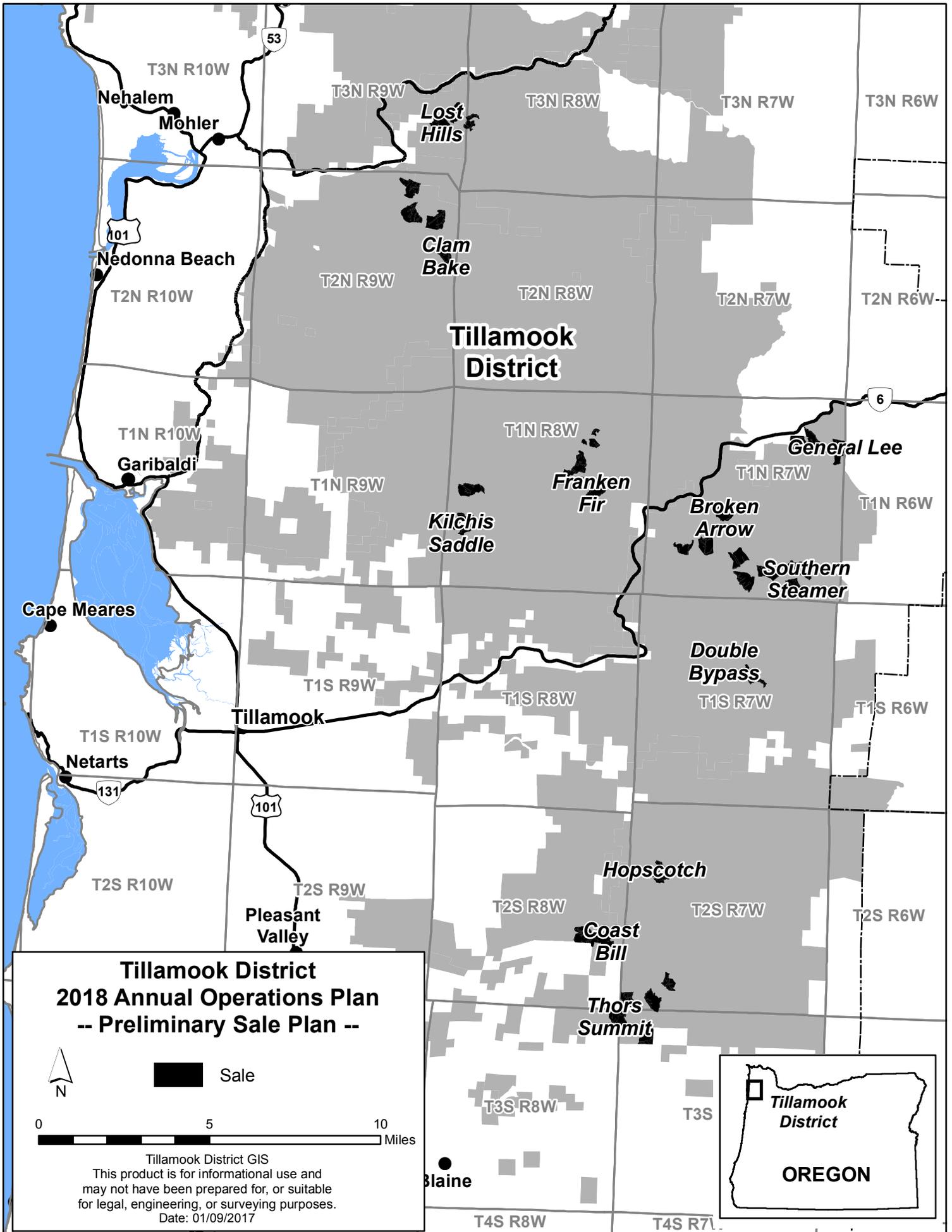
RECREATION GRANT MANAGEMENT SUMMARY

District: Tillamok

Fiscal Year: 2018

Date : 06/21/2017

Grant	Status	Award Date (actual or anticipated)	Recreation Leadership Approval	Goals/Purpose	Funding		Project Total	Comments
					Grant (\$)	Match (\$)		
Cedar Cr. Staging Area Restroom	Need to apply	Sept. 2017	Pending approval of AOP	Save money by no paying for porta pottie, improve sanitation for OHV users	\$37,000	\$0	\$37,000	Yamaha and ATV Grant - no impact to FDF other than Road Crew Time
Keenig Cr, Trailhead Restroom	Need to apply	Sept. 2017	Pending approval of AOP	Install single vault toilet for trailhead	\$18,000		\$18,000	50% LWCDF, 50% RTP grant + Road Crew time to prep. site
Wilson R. Trail - Jones Creek Bridge	Need to apply	Sept. 2017	Pending approval of AOP	Replace rotting trail bridge and relocate upstream to secure location. Current	\$30,000		\$30,000	RTP - \$20,000 Recreation Donations \$10,000
Oregon Weed Advisory Board Grant	Need to apply	unknown at this time	Pending approval of AOP	signing and education materials and enforcement of weed free feed rules.	\$10,000		\$10,000	Oregon Weed Advisory Board
							\$0	
							\$0	
					Grants Total		\$95,000	
					Match Total		\$0	
					TOTAL		\$95,000	



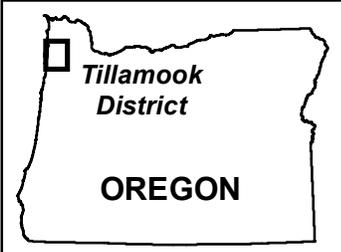
**Tillamook District
2018 Annual Operations Plan
-- Preliminary Sale Plan --**



■ Sale

0 5 10 Miles

Tillamook District GIS
This product is for informational use and
may not have been prepared for, or suitable
for legal, engineering, or surveying purposes.
Date: 01/09/2017



Tillamook
District

OREGON

Appendix C

Consultations with Other State Agencies

This appendix summarizes the results of consultations with the Oregon Department of Transportation and the Oregon Department Of Fish and Wildlife.

ODOT

- Archaeologists from the Oregon Department of Transportation (ODOT) have reviewed the proposed timber harvests, road construction and recreation projects to review potential impacts to cultural resources. No known historical or archaeological sites were found during this review. However, ODOT's review of historic maps and other information indicates there was human activity near some of our planned operation that could have led to the presence of cultural artifacts today.

The following sales (listed by the historic activity) will be reviewed on the ground prior to sale or project layout to determine if any cultural artifacts are present:

- Potential trail: Double Bypass
- Potential spring (in vicinity): Clam Bake (Alt)

ODFW

- Biologist from Oregon Department of Fish and Wildlife have reviewed the proposed timber harvest and road projects. General ODFW Comments (that relate to sales only):

Green Trees

Some of the regeneration harvest areas have scattered or clumped green tree (GT) distributions in them. These are optimal GT placements for wildlife, especially for GTs left in lieu of created down wood or snags, as many wildlife species utilizing these structure are territorial in nature. Leaving some GTs in in-unit RMAs is OK, but should not be where most of them are placed. Many pre-op reports specify that GTs are to be left adjacent to RMAs and some call for placement within green tree areas (GTAs). RMA prescriptions for GTs should stand alone in their adequacy, and not need additional GTs for augmentation. Green trees in GTAs offer minimal value to wildlife unless protecting sensitive wildlife sites (e.g. nests) from wind-throw or edge effects.

Snags

Strategies for addressing snag standards in the FMP are generally mentioned in Table 7 and accompanying text in the pre-op reports. This is particularly helpful as it specifies when and where snags are to be created. ODFW supports snag creation, especially if they are scattered

and/or clumped in distribution.

Down Wood

Strategies for meeting down wood standards in the FMP are specifically mentioned in Table 7 and accompanying text, which is very helpful. Again, the optimal distribution of GTs left in lieu of created down wood is scattered and clumped.

Roads

Nearly all of the newly constructed dirt spurs, and some of the rocked spurs in this AOP, are slated for physical closure after use, which is beneficial for wildlife. ODFW recommends physical closure for newly constructed dirt and rocked spurs, especially if they have no immediate need in further management and/or maintenance (e.g. culverts). If new rocked spur roads have immediate further needs, consider closing them physically in later AOPs to keep open road densities down. By the way, Tables 11 and 11a do an excellent job of summarizing road prescriptions for the reviewer!

Appendix D

APPENDIX 'D' PUBLIC COMMENTS ON THE TILLAMOOK DISTRICT 2018 ANNUAL OPERATIONS PLAN

Introduction

The Tillamook District 2018 Annual Operations Plan (AOP) was included in the formal 45-day public comment period held from March 20th through May 4th, 2017 by the Oregon Department of Forestry. The purpose of the public comment period was to provide a time for the districts to share their plans with the public and for the public to ask questions 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. After the public comment process was completed, the AOPs were revised if needed, then reviewed, and approved by the District Forester.

