

Pre-Operations Report

Operation Name: Fire Mole
County: Tillamook
Management Basin: Wilson

Table 1. Operation Areas, Types and Acres

Area	Type of Operation	Gross Acres	Net Acres ¹
1	Retention cut	361	320
Total		361	320

1. The net acres are based on orthophotos and GIS and exclude roads, stream buffers and reserve areas.

I. PHYSICAL DESCRIPTION OF OPERATION AREA:

Slopes have a generally north aspect and range from 20% to 100%. Elevations range from 900 to 2,200 feet. The major soil types are Killam and Rye. The sale area occupies the upper ridges to lower slopes.

The landform is mostly moderate slopes below Fox Creek Ridge dividing an unnamed tributary of Jordan Creek and an unnamed tributary of the South Fork Jordan Creek. The underlying rocks are mostly sedimentary origin basaltic mudstone inter-fingered with igneous origin submarine flows at the base of the Tillamook Volcanics Formation.

II. CURRENT STAND CONDITION:

Table 2. Stand Inventory Information⁴

Area	Prescription	Stand ID ¹	Species	Age	DBH	BA	TPA	SDI	Net Acres ²
1	RC	251	DF/RA	44	14	190	178	50	320
		Target ³			20	60	25	13	320

1. The source of stand inventory information is from field reconnaissance cruise plots taken in 2004 and SLI in 2003..

2. The net acres are based on orthophotos and GIS and exclude roads, stream buffers, and reserve areas. Modified clear cut acres are not contiguous and do not exceed 120 acres.

3. The Target identifies expected stand characteristics (DBH, BA, TPA and SDI) after harvesting has been completed.

4. These numbers are based on plot data taken to this point and final numbers may differ significantly from the actual conditions significantly. The directive for minor and major modifications will be followed for further review.

The sale area burned in the 1933 (Tillamook) and the 1939 (Saddle Mountain) fires. 22% of the area naturally regenerated and the remainder was planted

between 1961 and 1963. Approximately 100 acres in the southwest portion of the sale area were aerially fertilized in 1996-1997. The remaining acres have had no prior stand management.

Approximately 134 acres have been inventoried using the Stand Level Inventory (SLI) procedure and the stand has been identified as UDS. The remaining acres of the sale were identified as CSC according to the district stand summary information (1999). This is primarily a two species stand with an understory layer of brush. The alder occurs in pockets and mixed with the conifer. The conifer is more continuous in the southern ridges of the sale area.

See Table 2 for specific stand data.

The Douglas-fir has some Swiss needle cast (SNC) symptoms resulting in slowed diameter and/or height growth but has not been mapped by aerial surveys.

There are pockets of hardwood and pockets of overstocked Douglas-fir with slowed diameter growth. There are scattered hemlock, spruce and cedar throughout the sale. The alder components of these stands were aerially sprayed in the 1970's to release planted conifer resulting in alder trees with short boles and many limbs.

No other significant insect or disease problems have been discovered at this time.

The brush component in all the sale areas is comprised primarily of sword fern and salmonberry. Salmonberry occurs primarily in the draws with sword fern throughout the sale.

Down wood consists of scattered large old logs (36"+) in Class 3 and 4 stages of decay and some windthrow in decay classes 1 and 2. SLI measurements on the northern portion of the sale show that down wood in decay classes 1 and 2 is 98 cubic feet per acre. Total down wood is 6,675 cubic feet per acre. No down wood greater than 24" on the large end in decay class 1 and 2 was recorded. Landscape targets set in the FMP were not met for hard conifer logs. Older Forest Structure targets for total down wood were exceeded.

There are some large snags in various states of decay and some hard snags which were created from natural processes. No hard snags were recorded greater than 15" so landscape targets set in the FMP have not been met. The older forest structure target of two snags per acre greater than or equal to 24" in diameter was met in the northern portion of the sale where measured SLI information was available. The six snags per acre target for older forest structure is not currently met.

During sale preparation different options will be considered in order to achieve future FMP targets. These include snag/down wood creation, additional green tree retention, and future stand management and monitoring.

III. DESIRED STAND CONDITION and VISION:

Table 3. Stand Structure Information

Area	Stand ID	Current	Post Harvest ¹	Desired Future	Net Acres
1	251	UDS/CSC	UDS/REG	GEN/OFS	320

1. The stand is expected to develop into this condition in the five to ten years after this operation is completed except in REG stands which occur after harvest.

