

# Pre-Operations Report

**Operation Name:** Larkin  
**County:** Clatsop  
**Management Basin:** Gnat

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

Area	Type of Operation	Gross Acres	Net Acres
1	MC	45	40
2	MC	38	36
3	PC-M	56	52
Total	Modified-Clearcut	83	76
Total	Partial Cut	56	52
Total		139	128

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

These sale areas are located within the Gnat Basin, about nine miles southeast of the town of Knappa, south of State Highway 30, and about two miles from the Columbia River. The Gnat Basin drains in a northerly direction towards the Columbia River. It is in the “hemlock zone” and is generally characterized by Douglas-fir and hemlock as the dominant tree species, with understory of salal, huckleberry, and ferns. Well maintained mainline roads and secondary rocked roads on ODF property provide primary access to all of the sale areas.

Soil types in these sale areas are mostly Gnat, with a small amount of Mist types, moderately deep, well-drained, moderately fine textured soils developing from siltstones and basalt, with site index ranging from 120 to 130 feet for Douglas-fir, and averaging 110 feet for hemlock. Elevations range from 500 to 800 feet.

The landforms are gentle to moderate slopes on spur ridges between tributaries of Gnat Creek. The underlying rock is igneous origin rock of the Frenchman Springs member of Wanapum Basalt, of the Yakima Basalt Subgroup, of the Columbia River Basalt Group. Subaerial basalt flows with associated basalt pillow breccias.

## II. CURRENT STAND CONDITION:

All of the sale areas were railroad logged during the 1920's and 1930's.

Area 1 – The current stands are generally 74 to 75 years old, and are moderate sized mixed conifer stands, composed of Douglas-fir and hemlock, with some stringers of alder. The understory vegetation is generally light under the conifer, primarily composed of sword ferns and salal. Two of the stands were commercially thinned in 1975 and 1980, and multiple windthrow salvage operations. Although currently listed as “Layered”, these stands are fairly uniform in tree size and spatial distribution and appear to be in a “Understory” condition.

Area 2 – The current stands are approximately 74 years old, and are moderate sized mixed conifer stands, composed of Douglas-fir and hemlock.

Area 3 – The current stands are generally 74 to 75 years old, and are moderate sized mixed conifer stands, composed of Douglas-fir and hemlock, with some stringers and small pockets of alder. The understory vegetation varies significantly across the sale area, with some development of understory hemlock and cedar, occasional thickets of vinemapple, and sword ferns and salal. Portions of these stands were commercially thinned in 1973, with some windthrow salvage, and are currently described as “Layered”. Although these stands contains more components of a “Layered” stand than Area 1, this sale area appears to be in an “Understory” condition.

Areas 1 and 2 will have SLI (Stand Level Inventory) completed in 2004.

**Table 2. Stand Inventory Information**

Area	Prescription	Stand ID <sup>1</sup>	Species	Age	DBH	BA	TPA	SDI	Acres <sup>2</sup>
1	MC	25306	DF, WH	74	23	267	90	58	31
1	MC	25264	DF, WH	74	24	273	84	58	3
1	MC	25285	DF, WH	75	27	292	75	60	6
		Target <sup>3</sup>	DF, WH				7		40
2	MC	25287	DF, WH	74	23	270	93	59	20
2	MC	25289	DF, SS	74	17	251	166	62	2
2	MC	25288	DF, WH	74	24	265	85	57	14
		Target <sup>3</sup>	DF, WH				7		36
3	PC	25468	DF, WH	75	23	296	101	64	47
3	PC	25284	DF, WH	74	24	226	71	48	5
		Target <sup>3</sup>	DF, WH		27	180	50	35	52

1 The source of stand inventory information is (OSCUR) from 2002 (year).

2 The acres are based on (orthophotos, traverse, GIS, GPS, etc) and exclude roads, streams buffers, reserve areas, etc.

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

### III. DESIRED STAND CONDITION:

For Areas 1 and 2, the future stand condition is General (GEN). The expected post operation result is Regeneration (REG).