Evaluation Process

The following process to evaluate and resolve the statements related to the AOP:

1. Review each document to identify and evaluate individual statements;
2. Address each statement to 1) briefly show how the district intends to change the AOP based on the statement, or 2) why the statement does not warrant a change to the AOP.
3. Respond to the statement(s) in a letter to the commenter if a return address was provided. The response is either a very brief synopsis of how the district intends to change the AOP based on the statement, or an explanation of how the planned activity is consistent with the FMP, IP, and other policy or regulation;
4. The public comment documents and the department's responses will be placed on the web site as Appendix D. Commenters who supplied return addresses were sent a personal response and were given the opportunity notify ODF if they did not want to have their public comment document posted on the web site.

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 a planned operation or improve its efficiency or effectiveness.

The Tillamook District did not receive any comments regarding specific sales within the 2018 AOP. The public comments that applied to the Tillamook District, multiple districts, and the Program's responses are available upon request.

No changes to the Tillamook District FY 2018 AOP were made since the Public Comment Period.

Appendix E

Individual Pre-Operations Reports for this AOP are available upon request.

APPENDIX F

Forest Land Management Classification Changes

The Forest Land Management Classification (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 Area. Subclasses are assigned for the specific forest resources that require a Focused Stewardship, Special Use or High Value Conservation Area Classification.

The proposed changes encompass approximately an additional 12,420 acres which requires a major modification. A major modification is defined as one that cumulatively exceeds 500 acres within one year. Major modifications require a 30 day public comment period which will be held in conjunction with the Districts 2018 AOP comment period. At the close of the public comment period, the Department will consider the public comments and make final decisions on the proposed changes. The District Forester will forward the draft final changes along with any public comments to the Northwest Area Director and the State Forester for review and final approval.

The Tillamook District FLMC was last updated in June of 2014. Since that time, the District has added two owl northern spotted owl circles, 3 marbled murrelet management areas, and had a major update of the ownership boundary, termination of the County Land Management Agreement, and update of the stewardship designation of the County Resolution lands. The district has also been continuously improving and updating the district data from field verified information and new information or data sets that have become available. See full list below of District information that has been updated.

- Fish presence surveys
- Perennial / Seasonal stream surveys
- Ownership Boundary Adjustments
- Deed Restriction Updates
- Cultural Resource Updates
- Recreation trail updates
- Transmission line documentation updates
- New northern spotted owl circles
- New marbled murrelet management areas
- Field verified operationally limited updates

The following tables from the Tillamook District Implementation Plan have been modified to reflect these changes:

APPENDIX F

Table 2. Tillamook District Acres, by Stewardship Class and Fund

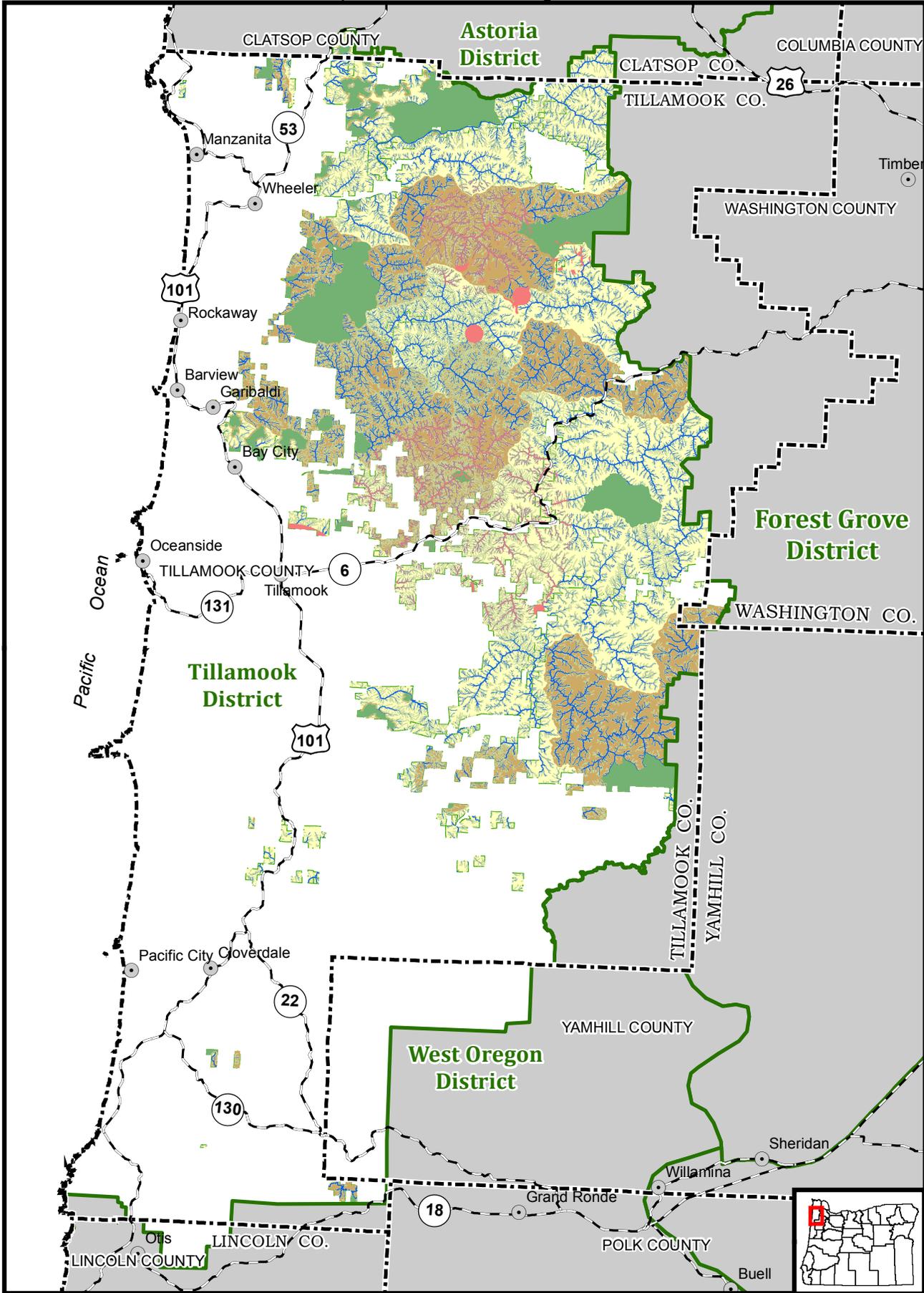
Classification	BOF	CSL	Total Acres ¹
	Acres	Acres	Acres
Focused Stewardship	279,433 267,724	7,254 7,734	286,687 275,458
Special Use	55,752 55,558	1,297 1,294	57,048 56,852
High Value Conservation Areas	63,646 62,782	1,635 1,504	65,281 64,286
General Stewardship	42,096 40,414	0 557	42,096 40,971

¹ The sum of the total acres is greater than the total acres within the District. This is due to the overlap between the High Value Conservation, Special Use and Focused classifications on the forest.

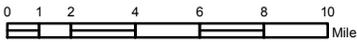
Table 3. Tillamook District Acres, by Focused and Special Stewardship Subclasses

	Focused Stewardship	Special Use	High Value Conservation Area
Administrative Sites	0	6	0
Aquatic and Riparian Habitat	91,843 94,682	0	32,000 32,005
Cultural Resources	1,055 270	17 16	0
Deeds	8,142 3,999	1,960 1,856	0
Domestic Water Use	3,771 3,788	0	0
Easements	0	0	0
Energy and Minerals	0	98	0
Operationally Limited	0	53,028 53,107	0
Plants	0	0	7,325 6,749
Recreation	9,334 8,050	293 391	0
Research /Monitoring	4,669 4,670	61	0
Transmission	0	1,225 967	0
Visual	34,609 34,611	361 350	0
Wildlife	133,265 125,389	0	25,956 25,533

