

# Pre-Operations Report

**Operation Name: Cow Hollow**

**County: Clatsop**

**Management Basins: Lousignot and Northrup**

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

Area	Type of Operation	Gross Acres	Net Acres
1	Partial Cut—Moderate	54	51
2	Modified Clearcut	24	22
3	Partial Cut—Heavy	127	115
4	Partial Cut—Moderate	130	111
5	Partial Cut—Moderate	51	42
Total	Partial Cut	362	319
Total	Modified Clearcut	24	22
Total	Combined	386	341

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

These sale areas are located in the Lousignot and Northrup Basins. They are in the western hemlock vegetation zone, and are characterized by Douglas-fir stands, with some western hemlock, western redcedar, and red alder. The soil series are Keasey on steeper slopes, with Tillamook or Bradwood on most slopes. Site Index is highest (average 125) on the Tillamook Soil Series and lowest on Keasey (average 110) with Bradwood intermediate (120). The landform consists of Cow Ridge and a portion of its side slopes. Areas 1-4 drain into Lousignot Creek or its tributaries. Area 5 drains into Cow Creek and then into Northrup Creek.

The sale is underlain by sedimentary rocks of the informal Sager Creek formation, informal Northrup Creek formation, and the Pittsburg Bluff Formation, all mudstones and sandstones. Slopes in the operation area range from gentle mountain slopes (5-20%) to precipitous mountain slopes (over 65%), with primarily eastern aspects. Elevations range from 750 to 1,450 feet.

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

**Areas 1, 3, 4, and 5**--The current stands are generally 57 to 79 years old, and are composed of well stocked Douglas-fir with minor amounts of other conifer species and scattered clumps and stringers of alder. The stands are categorized as Closed Single Canopy (CSC), Understory (UDS), or Layered (LYR). Stand density index (SDI) ranges from 50 to 78.

**Area 2**--The southern portion of this small area is 61 years old and composed of well stocked Douglas-fir with minor amounts of other species. SDI is 74. The northern part is red alder dominated and 68 years old with an SDI of 68. The entire area is classified as CSC.

The understory in all areas consists primarily of sword fern, Oregon grape, salal, vine maple, huckleberry, and salmonberry. Area 3 has a strong vine maple component.

**Table 2. Stand Inventory Information**

Area	Prescription	Stand ID <sup>1</sup>	Species	Age	DBH	BA	TPA	SDI	Acres <sup>2</sup>
1	PC--M	1196	DF	64	20	217	97	50	37
		1203	DF	61	18	309	173	74	14
		Target <sup>3</sup>	DF		20	150-180	73	25-35	51
2	MC	1203	DF	61	18	309	173	74	8
		1208	WH, RA	68	16	273	191	68	14
		Target <sup>3</sup>	DF,WH,C				5		22
3	PC--H	23672	DF	62	19	212	113	51	115
		Target <sup>3</sup>	DF		22	110-140	45	20-30	115
4	PC--M	1010	DF, RA	76	19	264	131	62	9
		1026	DF	64	20	265	123	61	14
		1051	DF	64	18	325	185	78	9
		1084	DF	79	18	229	124	55	7
		23672	DF	62	19	212	113	51	72
		Target <sup>3</sup>	DF, RA		20	120-160	64	25-35	111
5	PC--M	23625	DF, RA	57	16	202	153	52	21
		1010	DF, RA	76	19	264	131	66	21
		Target <sup>3</sup>	DF, RA		18	120-160	79	25-35	42

<sup>1</sup> The source of stand inventory information for 5-digit Stand IDs is Stand Level Inventory (SLI) from 2002 to 2003. For 4-digit Stand IDs, the source is OSCUR data from 2002. Age shown is as of 2004.

<sup>2</sup> The acres are based on GIS and exclude roads, streams buffers, reserve areas, etc.

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

### III. DESIRED STAND CONDITION:

**Area 1** is designated for general stewardship. It was previously thinned. The initial thinning treatment and second entry thinning on already thinned acres will increase individual tree growth and provide for increased Understory (UDS) development. The immediate post-harvest stand condition is expected to be Layered (LYR) in some portions and UDS in other portions. As understories develop, the stands will move toward a layered stand structure.

**Area 2** is designated for general stewardship. It will be regenerated to a mixture of conifers.

The desired future condition for **Area 3** is Older Forest Structure (OFS). By partial cutting these stands, individual tree growth will be maintained. More understory can develop as a result of increased light to the forest floor, allowing for development of a more complex stand structure. A second partial cutting entry may be necessary in the future to complete development of OFS.

**Areas 4 and 5** are designated for LYR. Thinning will increase individual tree growth and provide for increased understory development. The immediate post-harvest stand condition is expected to be LYR in some portions and UDS in other portions. As understories develop, the stands will move toward a more Layered stand structure.

