

# Pre-Operations Report

**Operation Name:** Snake Charmer Thin

**County:** Linn

**Management Basin:** Rock Creek Basin

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

Area	Type of Operation	Gross Acres	Net Acres
I	PC	96	88
II	PC	48	47
III	PC	38	35
Total		<b>182</b>	<b>170</b>

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

The operation is located within a temperate climate area. Typically the fall and winter seasons are wet. This area receives approximately 73 inches of rainfall per year. The operation is located within the *Tsuga heterophylla* Zone (Natural Vegetation of Oregon and Washington, Franklin & Dyrness, 1973).

The landforms are gentle to moderate slopes with a scattered steep slope in Areas I and III and a headwall to Snake Creek in Area III. The sale area is mostly on the divide between branches of Snake Creek but also extends up onto the ridgeline divide with Devils Den to the south. The underlying rock in the north half of the sale area (Area I and small northern part of Area III) is Sedimentary and Volcaniclastic origin rocks of the Western Cascades, Lapilli tuff, mudflow deposits (lahars), flow breccia, and volcanic conglomerate. In the south half (Area II and most of Area III) the underlying rock is igneous origin rock Lava flows and flow breccia of andesite, basaltic andesite, and basalt also includes interbedded volcaniclastics.

The soils within the operation are 80% Pechuck and 20% Akerson. Pechuck and Akerson are well-drained, fine textured colluvial soils. The average slope is 45%. The average 50 foot site index for Douglas-fir for the operation is 115 feet. The elevation ranges from 1,840 feet to 2,620 feet.

**II. CURRENT STAND CONDITION:**

Area I is located within a 92-year-old stand currently classified as Understory. The overstory consists of a mixture of large Douglas-fir, western hemlock, western red cedar and big leaf maple trees. The understory is made up of vine maple, ferns, Oregon grape and oxalis with some patches of understory western hemlock trees. A portion of the Douglas-fir trees are infested with bark beetles. The soils within the stand are shallow and rocky. As a result, there is quite a bit of Douglas-fir blow down within the unit. There are 18 snags per acre and 1,200 cubic feet per acre of sound down wood; there is a total of 4,500 cubic feet per acre of down wood in all decay classes (SLI 2004).

Areas II & III consist of two stands between the ages of 74 and 96 years. The areas are currently classified as Closed Single Canopy. The overstory consists of western hemlock, Douglas-fir, western red cedar, big leaf maple, and red alder trees. The understory consists of minimal amounts of ferns, Oregon grape, vine maple and salal. There are 5 snags per acre and 750 cubic feet per acre of sound down wood; there is a total of 8,600 cubic feet of down wood per acre in all decay classes within the areas (SLI 2004).

**Table 2. Stand Inventory Information**

Area	Prescription	Stand ID <sup>1</sup>	Species	Age	DBH	BA	TPA	SDI	Acres <sup>2</sup>
I	PC-L	Target <sup>3</sup>			23	197	60	41	
		12700	DFCX	92	19	316	156	74	96
II	PC-L	Target <sup>3</sup>			22	193	69	39	
		12701	DFWH	96	17	380	246	94	46
		12702	WHDF	74	15	230	185	59	2
III	PC-H	Target <sup>3</sup>			28	88	20	16	
		12701	DFWH	96	17	380	246	94	10
		12702	WHDF	74	15	230	185	59	28

1 The source of stand inventory information is SLI from 2004.

2 The acres are based on GIS and include 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:**

The desired future condition of Areas I, II and III is Older Forest Structure as shown on Map B.

The anticipated pathway for Area I is as follows:

- This area will receive a light partial cut as part of this operation. This partial cut will improve the growing conditions for the residual trees especially the western hemlock and possibly the understory. A few micro-sites may be

developed where more tree seedlings may become established and add to the seedlings already there.

- In approximately 15 years, this area will be evaluated for another partial cut entry.