Tillamook District Stewardship Classifications - Biological Subclasses



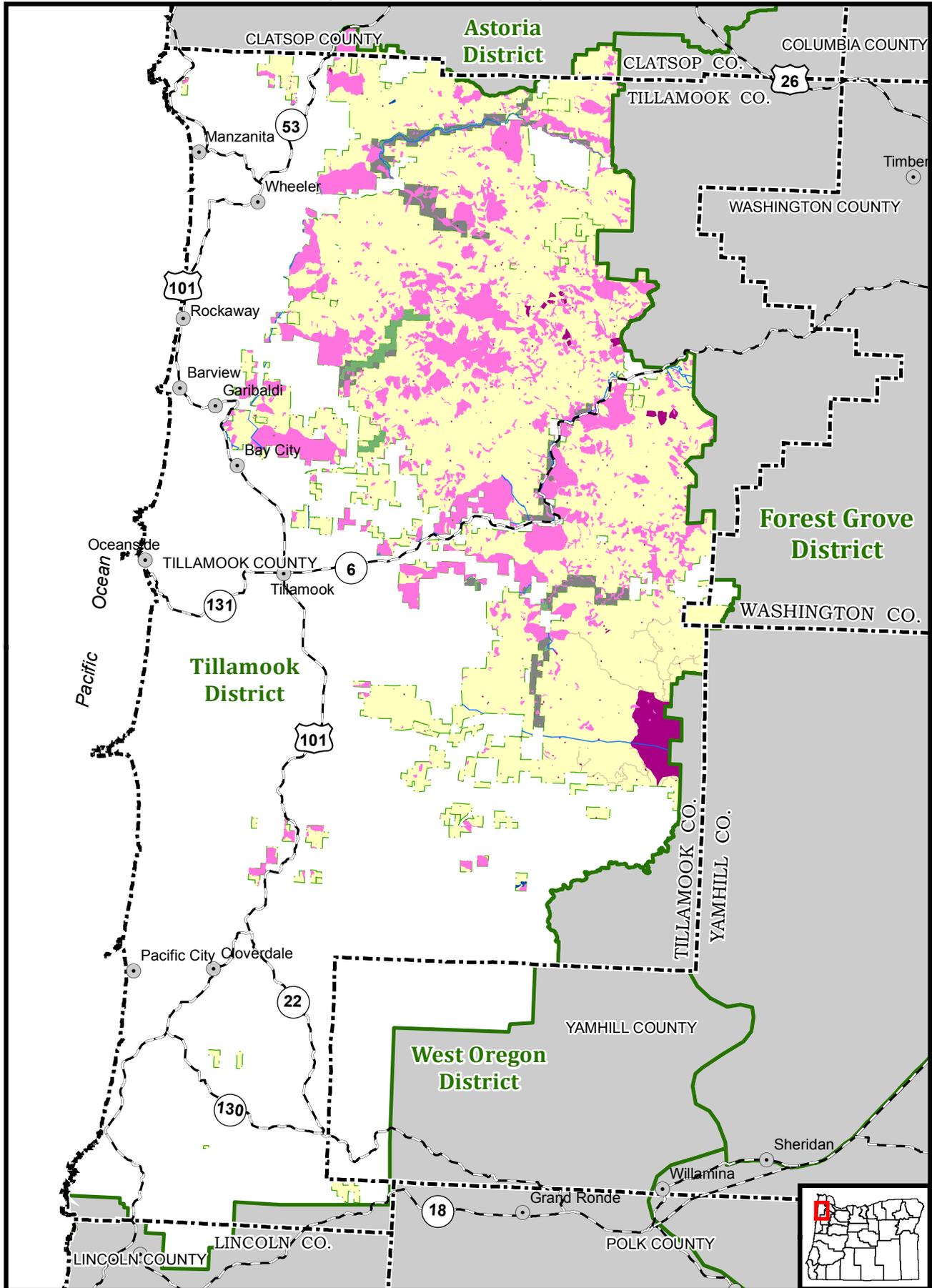
- | | |
|-------------------------------------|------------------------------|
| Adjacent District | ODF ownership |
| High Value Conservation Area | Focused Stewardship |
| Aquatic and Riparian Habitat | Aquatic and Riparian Habitat |
| Plants | Wildlife Habitat |
| Wildlife Habitat | |



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Tillamook District Stewardship Classifications - Management Subclasses

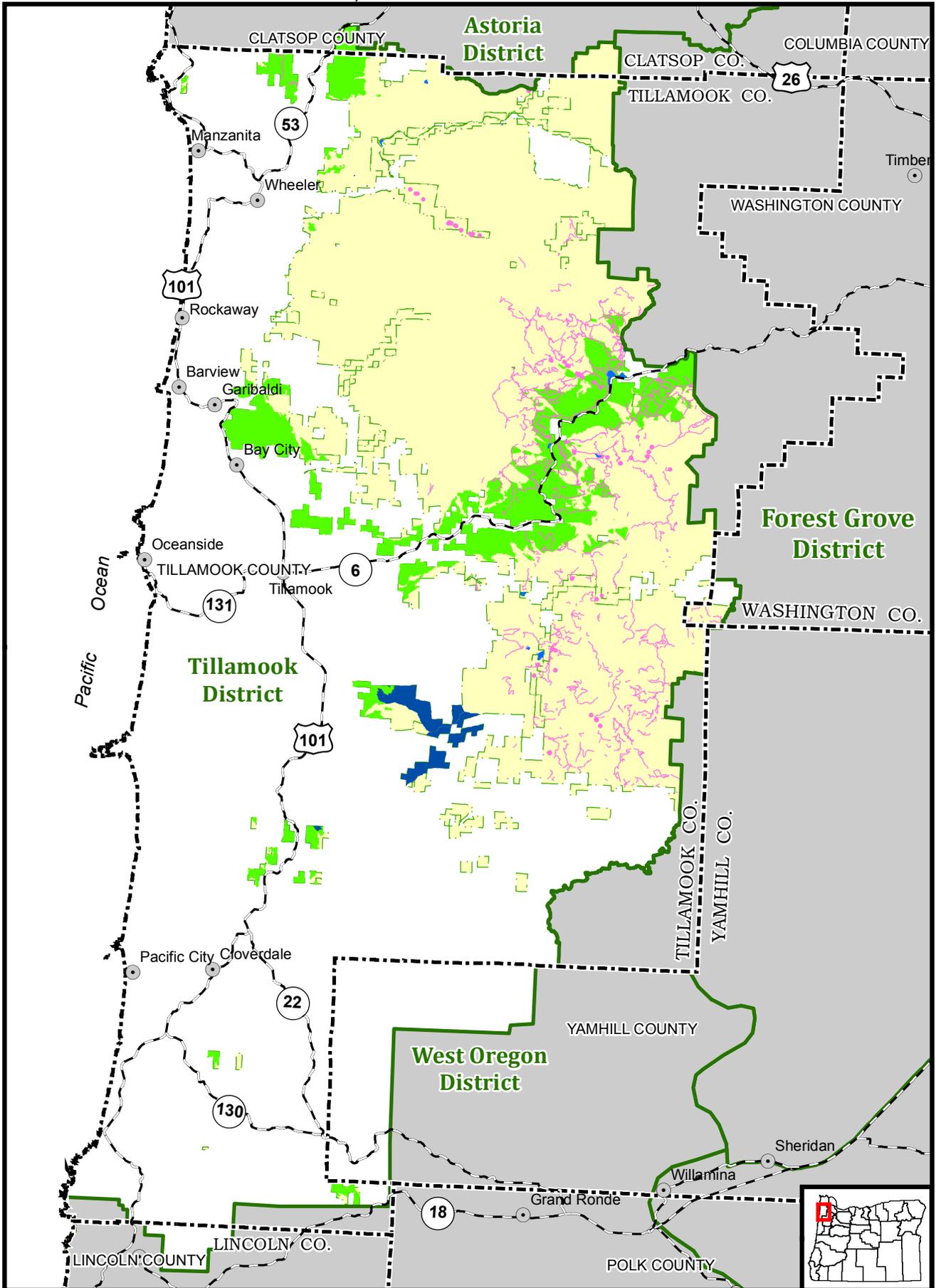


- | | | |
|-----------------------|----------------------------|-------------------|
| Special Use | Focused Stewardship | ODF ownership |
| Administrative Sites | Research/Monitoring | Adjacent District |
| Cultural Resources | Deeds | |
| Deeds | Cultural Resources | |
| Energy and Minerals | | |
| Operationally Limited | | |
| Research/Monitoring | | |
| Transmission | | |

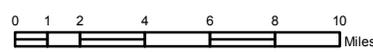


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Tillamook District Stewardship Classifications - Social Subclasses



