

# Pre-Operations Report

**Operation Name: Fire Mole (alternate)**  
**County: Tillamook**  
**Management Basin: Wilson**

**Table 1. Operation Areas, Types and Acres**

Area	Type of Operation	Gross Acres	Net Acres <sup>1</sup>
1	Retention cut	363	321
Total		363	321

*1. The net acres are based on orthophotos and GIS and exclude roads, stream buffers (special stewardship), other stream buffers and reserve areas.*

## **I. PHYSICAL DESCRIPTION OF OPERATION AREA:**

Slopes have a generally north aspect and range from 10% 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 gentle ridgeline with moderate to very steep side-slopes of the spur ridge divide between the South Fork and an unnamed tributary of Jordan Creek below Fox Creek ridge. The underlying rocks in the southern portion of the sale area are igneous intrusive origin rocks, diabase commonly tabular sills with columnar joints cut by dike swarms fed by Tillamook Volcanics. The underlying rocks in the northern portion of the sale area are igneous origin rocks of the Hembre Ridge Formation, submarine pillow basalts, sheet flows including submarine basaltic breccia, and basaltic sandstone.

## **II. CURRENT STAND CONDITION:**

**Table 2. Stand Inventory Information<sup>4</sup>**

Area	Prescription	Stand ID <sup>1</sup>	Species	Age	DBH	BA	TPA	SDI	Net Acres <sup>2</sup>
1	RC	260	DF/RA	43	14	190	178	50	321
		Target <sup>3</sup>	DF		20	60	25	13	321

*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 (special stewardship), other 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. 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 to release planted conifer in the 1970's 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 created from natural damage. 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 yet met.

**III. DESIRED STAND CONDITION:**

**Table 3. Stand Structure Information**

Area	Stand ID	Current	Post Harvest <sup>1</sup>	Desired Future	Net Acres
1	260	UDS/CSC	REG	GEN/OFS	321

*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.

Harvesting the alder pockets will create some larger openings and thinning the conifer will remove Douglas-fir susceptible to Swiss needle cast. The current stand also has pockets of larger diameter conifer. The area will be planted with a mix of conifer species. Unmanaged hardwood and conifer mixes will be left in headwalls and riparian areas. The prescription will create a range of basal areas across the sale area due to the current stand basal area and species distribution.

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. As the future stand is established the residual trees from this entry will add to the complexity of sizes, species and densities. These trees will also add to snags and down wood over time and through the life of the stand.

Stand Level Inventory (SLI) will be scheduled for the harvest unit five to seven years after stand establishment. SLI will measure the snags/acre and cubic feet of down wood by decay class. If the stands are deficient in either of these characteristics, the need for creating additional amounts will be evaluated.

#### **IV. PROPOSED MANAGEMENT PRESCRIPTION:**

**See table 2 for prescription targets**

##### **Retention Cut:**

Merchantable alder will be harvested. A diameter limit will be used to leave a component of the larger Douglas-fir on the landscape. The remaining Douglas-fir will be thinned to 80 to 100 square feet of basal area. All other species will be reserved. Understory vegetation will be enhanced by the additional growing space available.

##### **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.

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:		Alternate	

	Conifer	Hardwood	Total
Net Volume (MBF)	2926	1104	4030
Stumpage Value (\$/MBF)*	200	200	
Estimated Gross Value	585,200	220,800	806,000
		Project Costs:	105,000
		Estimated Net Value:	701,000

**VI. HARVESTING AND ACCESS CONSIDERATIONS:**

The sale area is 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 areas. 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 waterbarred. 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)<sup>4</sup>**

Activity	Mainline	Collector	Rocked Spur <sup>1</sup>	Dirt Spur <sup>1</sup>
Construct			1.5	
Improve				
Maintain <sup>2</sup>		5.0		
Close/Block <sup>3</sup>				
Vacate <sup>3</sup>				

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.*

## **VII. AQUATIC RESOURCES AND WATER QUALITY:**

There are no known Type F streams within the sale areas. A tributary to South Jordan Creek is adjacent to the east boundary of the sale and is an assumed small Type F stream. 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) will be requested to complete stream surveys before sale layout begins. Streams of unknown status will be treated as Type F until surveys are completed 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.

## **VIII. T&E SPECIES CONSIDERATIONS:**

The sale area has been reviewed with the ODF Northwest Oregon Area Biologist. Surveys for marbled murrelets and northern spotted owls are not required due to the absence of potentially suitable habitat.

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.

**IX. SLOPE STABILITY AND GEOTECHNICAL ISSUES:**

The initial assessment from the geotechnical specialists is moderate. The geotechnical specialist will be consulted during sale layout and the need for field review will be assessed.

**X. 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. Only a small portion of Firefox will be used as a haul route. 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. A plan will be 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.

**XI. 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 measures.

**XII. 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.

**XIII. OTHER RESOURCE CONSIDERATIONS:**

None known.

**XIV. LAND MANAGEMENT CLASSIFICATION SUMMARY:**

**Table 6. Land Management Classification Summary**

Area	LMCS Subclass	Focused Stewardship	Special Stewardship
1	Aquatic and Riparian Habitat	119	6
1	Recreation	60	

This table summarizes the acres of Focused and Special Stewardship within the operations. The acres in each operational area in this table do not necessarily add up to its gross or net acres, because of overlapping classifications under the Land Management Classification System (Feb. 2003). For example, a particular acre can be classified as Focused Stewardship for Aquatic and Riparian, Recreation, and Scenic resources.