The anticipated pathway for Area II is as follows:

- This area will receive a light partial cut as part of this operation. This will improve the growing condition of the trees.
- In approximately 15 years, this area will be evaluated for another partial cut entry.

The anticipated pathway for Area III is as follows:

- this area will receive a heavy partial cut as part of this operation,
- open areas will be underplanted with western red cedar and western hemlock,
- the big leaf maple 8 inches or smaller in diameter being retained should grow into a mid-story layer for the stand,
- maple stumps within the residual stand should re-sprout and create another layer within the stand to help move the stand towards a complex DFC.
- In approximately 15 years, this area will be evaluated to determine if further management activities are needed.

**Table 3. Stand Structure Information**

Area	Stand ID	Current	Post Harvest <sup>1</sup>	Desired Future	Acres
I	12700	UDS	UDS	OFS	96
II	12701	CSC	UDS	OFS	46
	12702	CSC	UDS	OFS	2
III	12701	CSC	UDS	OFS	10
	12702	CSC	UDS	OFS	28

<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:**

A light partial cut to a SDI of 41% is planned for Area I. The residual stand will be comprised of :

- Douglas-fir trees greater than or equal to 24 inches in diameter,
- Western hemlock trees less than or equal to 13 inches in diameter,
- Western hemlock trees greater than or equal to 32 inches in diameter,
- Hardwood trees on a 30-foot spacing,
- All western red cedar trees.

This will result in a patchy stand with diverse trees species and sizes. No new snags or down wood will be developed at this time due to the large amount currently within the stand.

It may be necessary to identify the “take” trees ahead of the operation in Area I. This may be done by District personnel, or it may be a contractual requirement. Trees that will be removed from the stand are primarily Douglas-fir trees less than 24 inches in diameter. Approximately 2-3 western hemlock trees per acre between 13 and 32 inches in diameter will also be removed.

A light partial cut to a residual SDI of 39% is planned for Area II. The residual stand in this area will be comprised of:

- Douglas-fir trees greater than or equal to 24 inches in diameter,
- Western hemlock trees greater than or equal to 24 inches in diameter,
- Western hemlock trees less than or equal to 13 inches in diameter and greater than or equal to 40 feet in height,
- Hardwood trees on a 30-foot spacing,
- All western red cedar trees.

No new snags and down wood will be developed at this time due to the large amount currently within the stand.

A heavy partial cut leaving a residual SDI of 16% is planned for Area III. The residual stand in this area will be comprised of:

- All trees, regardless of species 24 inches in diameter or larger,
- Big leaf maple trees 8 inches in diameter and smaller.

Because of the current variability within Area III, this prescription will result in a very patchy stand with some openings as large as 1 acre in size. These openings will be piled and burned to prepare the site for planting. Western red cedar and western hemlock are the preferred species to plant in this stand. No new snags or down wood will be developed at this time due to the large amount currently within the stand.

**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)	3,743	122	3,865
Stumpage Value (\$/MBF)	\$300	\$150	
Estimated Gross Value	\$1,122,900	\$18,300	\$1,141,200
		Project Costs:	\$16,000
		Estimated Net Value:	\$1,125,200

**VI. TRANSPORTATION PLANNING AND HARVESTING:**

The access to the Snake Charmer sale is via 3 miles of private mainline road, Tom Rock road, and Snake Creek road. The Tom Rock and Private mainline are roads with good crushed rock surfacing. The Snake Creek road is a collector road scheduled for improvement with the Snake Bike timber sale from the 2005 sale plan. One rocked spur road will be constructed to access two or three cable logging landings located along the slope break between cable ground and ground logging areas. This spur will be surface with pitrun rock to allow winter use.

About 1/3 of the area can be ground yarded, the remaining area will be cable yarded to one existing landing on the SW edge of the sale and to two or more landings on the new spur.