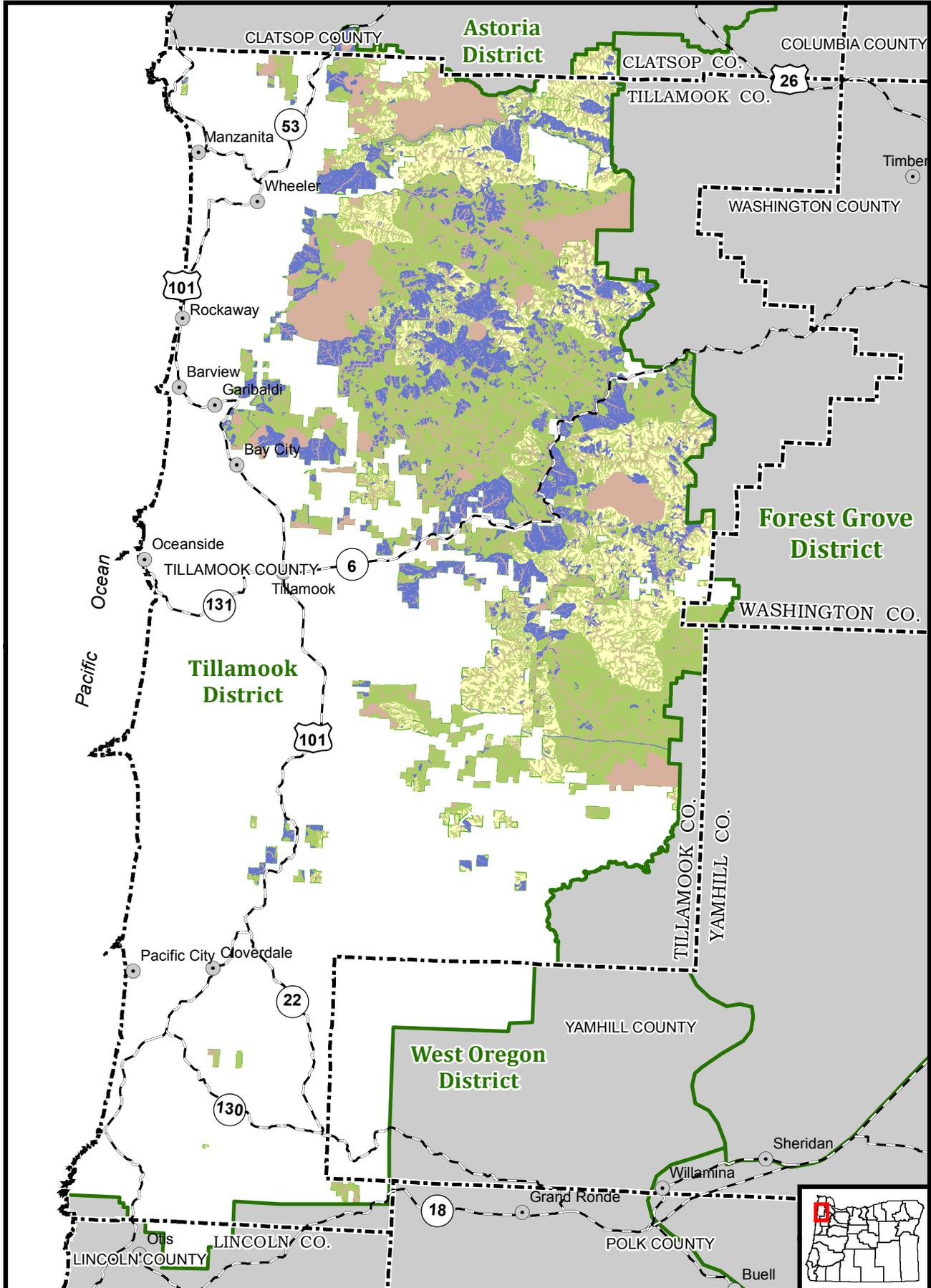
- | | |
|--------------------|----------------------------|
| Adjacent District | ODF ownership |
| Special Use | Focused Stewardship |
| Recreation | Visual |
| Visual | Recreation |
| | Domestic Water Use |



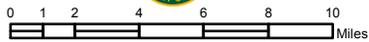
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Tillamook District Stewardship Classifications



- High Value Conservation Area
- Special Use
- Focused Stewardship
- General Stewardship
- Adjacent District



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02/02/2017



Oregon

Kate Brown, Governor

Department of Forestry

State Forester's Office
2600 State Street
Salem, OR 97310-1336
503-945-7200
FAX 503-945-7212
www.oregon.gov/ODF

To: Liz Dent, State Forests Division Chief
Andy White, Northwest Oregon Area Director

From: Peter Daugherty, State Forester

Date: June 21, 2017

Subject: Approval of Major Modifications to Forest Grove and Tillamook Districts Forest Land Management Classifications.



"STEWARDSHIP
IN FORESTRY"

This letter conveys direction related to modifications of the Forest Land Management Classifications (FLMC) for Forest Grove and Tillamook Districts. Since the approval of these districts FLMC maps new information has been acquired that necessitates modifying the FLMC maps on these districts.

The modifications for Forest Grove District were needed to add a new Northern Spotted Owl (NSO) site established following the 2016 survey season and make minor refinements to the location of another existing NSO site. The modifications for Tillamook District were needed to update the FLMC maps based on changes that occurred in the past few years. These modifications consisted of adding two NSO sites, three marbled murrelet sites and making other refinements based on administrative changes.

A major modification is defined as one that cumulatively exceeds 500 acres within one year. Major modifications require a 30 day public comment period. This was conducted in conjunction with the district's 45-day 2018 Annual Operations Plan public comment period. One written comment was received that related to the Focused Stewardship Subclasses categories and did not pertain to how the FLMC modifications are being applied on these districts.

After reviewing the described changes in Appendixes F of the respective districts Annual Operation Plans, corresponding maps/data, the public input, the recommendations from the District Foresters and Area Director, I have found the modifications to be consistent with OAR 629-035-0055 and OAR 629-035-0060. Therefore, I am approving the modified FLMC maps for Forest Grove and Tillamook districts.

Sincerely,

Peter Daugherty
Oregon State Forester

Enclosures:

- (1) Appendix F - Forest Grove FY2018 Annual Operations Plan
- (2) Appendix F - Tillamook FY2018 Annual Operations Plans
- (3) Public comment from Leslie Shaw

Appendix G

Changes to Landscape Design – Minor Modification to the Tillamook District Implementation Plan

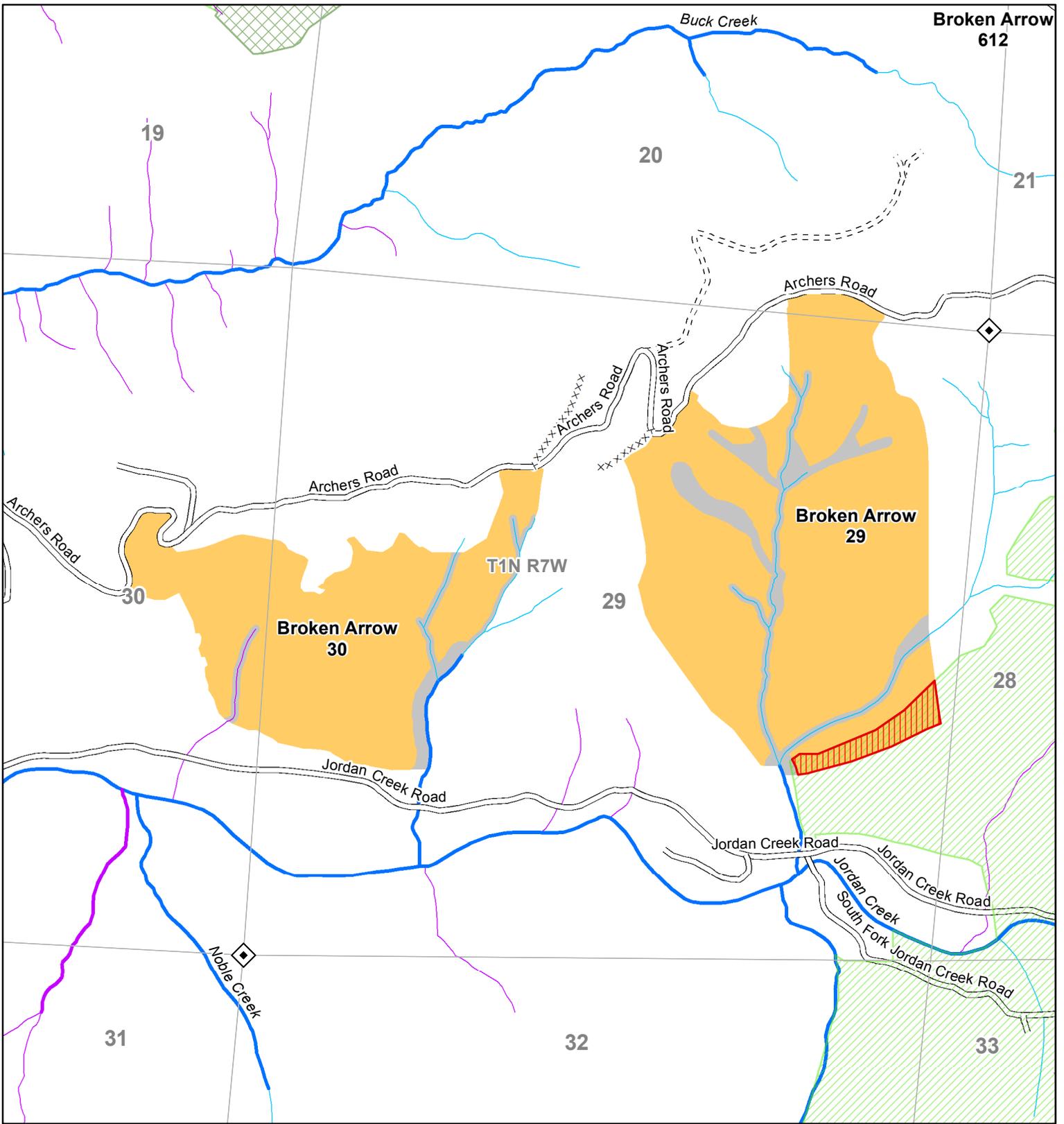
The Landscape Design for the Tillamook District consists of 40 percent of the land base which is designated to achieve a Desired Future Condition (DFC) of either Layered (LYR) or Older Forest Structure (OFS). The 40 percent landscape design was adopted in 2009 as part of the Tillamook District Implementation Plan (IP). The landscape design is a long term vision of the arrangement of stand structures to be developed across the district achieve the landscape objectives set forth in the 2010 Forest Management Plan (FMP).

