

# Pre-Operations Report

**Operation Name: Beaver Ridge**  
**County: Tillamook**  
**Management Basin: Lower Nehalem**

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

Area	Type of Operation	Gross Acres	Net Acres <sup>1</sup>
1	RC	365	302
2	RC	55	54
3	RC	98	64
4	PC	50	45
Total		568	465

*1. The net acres are based on orthophotos and GIS, and exclude roads, stream buffers, and non-required thinning areas.*

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

Slopes have an eastern aspect and range from 10% to 80%. Elevations range from 360 to 1680 feet. The major soil types are Killam and Pittsburg.

The landform is the gentle ridgetop and moderated to very steep slopes above the Nehalem River and unnamed tributaries to the Nehalem River. The underlying rocks are sedimentary origin rocks of the Roy Creek formation (informal) Basalt boulder conglomerate, basaltic sandstone and siltstone, overlaying igneous origin rocks of the Tillamook Volcanics formation subaerial Basalt flows, and Tillamook Volcanics subaerial Dacite, rhyodacite and rhyolite massive to flow banded, stony thick flows with basal basaltic breccias.

## 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	117	RA,WH, DF	55	14	270	269	73	302
		Target <sup>3</sup>	RA,WH, DF	55	16	60	42	15	302
2	RC	120	RA,WH, DF	55	14	270	269	73	54
		Target <sup>3</sup>	RA,WH, DF	55	16.	60	42	15	54
3	RC	121	RA,WH, DF	55	14	230	170	60	64
		Target <sup>3</sup>	RA,WH, DF	55	16	65	45	16	64
4	PC	111	WH,DF,SS, RA, WRC	65	14.3	324	292	86	45
4		Target <sup>3</sup>	WH,DF,SS, RA, WRC	65	16.6	198	132	47	45

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

2. The net acres are based on orthophotos and GIS and exclude roads, and stream buffers (special stewardship), and non-required thinning areas. Modified clearcut 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.

Areas 1, 2, and 3 were burned in the 1933 Tillamook Fire and Areas 1 and 2 were burned in the 1945 Wilson River Fire. All of the sale areas naturally regenerated and have had no prior stand management.

Areas 1, 3, and 4 have been inventoried using the Stand Level Inventory (SLI) procedure and the stands have been identified as UDS. Area 2 was identified as CSC according to the district stand summary information (1999).

See Table 2 for specific stand data.

Areas 1, 2, and 3 are single story alder stands with large pockets of dense conifer. The understory in the alder dominated portions of the stand is comprised of continuous salmonberry and suppressed hemlock, spruce and cedar. In the conifer portions of these stands the understory is patchy and is comprised of mainly sword fern and salmonberry

The alder, in these areas the alder was not aerially sprayed but the height and diameter growth has slowed due to stand age. The hemlock and Douglas-fir is overstocked resulting in poor live crown ratios and slowed diameter growth. There is also scattered spruce and cedar throughout all of these areas.

Area 4 is a dense hemlock and spruce stand, with scattered Douglas-fir and small pockets of alder. The understory is made up of primarily small, suppressed conifers and patchy sword fern. The hemlock and spruce is overstocked resulting in poor live crown ratios and slowed diameter growth. There is a lot of conifer mortality in this stand due to the high stand density.

Down wood, in all of the sale areas, 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 show that the down wood level in decay classes 1 and 2 is 248 cubic feet per acre in Area 1, 595 cubic feet per acre in Area 3, and 713 cubic feet per acre in Area 4. Total down wood levels in Area 1 is 2014 cubic feet per acre, 4327 cubic feet per acre in Area 3, and 7642 cubic feet per acre in Area 4. There was no down wood, greater than 24 inches on the large end in decay classes 0, 1, and 2, recorded for Areas 1 and 3 but in Area 4 there is approximately 1 per acre. In Area 1, the down wood requirements for OFS stands that are outlined in the FMP have not been met at this time. In Areas 3 and 4 the down wood level has exceeded the requirements for OFS stands but are still lacking hard conifer logs larger than 24 inches. Area 2 has not been Stand Level Inventoried at this time so down wood information is unavailable. This stand is adjacent to Areas 1 and 3 so the measured information could reflect what is happening in this stand. During sale preparation, different options, for Areas 1 and 2, such as down wood creation, additional green tree retention, and future stand management and monitoring will be considered in order to achieve FMP targets. In Areas 3 and 4, down wood creation will be used during harvest in order to meet the FMP targets.