**Required project work:**

- Construct 0.36 miles of rocked spur road
- Brush 1 to 2 miles of road (Snake Cr. and Tom Rock)

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

Activity	Mainline	Collector	Rocked Spur	Dirt Spur
Construct	0	0	0.36	0
Improve	0	0	0	0
Maintain	6	3	0.86	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:**

This operation is not in proximity to any streams where listed fish are present.

There are five small streams located within the operation that flow into Snake Creek. Three of the streams are non-fish bearing. The fish presence status has not yet been determined on the other two streams. A fish presence survey may be performed on the streams with unknown fish presence during the 2005 survey season. If fish presence surveys are not performed on the streams, the Oregon Forest Practices Revised Guidance on Interim Water Classifications (1995) will be used to make the determination. The overstory on these streams consists of Douglas-fir, western hemlock and red alder. The understory consists of vine maple, salmon berry, ferns and Oregon grape.

Management activities within riparian areas of streams will focus on achieving properly functioning aquatic and riparian habitat conditions over time. Riparian Management Areas (RMAs) will be established immediately adjacent to streams for the purpose of protecting aquatic and riparian resources and maintaining the functions and ecological processes of the streams. The Management Standards for Aquatic and Riparian Areas found in the *NWO State Forests Management Plan* (pg. J-1 – J-16) will be followed within these RMAs.

This operation is located within the City of Salem’s watershed. The North Santiam River is the primary drinking source for residents in Salem. Water from the river is processed using large slow sand filters. The slow sand filtration process is unable to treat water with turbidity levels greater than 10 NTU. (an NTU is a unit of scientific measurement that describes the extent of discoloration due to suspended sediment.) The District has a long history of cooperation with the City of Salem on matters related to water quality. Generally speaking, representatives from the Public Works Division review all of the pre-operation

reports for activities located within the watershed. Most of these areas are also visited on the ground to further review and discuss strategies related to maintenance of water quality. Suggestions offered for mitigation of potential impacts to water quality are carefully considered and incorporated into timber sale contracts when appropriate

The following measures will be used to minimize impacts to streams: 1. No ground based equipment will be allowed within 25 feet of the non-fish streams, 2. There will be seasonal restrictions as to when ground yarding and road construction will be allowed (i.e. during dry seasons), 3. Erosion control measures will be used on areas of soils exposed during road construction or improvement, 4. Road ditches will be disconnected from streams, 5. Road maintenance will be required during log hauling.

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

This operation was surveyed for Northern Spotted Owls with one response from the East Thomas Northern Spotted Owl pair during the 2004 survey season. This operation is located outside of the East Thomas NSO site. The operation will be surveyed again during the 2005 survey season.

The operation was checked against the Oregon Natural Heritage Program's database of known plant locations. The operation was also checked against district knowledge for any listed plant location. No records of threatened, endangered, rare or candidate plant species were found within the operation.

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

The initial assessment from the geotechnical specialist is low for Areas I and II and moderate for Area III. The headwall in Area III is the highest hazard and risk condition in the sale areas. The geotechnical specialist will be consulted during sale layout and the need for field review will be assessed.

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

While there are no developed recreational resources within or in close proximity to this operation, hunting, sight seeing and horseback riding do occur in the area. There may be some delays on the Snake Creek, Tom Rock, and TR 300 roads due to road work or logging, but through traffic and public access should not be impeded by the operation.

**XI. CULTURAL RESOURCES:**

There are no known cultural resources within the operation.

**XII. SCENIC RESOURCES:**

There are no scenic resources located within the operation.

**XIII. OTHER RESOURCE CONSIDERATIONS:**

There are no other resource considerations.

**XIV. LAND MANAGEMENT CLASSIFICATION SUMMARY:**

**Table 6. Land Management Classification Summary**

Area	LMCS Subclass	Focused Stewardship	Special Stewardship
I	Aquatic & Riparian Habitat	10	6
III	Aquatic & Riparian Habitat	4	2

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.