In order to adapt to new information such as: updated forest inventory, new threatened and endangered species sites, forest land management classification updates, landscape changes due to storm damage, insect and/or disease or other significant events; the landscape design was anticipated to change over time. In addition, various GIS layers including the DFC are always in need of aligning and fine tuning as part of the improvement and maintenance of the data. Changes of up to 240 acres annually are considered minor changes and can be approved by the District Forester concurrent with the Annual Operation Planning (AOP) process. Changes that are greater than 240 acres are considered major and require a public comment period and are approved by the State Forester.

Edits made for this minor modification consisted of aligning and fine tuning the DFC boundary with riparian area boundaries, stand type boundaries, road edges, forest health issues, high landslide potential areas and new information on stands potential to achieve (or not) a complex forest condition. A total of 240 acres were modified; 32 acres were added to the DFC and 208 acres were removed.

Total LYR acres after this modification are 49,082 (19.6% of District Acres), and total OFS acres are 51,305 (20.5 % of District Acres).

Summary of Minor Landscape Design Changes			
Acres Removed		Acres Added	
Current Stand Condition	Acres	Current Stand Condition	Acres
NF	0	NF	0
OFS	110	OFS	0
LYR	98	LYR	32
Total Acres Removed	208	Total Acres Added	32



2018 Tillamook AOP

Remove 5 acres from LYR

Legend

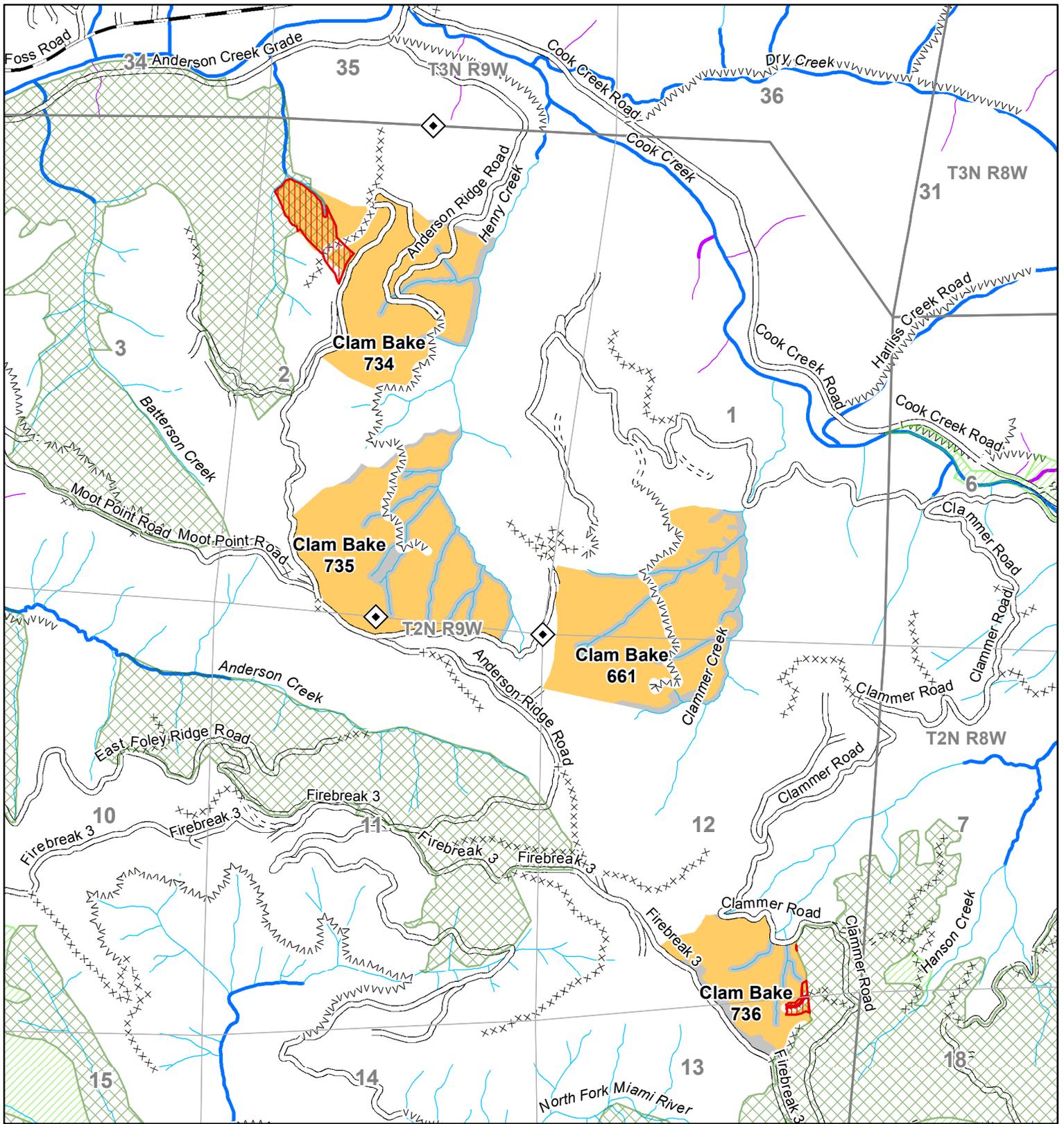
-  2018_DFC_Changes
- Desired Future Condition**
-  Older Forest Structure
-  Layered
- Harvest Type**
-  Modified Clearcut
-  No Harvest



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2018 Tillamook AOP

Remove 17 acres from OFS

Legend

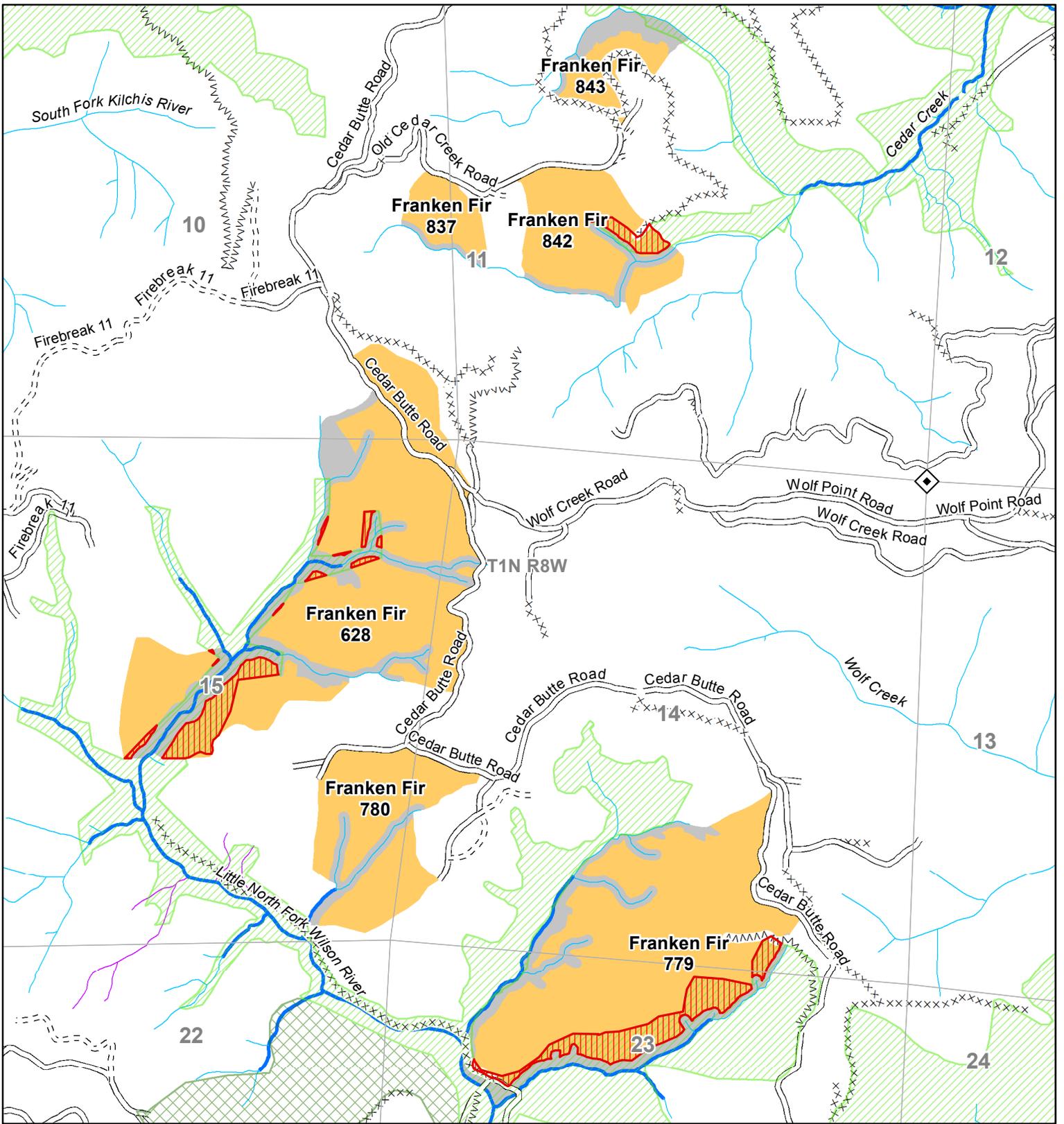
-  2018_DFC_Changes
- Desired Future Condition**
-  Older Forest Structure
-  Layered
- Harvest Type**
-  Modified Clearcut
-  No Harvest



