

Pre-Operations Report

Operation Name: Relay Tower
County: Tillamook
Management Basin: Wilson

Table 1. Operation Areas, Types and Acres

Area	Type of Operation	Gross Acres	Net Acres ¹
1	Modified clearcut	262	225
2	Retention cut	201	181
3	Modified clearcut	209	181
4	Retention cut	129	127
Total		801	714

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 varied aspect and range from 5-90%. Elevations range from 500 feet to 2,300 feet. The major soil types are Killam, Enright, and Rye. The sale areas occupy the ridges and upper to mid slopes.

The landforms are gentle ridgelines between tributaries of the Wilson River and the North Fork with some very steep slopes mostly near the bottom of the sale areas. The underlying rocks are mostly sedimentary origin rocks of the Yamhill Formation massive to thin-bedded dark gray siltstone commonly associated with tuff beds and thin sandstones. In Area 1 and 2, the underlying rock includes igneous origin rocks of the Tillamook Volcanics Formation, submarine basalt tuff and breccia, thin bedded to massive tuff and breccias with pillow basalts, basaltic sandstone and mudstone. In Area 3 and 4, the underlying rock includes igneous intrusive origin rocks, diabase commonly tabular sills with columnar joints cut by dike swarms fed by Tillamook Volcanics.

II. CURRENT STAND CONDITION:

Table 2. Stand Inventory Information⁴

Area	Prescription	Stand ID ¹	Species	Age	DBH	BA	TPA	SDI	Net Acres ²
1	MC	250	DF/RA	45	14	200	190	54	225
2	RC	251	DF/RA	45	14	200	190	54	181
		Target ³	DF		19	40	20	9	181
3	MC	252	DF/RA	45	14	200	190	54	181
4	RC	253	DF/RA	45	14	200	190	54	127
		Target ³	DF		16	40	25	9	127

1. The source of stand inventory information is from field reconnaissance cruise plots taken in 2004 and from timber cruise information from adjacent sales..

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 areas burned in the 1933 (Tillamook) and the 1939 (Saddle Mountain) fires. Areas 1 and 2 were planted between 1955 and 1957. The southern portion of the areas to the south of Coast Range Road was planted in 1969. Areas 3 and 4 were planted between 1953 and 1960. A small portion was replanted in 1970.

Approximately 8 scattered acres in Area 2, 17 acres in Area 3, and 26 acres of Area 4 have been inventoried using the Stand Level Inventory (SLI) procedure. The stands containing these 51 acres were identified as UDS. Sale acres falling within measured SLI polygons were on the edges of the sale and represented only 7% of the total net sale acres. The remaining acres of the sale were identified as CSC according to the district stand summary information (1999) .

The majority of the stand is a single-story single-species stand. There is little horizontal or vertical layering.

See Table 2 for specific stand data.

The Douglas-fir has Swiss needle cast (SNC) symptoms resulting in slowed diameter and height growth. The stands are within the SNC zone and have been mapped by aerial surveys in each of the last three years.

There is scattered hemlock, spruce, cedar and alder throughout the sale as well as alder pockets and strings adjacent to streams. 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 identified at this time.

The brush component in all the sale areas is comprised primarily of sword fern, vine maple, huckleberry and salmonberry in an understory layer throughout the majority of the area.

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. From SLI measurements on a small portion of Area 3 and 4, there is 65 cubic feet of down wood in decay classes 1 and 2. Total down wood is 2,590 cubic feet per acre. No down wood greater than 24" on the large end in decay class 1 and 2 was recorded. Landscape down wood targets for hard conifer logs have not been met. Older forest structure stand targets are close to being met for total down wood.

There are some large snags in various states of decay and some hard snags created from wind and snow damage. No snags greater than 15" DBH in decay class 1 and 2 were recorded on the SLI plots in Areas 3 and 4. Landscape targets have not been met for hard snags. The older forest structure target of two snags per acre greater than or equal to 24" in diameter was close to being met on the measured SLI stands that overlapped with the sale.

III. DESIRED STAND CONDITION:

Table 3. Stand Structure Information

Area	Stand ID	Current	Post Harvest ¹	Desired Future	Net Acres
1	250	CSC/UDS	REG	GEN/OFS	225
2	251	CSC/UDS	REG	GEN/OFS	181
3	252	CSC/UDS	REG	GEN/LYR/OFS	181
4	253	CSC/UDS	REG	GEN/LYR	127

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.

The prescriptions will remove alder and Douglas-fir with Swiss needle cast symptoms and retain other native species. The mix of prescriptions and the retention of the other conifer will create a mosaic of openings and variable densities across the landscape. These regeneration harvest areas will be planted with a mix of conifer species. Unmanaged hardwoods and conifer mixes will be left in headwalls and in riparian buffers as well as scattered in the unit.

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 harvest units five to seven years after stand establishment to determine snags/acre and cubic feet of downed wood by decay class. If the stand is 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

Modified Clearcut:

In Areas 1 and 3, merchantable Douglas-fir and alder will be removed. A diameter limit will be used to select trees to be left. These residual trees will provide future down wood and /or snags. All other species will be reserved.