The desired future stand condition for Area 3 is Layered (LYR). By partial cutting these stands, individual tree growth will be maintained, and more understory can develop as a result of increased light to the forest floor, allowing for development of a more complex stand structure.

**Table 3. Stand Structure Information**

Area	Stand ID	Current	Post Harvest <sup>2</sup>	Desired Future	Acres
1	25306	UDS*	REG	General	31
1	25264	UDS*	REG	General	3
1	25285	CSC	REG	General	6
2	25287	CSC	REG	General	20
2	25289	CSC	REG	General	2
2	25288	UDS	REG	General	14
3	25468	UDS*	LYR	LYR	47
3	25284	UDS	UDS	LYR	5

<sup>2</sup> The stand is expected to develop into this condition in the five to ten years after this operation is completed.

\*Stands currently classified as Layered in OSCUR Stand 2002, and reclassified as UDS from field reconnaissance. SLI is scheduled to be completed prior to auction.

### IV. PROPOSED MANAGEMENT PRESCRIPTION:

Areas 1 and 2 - are planned for regeneration harvest (modified clearcut) and will be replanted with a mixture of conifer species.

Area 3 is a partial cut, with the objective of developing a condition of "layered". This "second" entry will be a moderate level thinning prescription, approximately SDI 30 to 35, and will retain the "biggest and best" trees. It is anticipated that the thinning will allow increased diameter growth of the overstory trees while continuing the growth of the existing mid-story and understory conifer, and allow the development of a third cohort of hemlock and cedar.

*Snags:* In all areas, all existing snags will be retained unless deemed to be safety hazards. Where pre-sale activities determine that fewer than two hard snags per acre exist, opportunities for snag creation (tree topping and/or girdling) or leaving additional live green trees will be implemented to supplement landscape snag levels as defined by the Forest Management Plan.

*Green Trees:* In Areas 1 and 2, an average of 5 to 8 green trees per acre will be retained using multiple wildlife tree strategies, including scattering and/or clumping green trees throughout the areas, and not solely located in riparian

areas. Minor species such as red cedar and any existing larger remnant trees will be reserved from cutting.

*Downed Wood:* All existing down wood will be retained. It is anticipated that normal felling and bucking practices will meet and/or exceed 600 cubic per acre of downed wood. To increase down wood levels, operations will be required to yard only merchantable log segments to roadsides.

**V. ESTIMATED TIMBER AND REVENUE INFORMATION:**

**Table 4. Timber and Revenue**

Ownership		Sale Type	
BOF	CSL	Cash	Recovery
100%	0%	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Planned Quarter:		Alternate	

	Conifer	Hardwood	Total
Net Volume (MBF)	4,200		
Stumpage Value (\$/MBF)	\$350		
Estimated Gross Value	\$1,470,000		\$1,470,000
		Project Costs:	\$60,000
		Estimated Net Value:	\$1,410,000

**VI. TRANSPORTATION PLANNING AND HARVESTING:**

There are currently good quality forest roads accessing all of the sale areas. Since Areas 1 and 2 are currently completely accessed by surfaced roads, other access options for these areas were not considered. For Area 3, two options were considered; One is to construct about ½ mile of new roads to access ground based and limited cable thinning. The second option is to not construct any new roads, but to anticipate longer yarding distances and possibly a cable/tractor “swing” in Area 3. Both options will be further explored during the field layout process. If the new construction option is selected, the access road will be located during the sale preparation process and will be positioned to maximize ground based yarding. This new road will be vacated upon completion of harvesting operations.

A culvert on Larkin-Green Road crossing an unnamed tributary of Gnat Creek will be evaluated for a fish passage upgrade.

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

Activity	Mainline	Collector	Rocked Spur	Dirt Spur
Construct	0.0	0.0	0.0	0.5
Improve	0.0	0.1	0.0	0.0
Maintain	0.0	1.5	0.0	0.0
Close/Block	0.0	0.0	0.0	0.0
Vacate	0.0	0.0	0.0	0.0

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

*Type F Streams:*

Two unnamed tributaries (small, Type N streams) flow northwesterly along the north and south boundaries of Area 2.