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2018 Tillamook AOP

Remove 25 acres from LYR

Legend

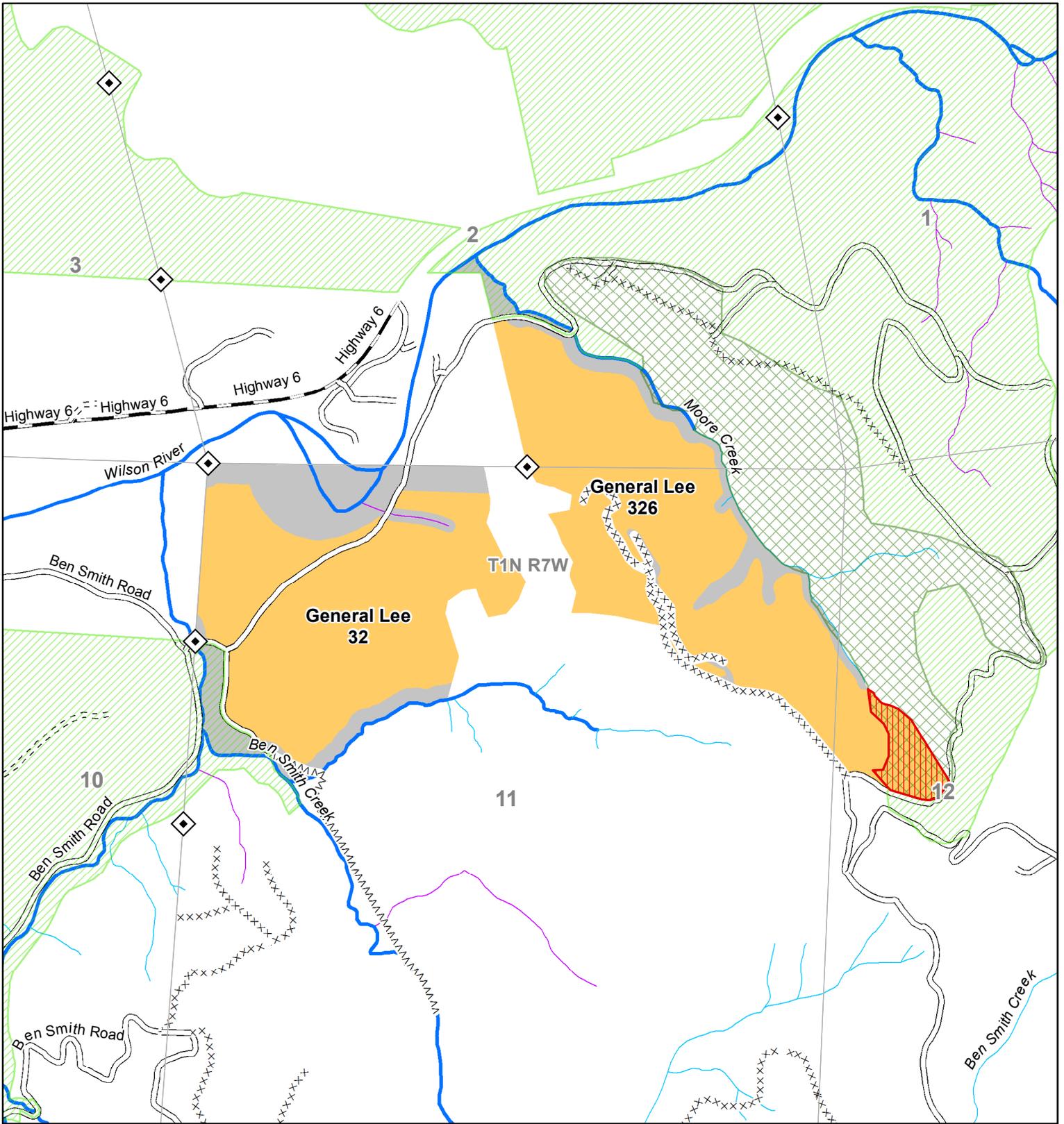
-  2018_DFC_Changes
- Desired Future Condition**
-  Older Forest Structure
-  Layered
- Harvest Type**
-  Modified Clearcut
-  No Harvest



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Date: 03/09/2017

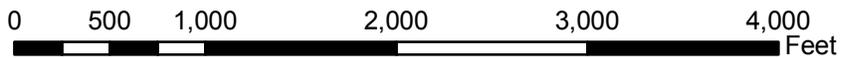


2018 Tillamook AOP

Remove 5 acres from OFS

Legend

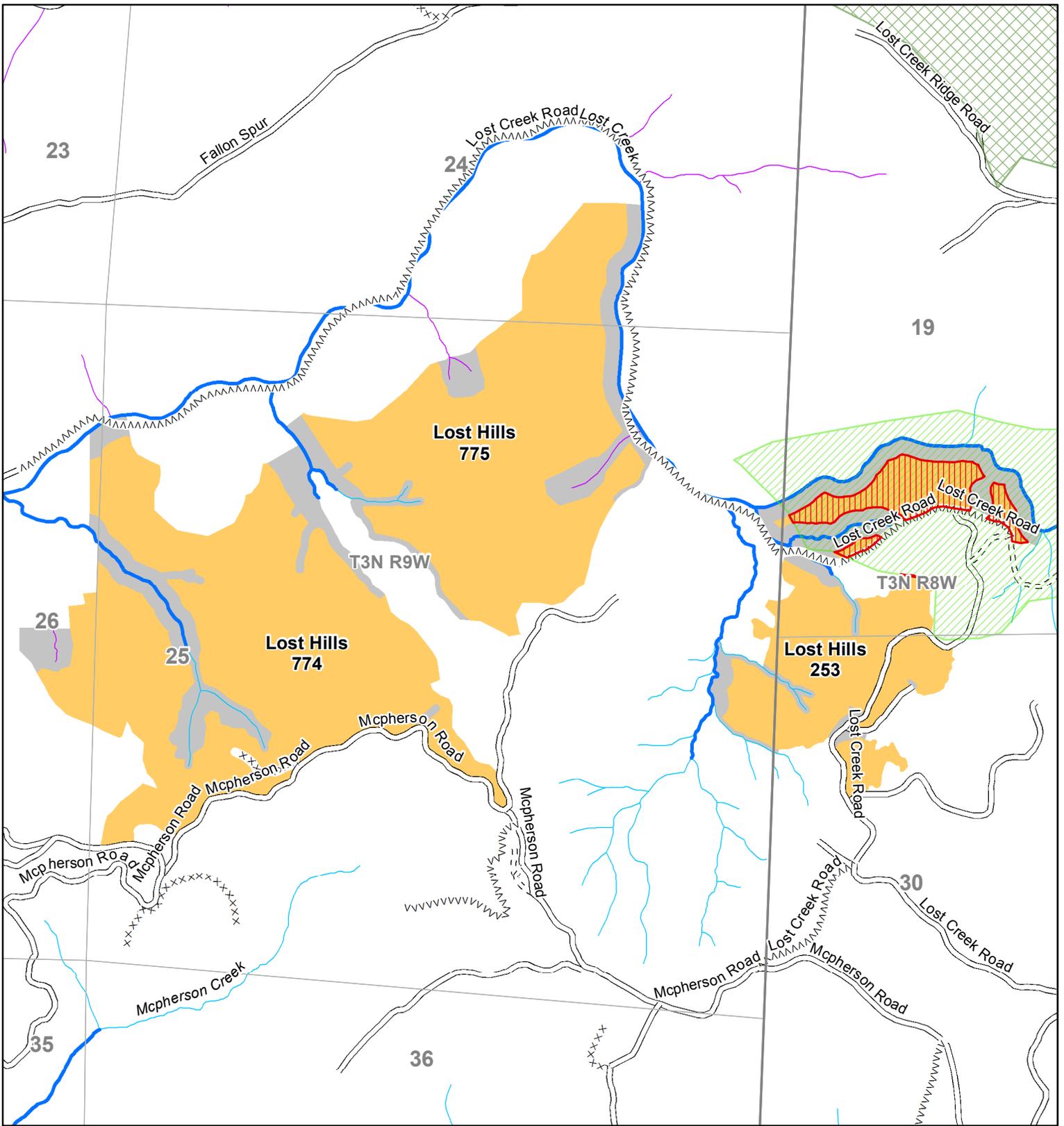
-  2018_DFC_Changes
- Desired Future Condition**
-  Older Forest Structure
-  Layered
- Harvest Type**
-  Modified Clearcut
-  No Harvest