Retention Cut:

In Areas 2 and 4, the average residual basal area will be at least 33 square feet, primarily in Douglas-fir. The remaining merchantable Douglas-fir will be removed. Merchantable alder will also be removed. 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 and the outer RMA of South Wolf Creek 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 units.

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)	10,224	130	10,354
Stumpage Value (\$/MBF)*	\$231	\$228	
Estimated Gross Value	\$2,361,744	\$29,640	\$2,391,384
		Project Costs:	\$178,400
		Estimated Net Value:	\$2,212,984

VI. HARVESTING AND ACCESS CONSIDERATIONS:

The sale areas are accessed via Coast Range Road North and East Access Road. These are currently all-weather crushed rock roads. See maps for specific road locations and conditions.

Approximately 2.6 miles of existing unsurfaced and abandoned roads will be improved which includes grading, rocking, widening, culvert replacement, spot rocking, sidecast pullback, and adding new culverts. This work will bring all roads up to standards described in *the Forest Roads Manual*.

Approximately 0.5 miles of road will be constructed in order to provide access to cable yarding areas.

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.

Other project work that will be included with this sale is rocking of the road north of the Fisherman’s Access rock pit and construction of a crushed rock stockpile for maintenance rock.

The operation will be 40% ground yarding and 60% cable yarding.

Table 5. Transportation Planning Summary (Miles)⁴

Activity	Mainline	Collector	Rocked Spur ¹	Dirt Spur ¹
Construct			0.5	
Improve		0.3		2.3
Maintain ²		7.7		
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.*

VII. AQUATIC RESOURCES AND WATER QUALITY:

There are no known Type F streams within the sale areas. South Wolf Creek, a medium Type F stream, is adjacent to Areas 3 and 4. There are several unnamed small perennial and seasonal Type N streams within the sale areas. 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 for the sale. If any additional streams needing surveys are found during layout they 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.

Approximately 85 net acres of the sale are within the Little North Fork sub-basin. This sub-basin has been identified as a Salmon Anchor Habitat (SAH) Basin and

the most current SAH Basin Strategies will be used at the time of contract development.

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 areas have been reviewed with the ODF Northwest Oregon Area Biologist.

Surveys for marbled murrelets are not required due to the absence of potentially suitable habitat.

It was determined that in Area 1 and Area 2 there is potential northern spotted owl habitat within and/or adjacent to the sale boundary. Surveys have been conducted during the 2004 survey season with no detections. Surveys will be conducted during the 2005 survey season for northern spotted owl. All northern spotted owl surveys were and will be conducted in accordance with USFWS endorsed protocol.

Felling in Areas 1 and 2 will need to be completed by March 15th, 2008; prior to the survey expiration period.

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 found within the sale areas however a plant on the state candidate list was identified as being in the general location of the sale. As such, this plant is not given special legal protection but ODF is documenting its occurrence and managing around it where possible. This plant is an understory species normally occurring in moist shady areas next to streams. All riparian areas are protected as part of the planned activity.

IX. SLOPE STABILITY AND GEOTECHNICAL ISSUES:

The initial hazard risk assessment from the geotechnical specialists is moderate. There are high landslide hazard locations scattered in all areas of the sale. The geotechnical specialist will be consulted during sale layout and the need for field review will be assessed.

Areas 1 and 2 have been identified as within a SAH Basin and the most current SAH Strategies will be used at the time of contract development. See the Summary Document for more information.

X. RECREATION RESOURCES:

The sale areas are designated as 65% Motorized and 35% Non-Motorized in the *Tillamook State Forest Comprehensive Recreation Plan (1993)*. The District Recreation Coordinator has reviewed this sale. Designated OHV trails within the sale areas include BPA, Coast Range, South Tower, West Tower, North Tower, East Tower and Relay Ridge trails. Short-term closure of these trails may occur to facilitate logging and public safety. Portions of some of these trails will be improved for logging access. 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.

XII. SCENIC RESOURCES:

The sale areas have a visual classification of Level 2, moderate sensitivity. Visual impact will be minimized by stream buffers and the amount of residual trees being left in the sale areas with the different prescriptions. There will be some visual impact until green up occurs. The sale will be reviewed by the Public Use Coordinator to determine methods to minimize visual impact.

XIII. OTHER RESOURCE CONSIDERATIONS:

Permanent inventory plots are within the sale area. Permanent plot markings will be protected according to guidelines. A SNC research plot is located in Area 1. Doug Mainwaring, Oregon State University, will be consulted during sale preparation. This area may need to be buffered.

The Oregon State Police radio relay tower and transmission lines are located in Areas 1 and 2. Oregon State Police and Tillamook County Emergency Management will be consulted during sale planning.

XIV. LAND MANAGEMENT CLASSIFICATION SUMMARY:

Table 6. Land Management Classification Summary

Area	LMCS Subclass	Focused Stewardship	Special Stewardship
1	Aquatic and Riparian Habitat	53	1
	Recreation	10	
	Visual	5	
	Wildlife Habitat	28	
2	Transmission		9
	Aquatic and Riparian Habitat	39	7
	Recreation	10	
	Wildlife Habitat	67	
3	Transmission		<1
	Aquatic and Riparian Habitat	58	21
	Recreation	9	
	Visual	<1	
4	Aquatic and Riparian Habitat	43	<1
	Recreation	5	

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.