In all of the sale areas there are some large snags in various states of decay and some hard snags created from wind and snow damage. Area 1 has 5 snags per acre, Area 3 has 19 snags per acre, and Area 4 has 4 snags per acre, greater than 12 inches DBH, of which an average of 1 snag per acre is greater than 24 inches DBH in these three areas. In Area 1 there was less than 1 snag per acre, in Area 3 there was 4 snags per acre that were greater than 15 inches DBH and in decay classes 0, 1, and 2. In Area 4, there were no snags recorded that were greater than 15 inches DBH and in decay classes 0, 1, and 2. Areas 1, 3, and 4 do not meet the snag retention goals in the FMP. Area 2 has not been Stand Level Inventoried at this time so snag information is unavailable. This stand is adjacent to Areas 1 and 3 so the measured information could reflect what is happening in this stand. During sale preparation, in Areas 1 and 2, different options such as snag creation, additional green tree retention, and future stand management and monitoring will be considered in order to achieve FMP targets. In Areas 3 and 4, snag creation will be used during harvest in order to meet the FMP targets.

### III. DESIRED STAND CONDITION:

**Table 3. Stand Structure Information**

Area	Stand ID	Current	Post Harvest <sup>1</sup>	Desired Future	Net Acres
1	117	UDS	UDS	GEN	257
1	117	UDS	UDS	LYR	35
1	117	UDS	UDS	OFS	10
2	120	CSC	UDS	GEN	51
2	120	UDS	UDS	GEN	1
2	120	UDS	UDS	OFS	2
3	121	UDS	UDS	GEN	64
4	111	UDS	UDS	LYR	45

*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 prescription for Areas 1, 2, and 3 will remove alder, thin the dense pockets of hemlock and Douglas-fir, and retain other species resulting in a varied stand that have open areas and large pockets of thinned conifer. There will also be areas of unmanaged timber in headwalls, stream buffers, and on high landslide hazard locations. This area will be planted with a mix of conifer species. As the future stand is established the residual trees from previous stands will add to complexity of sizes, species and densities.

In the short term, Area 4 will be a partial cut to reduce stand density. This is a first entry operation to begin to move the stand along the pathway to more complex structure. In the long term, this operation will move the stand toward more complex structure. This prescription will allow for openings and gaps in the stand to allow the residual trees to grow in diameter and crown depth. The openings and gaps will also allow for understory reinitiation of shrubs and tree species creating horizontal and vertical diversity. The expectation is future density management to continue the growth of overstory trees as well as understory trees and shrubs species.

The timber sale areas will combine with adjacent recently managed thinnings, planned future sales and unmanaged stands to create a mosaic of openings, gaps, variable densities and mixed species stands. As the future stand is established the residual trees from previous stands will add to 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.

A snag and down wood assessment will be done approximately five years following sale completion. Partial cut units with a resulting average diameter over 15 inches will be reviewed for snag and down wood creation at time of harvest.

Stand Level Inventory (SLI) will be scheduled for clearcut and regeneration harvest units five to seven years after stand establishment. This inventory will provide more data on down wood and snags in the harvest units. Snag and down wood creation opportunities will be evaluated at this time.

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

**See table 2 for prescription targets**

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

In Areas 1, 2, and 3, alder will be harvested. Hemlock and Douglas-fir less than 16 inches will be harvested to remove the smaller trees that would be vulnerable to windthrow and the remaining hemlock and Douglas-fir will be thinned to 120 to 140 square feet of basal area. All other species will be reserved.