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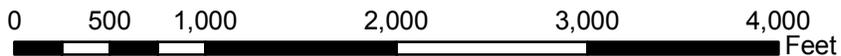


2018 Tillamook AOP

Remove 11 acres from LYR

Legend

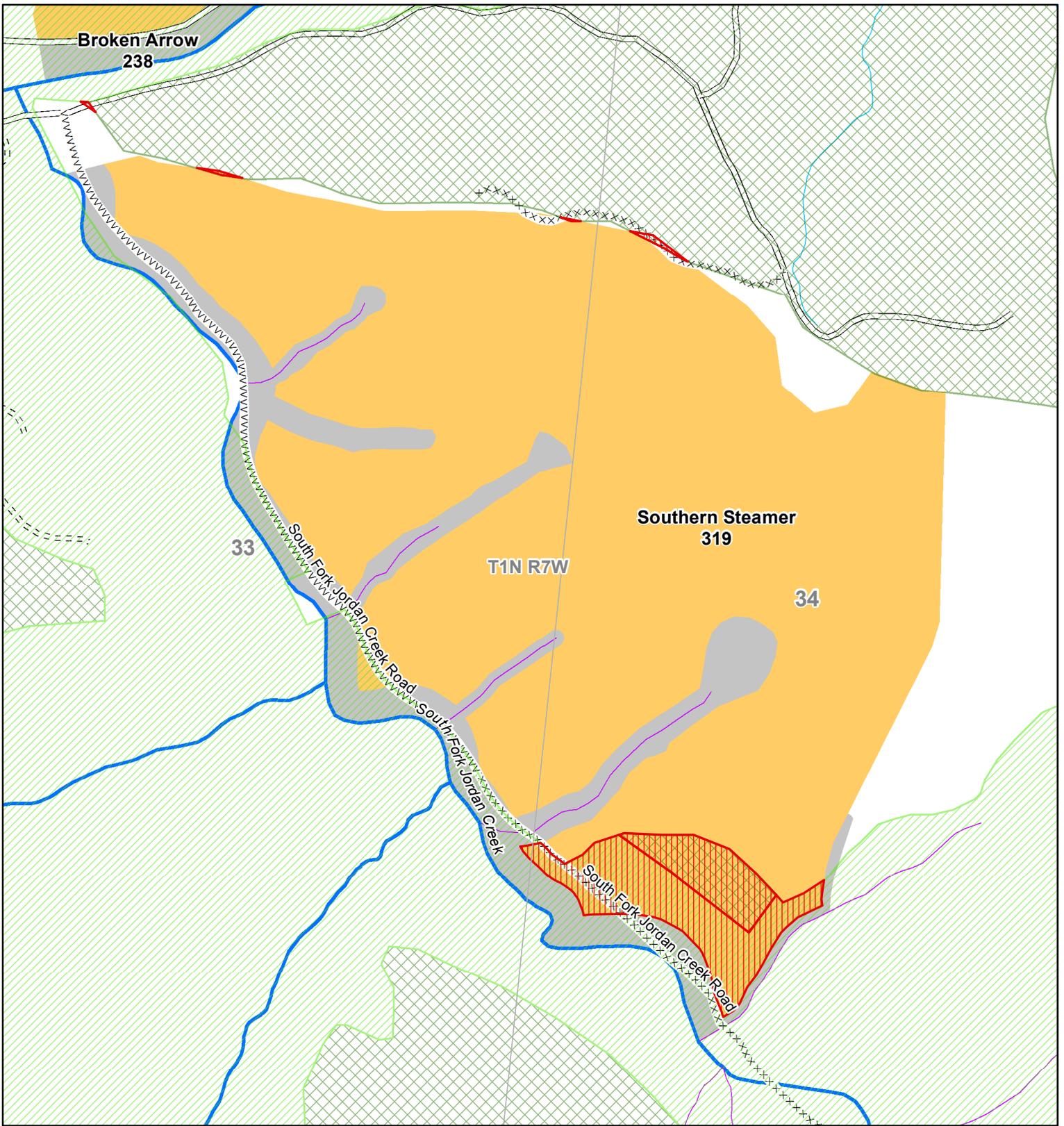
-  2018_DFC_Changes
- Desired Future Condition**
-  Older Forest Structure
-  Layered
- Harvest Type**
-  Modified Clearcut
-  No Harvest



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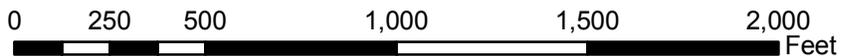
Date: 03/09/2017

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2018 Tillamook AOP

Remove 5 acres from LYR and 2 from OFS



1:6,000

Legend

 2018_DFC_Changes

Desired Future Condition

 Older Forest Structure

 Layered

Harvest Type

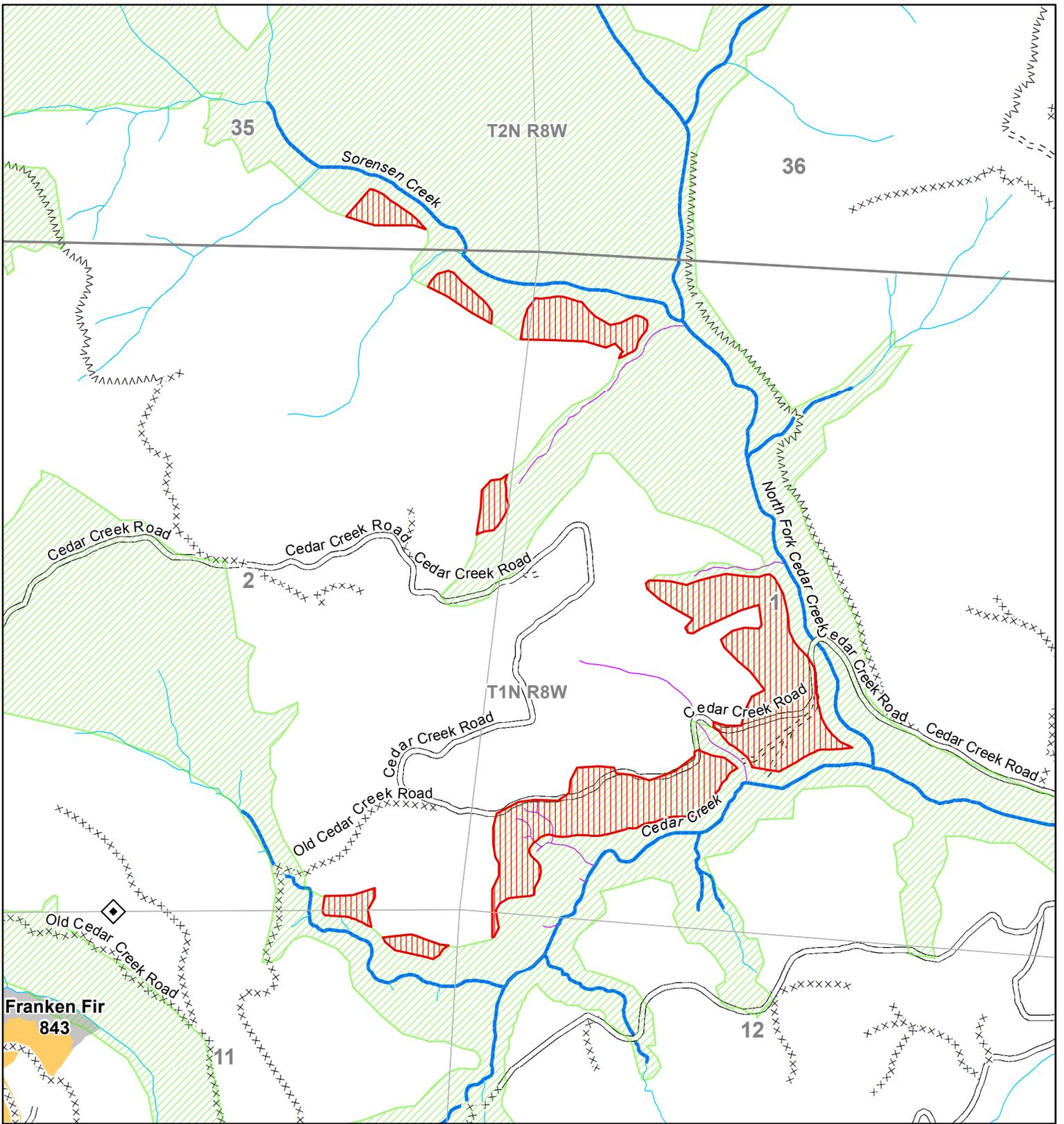
 Modified Clearcut

 No Harvest

Tillamook District GIS

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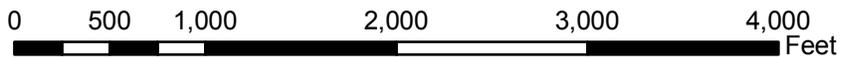