See Section IV: Proposed Management Prescription for more information on Green Tree, Down Wood, and Snag Strategies during operation. Also refer to Landscape Design in the Summary document for more information on strategies to move the district toward Desired Future Condition goals.

Vision: The DFC for this area is GEN/OFS. Overall management of this stand will result in a retention cut harvest type. During the operation, components such as snags and coarse down wood will be retained. By harvesting a large portion of the slow-growing, sprayed alder and conducting density management of Douglas-fir it is anticipated that a conifer dominated complex structure will be achieved in an accelerated time frame. All other species will be retained and a diameter limit will reserve the larger Douglas-fir. The species composition in the northern portion of the sale will result in more openings with scattered individual conifer while the southern portion will have fewer large openings. Alder will be retained in riparian buffers and between the sale boundary and the medium perennial streams adjacent to the sale. A mix of conifer species will be planted in openings. Residual trees will grow larger in diameter and increase crown depth. The openings and gaps will also allow for understory reinitiation of shrubs and tree species creating horizontal and vertical diversity.

Adjacent stands have been commercially thinned and there is a plantation to the north. The timber sale area will combine with these adjacent stands to create a mosaic over the landscape of openings, gaps, variable density and mixed species.

IV. PROPOSED MANAGEMENT PRESCRIPTION and ANTICIPATED PATHWAY:

See table 2 for prescription target

The prescriptions described below are based on the current stand condition such as overall tree and stand growth, species mix, stand density, and stand health.

Merchantable alder and Douglas-fir will be harvested. A diameter limit will be utilized to harvest the smaller diameter Douglas-fir. The remaining Douglas-fir will be thinned to 80-100 square feet of basal area. All other species will be reserved. The overall prescription for the stand is a retention cut harvest type. Unmanaged alder will be left in stream buffers and headwalls. Understory vegetation will be enhanced by the additional growing space available. Portions of the stand requiring reforestation will be planted with mixed conifer.

Site preparation treatment is anticipated prior to planting. Openings will be planted with mixed conifer.

Green Tree, Down Wood and Snag Strategies

See also Section III: Desired Future Condition for long term strategies

A variety of methods will be used to achieve green tree retention requirements. These residual green trees will supplement the future stand by promoting growth of dominant/co-dominant leave trees. Small non-merchantable hardwood and conifer will also be retained where possible. These leave trees function as future source of snags and down wood recruitment across the landscape. Green trees will be left on precipitous slopes and headwalls and those areas not reached by conventional logging methods. Stream buffers adjacent to small perennials will also contribute additional green trees. Many of these areas will be posted so they are outside of the timber sale boundary.

Existing down wood will be left in the sale areas. Down wood recruitment is expected through mortality and windthrow of residual or leave trees, felled snags and tops left during harvest. Small non-merchantable hardwood and conifer will be retained where possible in harvest units with the expectation they will become short term snags and down wood. Tops resulting from ground yarding will be left in the unit.

A snag assessment will be done in conjunction with the timber cruise. The residual diameters in this stand are expected to be over 15 inches so the stand will be reviewed for snag creation at time of harvest if snags are deficient. Existing snags not determined to be a safety hazard will be retained and any felled snags will be left for down wood. Creation of snags is expected during harvest activities (rub trees, lift trees, or tail trees) and over time by natural processes.

V. ESTIMATED TIMBER AND REVENUE INFORMATION:

Table 4. Timber and Revenue

Ownership		Sale Type	
BOF	CSL	Cash	Recovery
100%	%	<input type="checkbox"/>	X
Planned Quarter: 2			

	Conifer	Hardwood	Total
Net Volume (MBF)	2926	1104	4030
Stumpage Value (\$/MBF)*	\$204	\$204	
Estimated Gross Value	\$596,904	225,216	\$822,120
		Project Costs:	\$120,000
		Estimated Net Value:	\$702,120

* *Average based on species, size and harvest type.*

VI. HARVESTING AND ACCESS CONSIDERATIONS:

The sale areas are accessed via Fox Creek Ridge Road. This is currently an all-weather crushed-rock road. See maps for specific road locations and conditions.

Approximately 1.5 miles of spur road will be constructed to provide access to cable and ground yarding acres. An abandoned road coming up from the north was evaluated to access the lower portion of the sale but was too steep, narrow and costly to improve.

Following harvest, roads within the sale areas will be reviewed for closure. All ground yarding roads will be closed and water-barred. See summary document for more information on this topic.

No other project work is planned for inclusion with this sale.

The operation will be 30% ground yarding and 70% cable yarding.

