

# Pre-Operations Report

**Operation Name:** Nehalem Crossing

**County:** Tillamook

**Management Basin:** Wheeler

**Legal Description:** Sec. 23, 24, 25 and 26, T03N, R06W, W.M.  
Sec. 30, T03N, R05W, W.M.

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

Area	Type of Operation	Gross Acres	Net Acres
I	Heavy Partial Cut	99	94
II	Heavy Partial Cut	93	85
III	Moderate Partial Cut	134	125
IV	Moderate Partial Cut	26	24
V	Moderate Partial Cut	17	16
<b>Total</b>	<b>Partial Cut Harvest</b>	<b>369</b>	<b>344</b>

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

Slopes have a varied aspect and range from 20% to 75%. Elevations range from 1360 to 2160 feet. The major soils are Grindstone, Killam, Pinochle, and Rye. The sale areas occupy ridges and midslopes.

The landforms are gentle to moderate slopes above the north side of the Nehalem River along Derby Creek and another unnamed tributary of the Nehalem River plus Area I & V that are located on the south side of the Nehalem River. The underlying rock is igneous origin rock or the Tillamook Volcanics, basalt flows form the base of the shield building sequence.

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

The sale areas were not part of the Tillamook burns and were naturally regenerated. Areas I and II were commercially thinned in 1981 as part of the "Voltaire" timber sale. Areas III, IV, and V have received no prior stand management.

Approximately 90% of the sale area has been inventoried using the Stand Level Inventory (SLI) procedure. The current stand structure for those stands is classified as UDS. The remaining 10% is classified as 5% CSC, 3% UDS, and 2% LYR, according to the Current Condition Map that appears in the Forest Grove District Implementation Plan (*March 2003*).

Areas I and II are predominately Douglas-fir with scattered red alder. Areas III and V are predominately Douglas-fir with scattered red alder, noble fir and western hemlock. Area IV is predominately Douglas-fir with scattered bigleaf maple, noble fir, red alder, and western redcedar.

The stands contain minor amounts of *Phellinus weirii*. Whether or not it is treated during the harvest operation will be determined during sale preparation.

The understory in all the sale areas is comprised primarily of vine maple, salal, Oregon grape, oaxlis, and sword fern with some scattered western hemlock and western redcedar.

There are minor amounts of snags in various states of decay throughout all the sale areas. The sale areas lack adequate amounts of hard snags and DWD, according to target amounts provided in the Implementation Plan (IP).

SLI data shows that there is approximately 86.4 ft<sup>3</sup> per acre of DWD in decay class 0,1, and 2.

**Table 2. Stand Inventory Information**

Area	Prescription	Stand ID <sup>1</sup>	Species	Age	DBH	BA	TPA	SDI	Net Acres <sup>2</sup>
I	PC-H <sup>4</sup>	7413	DF	70	20	264	117	59	61
		7459*	DF,WH	57	17	210	149	51	33
		Target <sup>3</sup>	DF		25	125	37	25	94
II	PC-H	7413	DF	70	20	264	117	59	85
		Target <sup>3</sup>	DF		25	125	37	25	85
III	PC-M <sup>4</sup>	8312**	DF	67	23	257	93	54	125
		Target <sup>3</sup>	DF		25	175	51	35	125
IV	PC-M	7402	DF	64	24	202	64	41 <sup>5</sup>	24
		Target <sup>3</sup>	DF		25	175	51	35	24
V	PC-M	8313**	DF	57	23	257	93	54	16
		Target <sup>3</sup>	DF		25	175	51	35	16

<sup>1</sup> The source of stand inventory information is from SLI in 2004. Stand ID shown with (\*) is from SLI expanded data 10/6/2004. Stands shown with (\*\*) are from SLI data for Stand ID 7379 – the 2003 designation for this type.

<sup>2</sup> The acres are based on GIS and exclude existing and planned roads, stream buffers, and non-thinnable areas.

<sup>3</sup> The Target row for partial cut areas identifies expected stand characteristics (DBH, BA, TPA and SDI) after harvesting has been completed.

<sup>4</sup> PC-M is Heavy Partial Cut, PC-M is Moderate Partial Cut.

<sup>5</sup> The low SDI for Stand ID 7402 is due to plot location not representing the actual sale area. The sale area was field checked and the stand has a SDI of approximately 65.

### **III. DESIRED STAND CONDITION:**

The harvest operation will develop these stands into UDS structure in the short term. According to the Forest Grove District's landscape design for the Wheeler basin, the desired future condition (DFC) for Areas I, II, IV, and V is 100% OFS.

Area III has a DFC of 54% GEN, 17% LYR, and 29% OFS.