**Table 3. Stand Structure Information**

Area	Stand ID	Current	Post Harvest <sup>1</sup>	Desired Future	Acres
1	1196	LYR	LYR	GENERAL	37
	1203	CSC	UDS	GENERAL	14
2	1203	CSC	REGEN	GENERAL	8
	1208	CSC	REGEN	GENERAL	14
3	23672	UDS	LYR	OFS	115
4	1010	CSC	UDS	LYR	9
	1026	CSC	UDS	LYR	14
	1051	CSC	UDS	LYR	9
	1084	UDS	LYR	LYR	7
5	23672	UDS	LYR	LYR	72
	23625	UDS	LYR	LYR	21
	1010	CSC	UDS	LYR	21

<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:**

**Area 1** will be automark thinned to a stand density of 25 to 35. Hardwood patches which are an acre or more in size will be thinned to the prescribed basal area range. Minor species and any hardwood patches less than an acre will be reserved. The result of this partial cut should be increased growth to individual trees, and development of conifer and deciduous understory species as the more open tree canopy allows light to reach the forest floor.

**Area 2** is a modified clearcut that will be replanted with a mixture of conifer species. Minor species, such as western redcedar, will be reserved from cutting. Larger remnant trees, if present, will be reserved from cutting. An average of five green trees per acre will be scattered and/or clumped throughout these areas and not solely located in riparian areas. (FMP, page 4-53, Paragraph 2). In addition, individual and small clumps of non-merchantable alder may be left in operationally feasible areas to provide short term snag recruitment.

For clearcut harvesting activities, all existing down woody debris will be retained. Down woody debris levels will be assessed and if deficiencies are found to exist on an individual unit, additional conifer trees and/or conifer logs will be retained to meet the landscape targets for down woody debris as prescribed in the FMP (FMP, "Landscape Management Strategy 3d. Down Wood.", pages 4-54 and 4-55.).

Reforestation of Area 2 will be completed with an initial stocking of approximately 300 TPA with a species mixture of western redcedar, Douglas-fir, and western hemlock. It is anticipated that some natural regeneration of western hemlock will be present on the site. Some excavator slash piling is anticipated on operable ground. Site preparation using aerially applied herbicides is anticipated. Trapping of mountain beaver is anticipated to reduce plantation establishment problems. Tree protection of western redcedar will be planned to reduce browsing.

**Area 3** will be automark thinned to an approximate stand density range of 20 to 30%. This area will be thinned to a level that will develop the existing UDS condition into a LYR condition and assist in the development of OFS. The benefits to OFS structure of specifying an upper and/or lower diameter limit will be examined during sale layout.

**Areas 4 and 5** will be automark thinned to a stand density of 25 to 35%. In Area 4, hardwood patches which are an acre or more in size will be thinned to the basal area range of 120-160 square feet of basal area. Minor species and any hardwood patches less than an acre will be reserved. In Area 5, hardwood will be thinned throughout, with conifer species favored. The result will be increased growth to individual trees and development or maintenance of conifer and deciduous understory species, as the more open tree canopy allows light to reach the forest floor. To get to the desired stand structure of LYR may require additional thinning.

In **Areas 1, 3, 4, and 5**, minor conifer species will be reserved and western hemlock and Sitka spruce will be favored for leave trees over Douglas-fir.

Areas 1, 3, 4, and 5 include Riparian Management Area (RMA) acreage. The thinning prescriptions above will be applied to the entire area, including the Inner RMA Zone and Outer RMA Zone, in order to maximize the tree size available for future stream structure. No-cut buffers will be retained on all streams for 25 feet each side.

During all harvesting activities, all existing snags will be retained unless deemed to be safety hazards. Where fewer than two hard snags per acre are found to exist during sale layout, opportunities for snag creation or leaving additional live green trees may be implemented to supplement landscape snag levels (FMP, "Landscape Management Strategy 3c. Snags", pages 4-53 and 4-54)

## 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:		Alternate	

	Conifer	Hardwood	Total
Net Volume (MBF)	6,600	300	6,900
Stumpage Value (\$/MBF)	\$350	\$250	
Estimated Gross Value	\$2,310,000	\$75,000	\$2,385,000
		Project Costs:	\$86,000
		Estimated Net Value:	\$2,299,000

## VI. TRANSPORTATION PLANNING AND HARVESTING:

Access is Highway 202 to either the Northrup Creek County Road and ODF's Cow Ridge Road and/or the Fishhawk County Road and ODF's Greasy Spoon, Cow Creek, and Cow Ridge Roads. Sale access is secured through existing easements.

Approximately 0.4 miles of new gravel-road construction within the sale area will be needed. Most of the sale is accessible from existing roads. The small amount of planned roads will be built as rocked roads to facilitate year-round operations and future harvests.

The Greasy Spoon Mainline is currently in a condition that will support the planned activity. Road improvement of 6.6 miles is planned on the Cow Ridge and Cow Creek Roads and three existing dead-end spurs. This will include subgrade leveling, brushing, culvert installation, and realignment of a curve at Milepost 0.6 of Cow Ridge.

An old railroad grade in Areas 3 and 4 was evaluated for vacating and no needs were found. It is not anticipated that this grade will be used for logging as the current road system, with the addition of some ridgetop spurs, will provide better harvest access.