2018 Tillamook AOP

Remove 52 acres from LYR

Legend

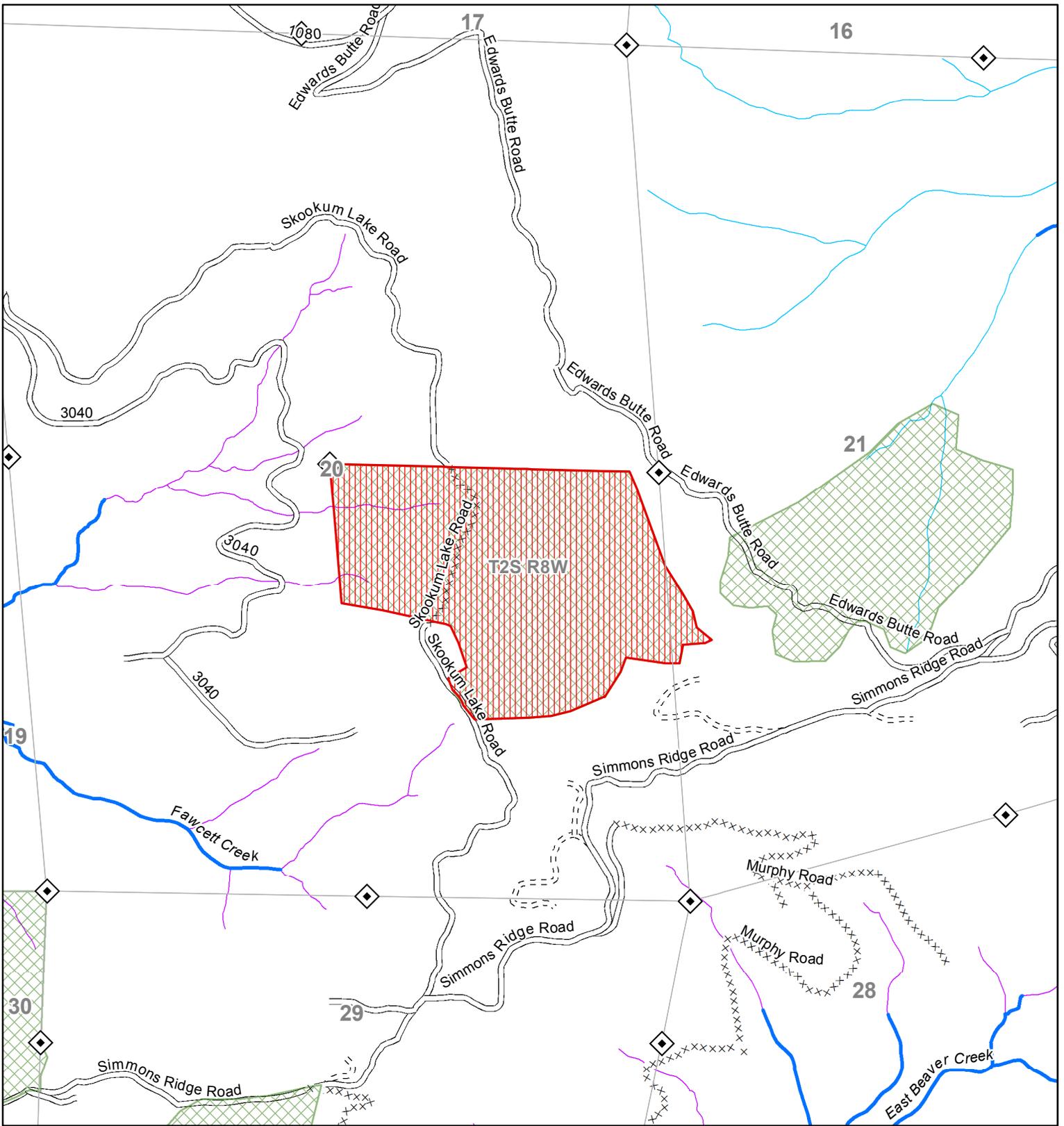
-  2018_DFC_Changes
- Desired Future Condition**
-  Older Forest Structure
-  Layered
- Harvest Type**
-  Modified Clearcut
-  No Harvest



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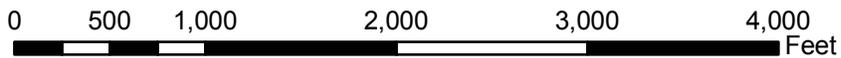


2018 Tillamook AOP

Remove 86 acres from OFS

Legend

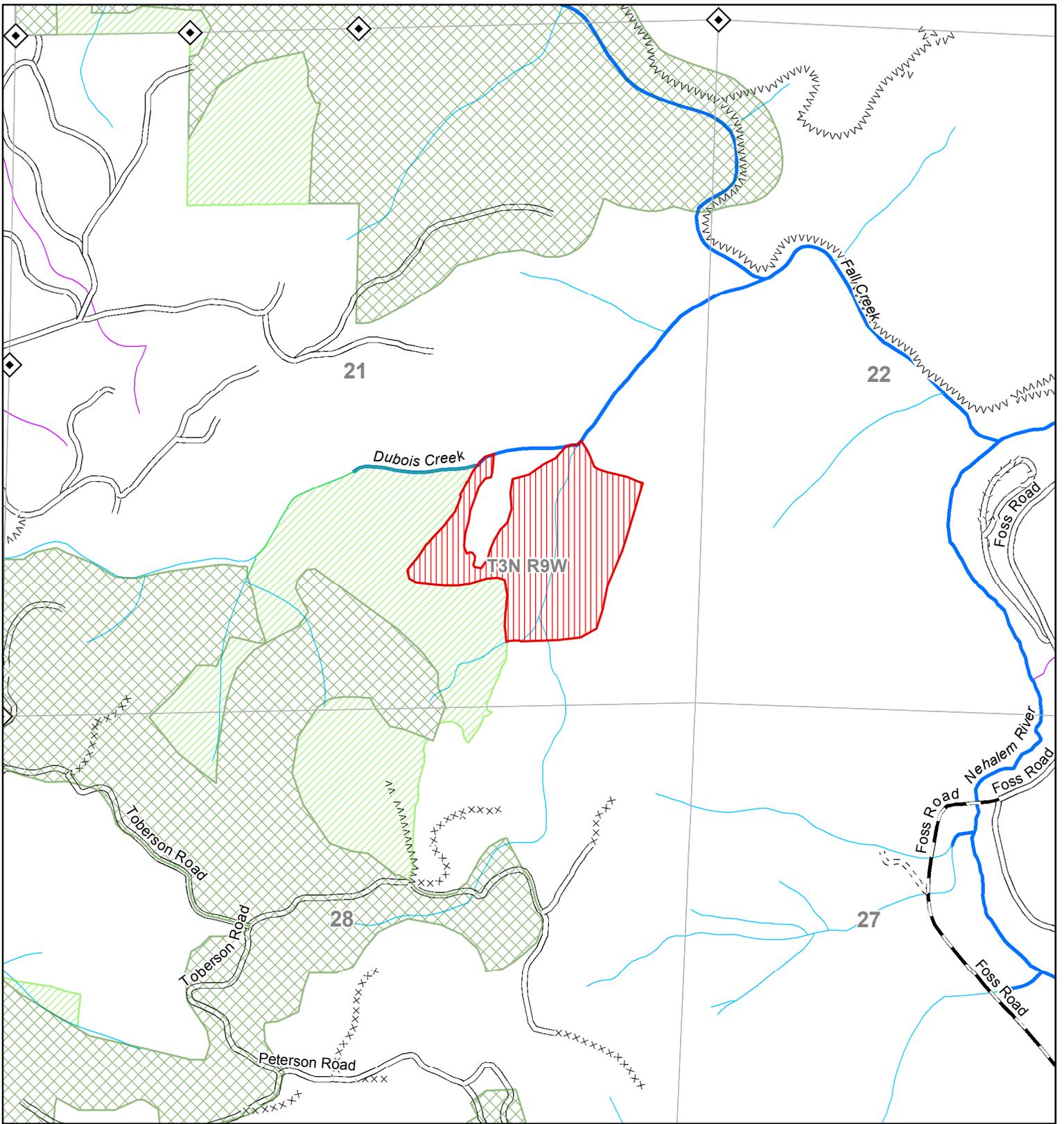
-  2018_DFC_Changes
- Desired Future Condition**
-  Older Forest Structure
-  Layered
- Harvest Type**
-  Modified Clearcut
-  No Harvest



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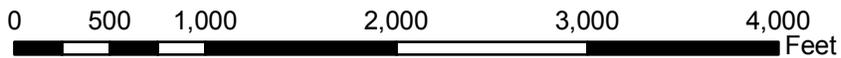


2018 Tillamook AOP

Add 32 acres to LYR

Legend

-  2018_DFC_Changes
- Desired Future Condition**
-  Older Forest Structure
-  Layered
- Harvest Type**
-  Modified Clearcut
-  No Harvest



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Date: 03/09/2017