Gnat Creek (large, Type F stream) flows along the western boundary of Area 3. There are no Type F streams within or adjacent to Area 1.

All of the streams flow in a northerly direction towards the Columbia River through the Gnat Basin.

*Type N Streams:* There are small perennial Type N streams in all sale areas. NW Oregon Forest Plan stream riparian strategies will be employed along these streams.

The current riparian vegetation is composed of a patchwork of conifer and hardwood overstories. The understory in the conifer dominated reaches is similar to the headlands, with mostly ferns, salal, and some wild rose. The understory within the alder reaches is mostly salmonberry.

All streams will be examined during sale layout to determine stream type and classification. Then, the specific RMA strategies required in the FMP will be implemented. These strategies are found in Appendix J, pages J-1 through J-16.

None of the sale areas is within proximity of streams in which listed fish are present. ODFW has notified us that they may begin allowing listed fish (steelhead) to proceed up Gnat Creek a few years from now.

*Stream Enhancement Opportunities:* There no known opportunities for stream enhancement on the unnamed tributaries to Gnat Creek. Previous discussions with ODFW about stream improvement opportunities on Gnat Creek have revealed that the high winter flow are unfeasible. Further assessment and collaboration will be done with ODFW biologists and the Sunset Unit Forester.

All the perennial streams within the operational area of the sale have a LMCS Aquatic and Riparian classification of focused.

*Aquatic Resource Protection:* For all areas, full log suspension is required when cable yarding over streams. No ground-based logging equipment operation is allowed within the stream bank zone. Adequate RMA buffers will be left where required on all streams per the FMP standards. To protect water quality during active operations, a variety of methods will be used to prevent sediment from entering live streams. These methods range from use of hay bales in road ditches, to “ditch-outs” away from streams, to complete shutdown of logging and hauling operations during times of heavy rainfall. There are no known high risk sites within the sale area. Any high-risk sites found will require at least one-end log suspension and cable logging. If any in-stream work is required with the sale, then the in-stream work will be conducted during in-stream periods established by ODFW.

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

The sale area has been surveyed for Northern Spotted Owls in 2004, with no responses, and is scheduled to be resurveyed in 2005.

Areas 1, 2, and 3 were determined by the Area Wildlife Biologist, on March 4, 2004, not to have any suitable habitat for marbled murrelets.

The sale area was checked against district knowledge for any listed plant location. The sale area was also checked against the Oregon Natural Heritage Program (ONHP) database of known listed plant locations. No listed plant records were identified within the sale area.

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

The initial assessment from the geotechnical specialist is low. The geotechnical specialist may be consulted if concerns arise during sale layout.

#### **X. RECREATION RESOURCES:**

This area receives dispersed recreation, which includes hunting, fishing, camping, target shooting, and driving forest roads. There are no established recreation sites within the operation areas. The planned operations will only temporarily impact recreational road use.

#### **XI. CULTURAL RESOURCES:**

There are no identified cultural resources within the operation areas.

**XII. SCENIC RESOURCES:**

Approximately two acres of Area 2 has been designated “Level 2 Visual”, as it may be visible from Highway 30. The planned operations will include strategically located green trees within the sale area to minimize visual impact.

**XIII. OTHER RESOURCE CONSIDERATIONS:**

The Gnat Creek Fish Hatchery is located approximately one mile downstream from Area 3.

**XIV. LAND MANAGEMENT CLASSIFICATION SUMMARY:**

The lands in this timber sale are all classified “general” management. Within this overlay are two acres of “focused” Visual classification for Highway 30.

**Table 6. Land Management Classification Summary**

Area	LMCS Subclass	Focused Stewardship	Special Stewardship
1	Aquatic and Riparian Habitat	23	8
2	Aquatic and Riparian Habitat	17	6
2	Visual	2	0
3	Aquatic and Riparian Habitat	16	14

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. For example, a particular acre can be classified as Focused Stewardship for Aquatic and Riparian, Recreation, and Scenic resources.