The anticipated management pathway for sale areas I and II is to conduct a second entry operation for density management. A first entry operation is planned for areas III, IV, and V for density management. Reducing the SDI, by harvesting some of the conifer will maintain vigorous growth of the overstory.

The residual stands in areas I and II should have spaces in the canopy which will be large enough to allow trees to regenerate in the understory and allow these and existing understory trees to eventually reach the mid and upper canopies. There should be at least 37 trees per acre with an average DBH approximately 25 inches. These conditions will allow the stand to develop into a complex stand structure (OFS) more rapidly than through natural processes.

Areas I and II will be evaluated after harvest, to determine what species should be planted in the understory.

This entry, in the short term, will create a variety of stand densities. Gaps in the overstory will promote the development of a more diverse understory and a multi-layered canopy.

This entry, in the short term, will primarily benefit the continued vigor of the overstory and maintain multiple options for future management decisions.

All existing snags and down woody debris of all decay classes shall be retained. All hardwoods and conifers other than Douglas-fir shall be retained. All of these components combined will maintain and promote biodiversity within the future stand.

**Table 3. Stand Structure Information**

Area	Stand ID	Current	Post Harvest <sup>1</sup>	Desired Future	Net Acres
I	7413	UDS	UDS	OFS	61
	7459	CSC	UDS	OFS	19
		UDS	UDS	OFS	12
		LYR	UDS	OFS	2
II		7413	UDS	UDS	OFS
III	8312	UDS	UDS	GEN	67
			UDS	LYR	21
			UDS	OFS	37
IV	7402	UDS	UDS	OFS	24
V	8313	UDS	UDS	OFS	16

<sup>1</sup> The stand is expected to develop into this condition in the five to ten years after this operation is completed.

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

##### **Partial Cut - (Heavy and Moderate):**

Areas I and II are PC-H. The target SDI is approximately 25. Areas III, IV, and V are PC-M. The target SDI is approximately 35.

Douglas-fir will be selected for harvest. All other species will be reserved. Areas I and II will be thinned to a target basal area of 115 to 135 square feet. The average DBH of the residual stand will be approximately 25 inches. Areas III, IV and V will be thinned to a target basal area of 165 and 185 square feet. The average DBH of the residual stand will be approximately 25 inches. Residual trees will be the trees that have the largest DBH and height, and are of the best form and vigor.

One tree per acre shall be topped to create hard snags. Snags shall be a DBH of at least 18 inches, and be at least 60 feet in height.

## V. ESTIMATED TIMBER AND REVENUE INFORMATION:

**Table 4. Timber and Revenue**

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

	Conifer	Hardwood	Total
Net Volume (MBF)	6,500		6,500
Stumpage Value (\$/MBF)	\$400		
Estimated Gross Value	\$2,600,000		\$2,600,000
		Project Costs:	\$420,000
		Estimated Net Value:	\$2,180,000

## VI. TRANSPORTATION PLANNING AND HARVESTING:

The sale areas are accessed via the Cochran Road. This road is currently an all-weather road. Road use fees will not apply.

Approximately 2.5 miles of existing surfaced road will be improved at an estimated cost of \$128,000, which includes grading, rocking, widening, bridge and culvert replacement. Included in this is 2.4 miles of Cochran Road. See maps for specific road locations and conditions.

Approximately 2.7 miles of road will be constructed at an estimated cost of \$282,000 in order to provide access to cable yarding landing locations. The rock source will be the Cochran Rock Pit and the Camp 5 Pit. New construction is limited to ridgetops and gentle to moderate sideslopes. Proposed roads will cross one medium Type F stream (Derby Creek) and one small Type F stream. A bridge will be required for the Derby Creek crossing.

In addition, a fish passage culvert will be installed in a small Type F stream on the Voltaire Road, at an estimated cost of \$10,000.

All haul roads will have high quality crushed rock or pit run surfacing. Roads will provide access to all timber within the sale area and allow for logging methods and hauling which will minimize impacts to soils, residual timber, streams, and riparian areas.

Following harvest on each setting during harvest operations, roads and skid trails within the sale areas will be evaluated for closure.

Sale-related project work - estimated costs \$410,000.  
Other project work – estimated costs \$10,000.

The operation will be 55% cable yarding and 45% ground yarding.

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

Activity	Mainline	Collector	Rocked Spur	Dirt Spur
Construct	0	2.7	0	0
Improve	0	2.4	0.1	0
Maintain	0	12	2	0
Close/Block	0	0	0	0
Vacate	0	0	0	0

For determination of road class either use results of the Harvest and Habitat roads classifications, or if this information is not available then low use roads are spurs, medium use roads are collectors and high use roads are mainlines. Use these same criteria when comparing the total for all AOP sales to the IP plans.