Table 5. Transportation Planning Summary (Miles)⁴

Activity	Mainline	Collector	Rocked Spur ¹	Dirt Spur ¹
Construct			1.5	
Improve				
Maintain ²		4.4		
Close/Block ³				
Vacate ³				

1. *Additional roads may be built by the operator at the time of harvest and will be approved by the State through the Operations Plan. These will be short dead end spurs and closed or blocked after harvest*

2. All roads accessing the sale area will be maintained during the life of the timber sale contract. Maintenance miles in the table are those roads not being constructed or improved.
3. Roads not closed/blocked or vacated at the end of the sale will be reviewed for closure after reforestation is established.
4. The numbers in this table reflect planned Project Work associated with the sale.

VI. AQUATIC RESOURCES AND WATER QUALITY:

There are no known Type F streams within the sale areas. There are several unnamed small perennial and seasonal Type N streams within the sale area. These streams will be reviewed and protected appropriately during sale layout based on flow, topography, and terrain.

Oregon Department of Fish and Wildlife (ODFW) has completed stream surveys in the sale vicinity to verify fish use.

Stream buffers within or adjacent to harvest unit boundaries will be managed according to *Forest Management Plan* Riparian Strategies. The riparian areas will be reviewed during sale layout for current stand conditions and/or operational constraints for implementing FMP strategies.

ODFW fish biologist will work with ODF to identify possible stream enhancement project areas in the sale area.

In order to protect water quality during active operations, a variety of methods will be used to prevent sediment from entering live streams. These methods include (but are not limited to) maintaining culverts and other road drainage structures, using sediment control devices in road ditches when necessary, and monitoring logging and hauling operations. Culvert installment and replacement in live streams will be conducted between July 1 and September 15. Operations outside of this period will be reviewed with ODFW.

VII. T&E SPECIES CONSIDERATIONS:

T & E Wildlife species: The sale area has been reviewed with the ODF Northwest Oregon Area Biologist. Surveys for marbled murrelets are not required due to the absence of potentially suitable habitat. Spotted owl surveys are not required as the sale is within the Tillamook Burn (see November 2002 ODF Policy Guidance: *Northern Spotted Owl Surveying on State Forest Lands*).

T & E Fish species: See Sections VII, and IX for listed fish protection measures.

T & E Plant species: The sale areas were checked against the Oregon Natural Heritage Program (ONHP) database of known threatened or endangered listed plant locations as well as local records in the Land Management Classification System (LMCS). No listed plants were identified within or adjacent to the sale area.

VIII. SLOPE STABILITY AND GEOTECHNICAL ISSUES:

There are some steep slopes scattered in the sale areas and significant bands of steep slopes along the east and north boundaries of the sale areas. The initial hazard and risk assessment from the geotechnical specialist is high. The geotechnical specialist will be consulted during sale layout and the need for field review will be assessed.

IX. RECREATION RESOURCES:

The sale area is designated as Motorized in the *Tillamook State Forest Comprehensive Recreation Plan* (1993). This sale has been reviewed by the District Recreation Coordinator. Three designated OHV trails are within the sale boundary; Stick-in-the-Nose, Purple Bug Stump, and Firefox. Several trails areas are also within the sale area. New road construction is not currently planned to utilize these trails except for a small portion of Firefox. Use of Stick-in-the-Nose Trail as a cat road will be restricted. Short-term closure of these trails may occur to facilitate logging and public safety. Slash will be removed from the OHV trails upon completion of the operation and filters will be installed. A plan has been developed to advise the public when trails are closed due to harvest activity. The District Recreation Coordinator will be consulted during sale layout. Recreational use common to this area includes hunting and OHV use.

X. CULTURAL RESOURCES:

The *Tillamook State Cultural Assessment* does not list any cultural sites within or adjacent to the proposed sale boundary. If any are found during sale layout, the district will consult the Public Use Coordinator for appropriate protection.

XI. SCENIC RESOURCES:

The sale area has a visual classification of Level 2, moderate sensitivity. The sale will be reviewed by the Public Use Coordinator to determine methods to minimize visual impact. Visual impact will be reduced due to the amount of residual trees being left in the sale area.

XII. OTHER RESOURCE CONSIDERATIONS:

None known. No permanent inventory plots or research plots are currently established in the area.

XIII. LAND MANAGEMENT CLASSIFICATION SUMMARY:

The sale area contains Focused and Special Stewardship, Aquatic and Riparian Habitat. See Section VII, Aquatic Resources and Water Quality, for the management guidelines to be utilized.

Focused Recreation is also within the sale area. See Section IX. Recreation Resources.