##### **Partial Cut:**

In Area 4, hemlock, Douglas-fir, and spruce will be thinned to a basal area range of 160 to 180 square feet. All other species will be reserved.

##### **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. Unmanaged hardwood will be left in headwalls and in areas outside the timber sale. Conifers not targeted for harvest will be left on the sale areas. These leave trees function as a future source of snags and down wood recruitment across the landscape.

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 that they will become short-term snags and down wood. Tops from harvesting operations will be left in the areas that are approved for ground yarding.

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:		1st	

	Conifer	Hardwood	Total
Net Volume (MBF)	1839	3736	5575
Stumpage Value (\$/MBF)*	\$108	\$250	
Estimated Gross Value	\$198,612	\$934,000	\$1,132,612
		Project Costs:	\$298,500
		Estimated Net Value:	\$834,112

**\*Combined Douglas-fir and hemlock stumpage values**

**VI. HARVESTING AND ACCESS CONSIDERATIONS:**

The sale areas are accessed via Peterson Road. This is currently an all weather, crushed rock road. Approximately 6.5 miles of existing surfaced road will be improved. This work will bring all roads up to standards described in *the Forest Roads Manual*. See maps for specific road locations and conditions.

Approximately 1.2 mile of road will be constructed in order to provide access to cable yarding areas that were previously ground yarded. Following harvest, roads within the sale areas will be reviewed for closure. See summary document for more information on this topic. The operation will be 91% cable yarding and 9% ground yarding.

**Table 5. Transportation Planning Summary (Miles).**

Activity	Mainline	Collector	Rocked Spur <sup>1</sup>	Dirt Spur <sup>1</sup>
Construct			1.2	
Improve			1.5	
Maintain <sup>2</sup>		5		
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 area. There are also two assumed Type F streams within the sale boundary. Riparian vegetation along these streams include mixed hardwoods and conifers. Additional streams may be identified during fieldwork. There are also streams that will be located during fieldwork that deliver water to known water rights downstream from the sale area.

Oregon Department of Fish and Wildlife (ODFW) will be requested to complete stream surveys before sale layout begins. Streams of assumed or unknown status will be treated as Type F until surveys are completed to verify fish use.

Stream buffers within and adjacent to the 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 operational constraints for implementing FMP strategies.

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 (Clint Smith).

It was determined that in the sale areas there is potential marbled murrelet habitat within or adjacent to the sale boundary. Surveys will be conducted during the 2005 and 2006 survey season for marbled murrelets. All surveys for marbled murrelet will be conducted in accordance with Pacific Seabird Group (PSG) protocol.

It was determined that there is potential northern spotted owl habitat within or adjacent to the sale boundary. Surveys have been and will be conducted during the 2005 and 2006 survey season for northern spotted owl. All northern spotted

owl surveys were and will be conducted in accordance with USFWS endorsed protocol.

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 areas.

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

The initial assessment from the geotechnical specialists for Area 1 is high due to scattered high landslide hazard locations. Areas 2 and 3 are moderate and for Area 4 the assessment is low. The geotechnical specialist will review the sale in the field. If the sale boundaries are changed prior to field review, the geotechnical specialist may be consulted and the need for field review may be reassessed.

**X. RECREATION RESOURCES:**

The sale areas are designated as Non-motorized in the *Tillamook State Forest Comprehensive Recreation Plan* (1993). The sale areas are located in the North Coast Travel Management Area. No OHV trails were identified within or adjacent to the sale areas. Recreational use common to this area includes hiking, hunting, and horseback riding. The District Recreation Coordinator will be consulted during sale layout and sale contract preparation.

**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 area has a visual classification of Level 2, moderate sensitivity. Visual impact will be minimal due to small size of sale areas, stream buffers, and the amount of residual trees being left in the sale areas.

**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	96	7
2	Aquatic and Riparian Habitat	20	
3	Aquatic and Riparian Habitat	33	3
4	Aquatic and Riparian Habitat	11	

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.