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

Derby Creek is a medium Type F stream that is adjacent to sale areas III and IV. An unnamed small Type F stream is within area III. An unnamed medium Type F, which changes to a medium Type N within the sale boundary, is adjacent to area II. The Nehalem River, a large, Type F stream and is adjacent to all the areas. There are several unnamed small seasonal Type N streams within all the sale areas, which are tributaries to the Nehalem River. There is one unnamed small perennial Type N stream located in area V.

During sale layout, all streams will be field verified as to size, type, locations, and/or source.

Riparian area stand types along these streams are a mix of hardwoods and conifers.

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.

The haul route and logging operation are in proximity to streams in which listed fish, coho and spring chinook, are present. Appropriate measures will be taken to avoid any negative impacts from the logging operation and hauling.

ODFW fish biologists will work with ODF to identify possible stream enhancement project areas in the Nehalem River, Derby Creek, and unnamed stream (located in area III). Projects may incorporate wood placement into streams concurrent with harvest activities.

The sale is within the Lousignont/Upper Nehalem River SAH Basin. The most current SAH Basin Strategies will be applied during timber sale layout and 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 seasonal restrictions on logging and hauling operations. Culvert installment and replacement in live streams will be conducted between July 1 and August 31. 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 (Area Biologist).

Surveys for northern spotted owls were conducted in 2004 due to the presence of potentially suitable spotted owl habitat within and adjacent to the timber sale area. Nehalem Crossing was surveyed for spotted owls three times in 2004 with no responses, and the second year of survey will be completed in 2005. All surveys were/will be conducted in accordance with USFWS protocol.

Surveys for marbled murrelets are not required, due to the absence of potentially suitable habitat within the sale area. The ODF wildlife biologist for the NW Oregon Area made the determination that the sale area is non-suitable habitat for marbled murrelets.

This operation involves an activity that is listed in the National Marine Fisheries Service (NMFS) adopted rules under Section 4(d) of the Endangered Species Act. The sale area is in close proximity to a stream with listed fish. In addition, the haul route crosses or is in close proximity to a stream with listed fish. See Section VII and IX of this report for a discussion of protective measures.

The sale areas were checked against the Oregon Natural Heritage Program (ONHP) database of known listed plant locations, as well as against local records in the Land Management Classification System (LMCS). No listed plant records were identified within or adjacent to the sale areas.

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

The initial assessment from the geotechnical specialist is moderate. There are bands of steep slopes near the top of sale Area II and along Derby Creek in sale Area III. The geotechnical specialist will be consulted during sale layout and the need for field review will be assessed.

The most current SAH Strategies will be used at the time of timber sale preparation and contract development.

**X. RECREATION RESOURCES:**

The sale areas are designated as non-motorized in the Tillamook State Forest Comprehensive Recreation Plan (1993). The District Recreation Coordinator has reviewed this sale, and suggests:

No authorized trails were identified within or adjacent to the sale areas.

Recreational use common to this area includes hunting.

**XI. CULTURAL RESOURCES:**

The sale area was checked against the Tillamook State Forest Cultural Resource Inventory database. This database lists six cultural sites within the sale area.

The resources are described as:

- “Derby Creek Donkey Sled” (Class II – ODF Identified for Protection)
- “Logging Equipment” (Class III – No Protection Required)
- “Donkey Spark Arrestor” (Class III – No Protection Required)
- “Wheels of Tool Trailer” (Class III – No Protection Required)
- “Fair Lead” (Class 3 – No Protection Required)
- “Steam Donkey Cylinder” (Class III – No Protection Required)

The surveyed route of the Salem to Astoria Military Road passes through Area III of the sale. The route is documented on the ground by use of trees with metal tags and yellow paint dots. Protection measures will be established to retain as many of the marked trees as possible during sale operations.

The district will consult the Public Use Coordinator for appropriate protection measures of these sites when necessary.

**XII. SCENIC RESOURCES:**

The sale areas have a visual classification of level 3, low sensitivity.

**XIII. OTHER RESOURCE CONSIDERATIONS:**

All known survey corners and witness trees shall be protected from damage during any operations.

**XIV. LAND MANAGEMENT CLASSIFICATION SUMMARY:**

**Table 6. Land Management Classification Summary.** This table summarizes the acres of Focused and Special Stewardship within the operations. Due to overlapping classifications under the Land Management Classification System,

the acres summarized for each operational area in this table may exceed the net or gross acreage of the area. For example, a particular acre can be classified as Focused Stewardship for Aquatic and Riparian Habitat, Recreation, and Scenic resources.

Area	LMCS Subclass	Focused Stewardship	Special Stewardship
I	Aquatic and Riparian Habitat	20	3
II	Aquatic and Riparian Habitat	27	2
III	Aquatic and Riparian Habitat	35	2
IV	Aquatic and Riparian Habitat	9	0
V	Aquatic and Riparian Habitat	5	1