A combination of cable-yarding systems and ground yarding will be planned. Ground yarding will generally be limited to slopes under 35%. Cable systems will be used on steeper slopes. There will be a significant amount of multi-span and long-span yarding in Areas 3 and 4.

An unnamed collector road on the southern boundary of Area 3 provides access to (spur) Road 1A to 1B of the completed Cow Ridge Combination sale east of

Area 3. Due to the exceptionally long reach from the existing and planned road system in Area 3, the eastern end of Area 3 may be yarded to the landing at Point 1B, across the 2003 mixed Douglas-fir/western hemlock plantation in Cow Ridge Combination Area 1. As a result, approximately ½ acre of replanting may be needed. Plantation disturbance can be minimized by extending the area of required full log suspension upslope from the stream between Cow Hollow Area 3 and Cow Ridge Combination Area 1.

A written plan will be required for timber harvest within 100 feet of a Type F stream, Lousignont Creek. Another will be required for hanging skyline cables over Lousignont Creek.

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

Activity	Mainline	Collector	Rocked Spur	Dirt Spur(none)
Construct	0	0	0.4	0
Improve	0	5.7	0.2	0
Maintain	3.6	5.7	0.9	0
Close/Block	0	0	0	0
Vacate	0	0	0	0

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

*Type F Streams: Areas 1, 2, and 5*--There are no Type F streams within Areas 1, 2, and 5. **Area 3**--Lousignont Creek, a medium Type F stream, parallels the eastern boundary for approximately 1,000 feet. **Area 4**--Lousignont Creek, a medium Type F stream, parallels the eastern boundary for approximately 1,000 feet. A waterfall blocks fish passage to the small Type F stream which extends 3000 feet above the falls.

Areas 3 and 4 are in proximity to a stream, Lousignont Creek, which has historically contained listed fish. A possible haul route, the Greasy Spoon Road, crosses Fishhawk Creek, which also has historically contained listed fish. Therefore, per ODF’s Salmon Protection Policy for State Forest Operations, contract provisions will be included to reduce the likelihood of adverse effects on listed fish. Specific standards will include: (1) hauling on roads which are in proximity to streams in which “listed” fish are present will be allowed only during weather conditions and at use levels commensurate with the capabilities of road drainage systems and (2) implementation of riparian management area strategies in accordance with the FMP, Appendix J, “Management Standards for Aquatic and Riparian Areas”, pages J-1 through J-16, for perennial Type N streams that are within 500 feet of streams in which listed fish are present.

*Type N Streams:* There are small perennial Type N streams in all sale areas. All streams were examined by ODFW in May, 2004 to determine stream type and classification. Specific riparian management area strategies required in the FMP will be implemented. The FMP riparian management area strategies that will be implemented are found in the FMP, Appendix J, "Management Standards for Aquatic and Riparian Areas", pages J-1 through J-16.

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

The ODF Northwest Area Biologist determined on April 19, 2004 that Areas 3, 4, and 5 contained suitable habitat for marbled murrelets. Some small patches of western hemlock and Douglas-fir have suitable moss-covered platforms. Surveys for all sale areas were conducted in 2004 with no detections. Additional surveys are planned for 2005.

All sale areas were surveyed for northern spotted owls in 2004 with no detections. Additional surveys are planned for 2005.

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 (OHNP) database of known listed plant locations. No listed plant records were identified within the sale area.

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

The initial hazard-and-risk assessment from the geotechnical indicates that there are only a few isolated high-landslide-hazard locations along ridgetops within Areas 3 and 4. The risk to Lousignont Creek, Cow Creek, and their tributaries is low. If high-landslide-hazard locations are identified during fieldwork, the geotechnical specialist will be consulted.

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

This area receives dispersed recreation, which includes hunting, fishing, camping, target shooting, and driving forest roads. The Clatsop State Forest Recreation Plan does not list any specific activities for this portion of the basin.

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

No known cultural resources are within or adjacent to the operation.

#### **XII. SCENIC RESOURCES:**

The sale area is in a landscape of low visual sensitivity (Level 3) with the exception of four acres each in Areas 4 and 5. These acres are in focused stewardship for visual management and lie along the Greasy Spoon Road.

**XIII. OTHER RESOURCE CONSIDERATIONS:**

There is no private land adjacent to the timber sale areas. Three survey corners need to be found and protected within Areas 4 and 5.

**XIV. LAND MANAGEMENT CLASSIFICATION SUMMARY:**

There are eight acres of focused stewardship for visual management in Areas 4 and 5.

**Table 6. Land Management Classification Summary**

Area	LMCS Subclass	Focused Stewardship	Special Stewardship
1	Aquatic & Riparian	23	0
2	Aquatic & Riparian	12	3
3	Aquatic & Riparian	39	10
4	Aquatic & Riparian	32	14
4	Visual	4	0
5	Aquatic & Riparian	17	2
5	Visual	4	0

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.