

Pre-Operations Report

Operation Name: Cole Mountain Combination
County: Clatsop
Management Basin: North Fork Nehalem

Table 1. Operation Areas, Types and Acres

Area	Type of Operation	Gross Acres	Net Acres
1	PC-M	143	127
2	PC-M	52	44
3	MC	37	30
4	MC	37	32
5	PC-M	56	49
6	PC-M	236	197
Total	Modified Clearcut	74	62
Total	Partial Cut	487	417
Total		561	479

I. PHYSICAL DESCRIPTION OF OPERATION AREA:

These sale areas are located in the North Fork Basin, about 15 miles southeast of the City of Seaside, east of State Highway 53, and about 10 miles inland from the Pacific Ocean. They are in the "hemlock zone" but are characterized by a dominant planted Douglas-fir stand, combined with large patches of red alder and an understory of salmonberry, huckleberry, vinemapple, and ferns. Forest roads on State and private lands provide access to the tracts.

Soil types in these sale areas are Killam and Pittsburg types, deep, well drained, fine to medium moderately fine textured soils developing from Eocene basalts and siltstones, with site indexes ranging from 120 to 130 feet for Douglas-fir, and averaging 110 feet for hemlock. Elevations range from 400 to 1,200 feet. The sale areas are located on gentle to moderately steep slopes north of the North Fork of the Nehalem River. The landform is gentle to moderate sloping ridgeline and sideslopes above tributaries to the North Fork of the Nehalem River. The underlying rock units for most of the sale are sedimentary Smugglers Cove Formation siltstone, with some igneous origin "invasive intrusive" Columbia River Basalt Group, Grande Ronde basalt. In the north end of the sale, the underlying rock units are sedimentary origin Keasey Formation, Jewell Member, mudstone with some sandstone, with a small amount of igneous origin Cole Mountain Basalt.

II. CURRENT STAND CONDITION:

Most of the areas originated from harvesting in the 1920's and 1930's and were planted by the Civilian Conservation Corp (CCC) during portions of the Great Depression as Government generated work projects for unemployed workers. Many of the stands had some remnant larger hemlock and spruce which comprise portions of stream buffers and scattered clumps. These stands range from 47 to 70 years old. Portions of all sale areas were commercially thinned in the late 1970's.

Area 2 – The current stands are generally 65 to 73 years old, and are moderate sized Douglas-fir stands, with some small patches and stringers of alder. Some understory hemlock and cedar are also present. The current condition is UDS and LYR, with suppressed and intermediate trees providing vertical structural diversity. An additional understory layer of hemlock has started to develop, but has begun to stagnate, as evidenced by flattened whorls. A large portion of this area was commercially thinned in 1975. There are approximately 13 snags per acre, with almost 6 snags per acre exceeding 24 inches in diameter. There is approximately 200 cubic feet of downed wood (Decay Class 1 and 2) in these areas. The understory vegetation is generally light under the conifer, primarily composed of sword ferns.

Areas 3 and 4 – The current stands are approximately 61 to 64 years old, Douglas-fir and alder stands, with some remnant cedar, spruce, and hemlock trees. Recent SLI indicates that there are approximately 3 snags per acre across the sale areas, with a majority of the areas retaining two snags per acre at least 24 inches in diameter. There is approximately 300 cubic feet of downed wood (Decay Class 1 and 2) in these areas.

Areas 1, 5, and 6 – The current stands are approximately 50 to 69 years old, Douglas-fir stands, with some remnant cedar, spruce, and hemlock trees, with some small inclusions of alder. Areas 2 and 6 were commercially thinned between 1977 and 1980. Area 6 has a stronger component of straight stemmed, individual alders scattered amongst the Douglas-fir. The number of snags and down wood volumes are similar to Area 3 and 4.

Table 2. Stand Inventory Information

Area	Prescription	Stand ID ¹	Species	Age	DBH	BA	TPA	SDI	Acres ²
1	PC-M	24258	DF	71	21	144	103	55	124
1	PC-M	24252	DF	63	17	285	186	71	3
		Target ³	DF, WH		23	140	48	25-30	127
2	PC-M	24227	DFRA	67	17	292	183	72	26
2	PC-M	24211	DF	64	19	270	142	64	2
2	PC-M	24215	CXDF	61	17	217	134	53	16
		Target ³	DF		22	160	60	30-35	44
3	MC	24211	DF	64	19	270	142	64	11
3	MC	24215	CXDF	61	17	217	134	53	19
		Target ³	RC, WH, DF				7		30
4	MC	24211	DF	64	19	270	142	64	29
4	MC	24215	CXDF	61	17	217	134	53	3
		Target ³	RC, WH, DF				8		32
5	PC-M	24211	DF	64	19	270	142	64	41
5	PC-M	24215	CXDF	61	17	217	134	53	8
		Target ³	DF		22	160	60	30-35	49
6	PC-M	24211	DF	64	19	270	142	64	194
6	PC-M	24249	RADF	48	17	173	114	43	1
6	PC-M	24288	CXDF	56	16	260	191	66	2
		Target ³	DF		22	150	55	30-35	197

1 The source of stand inventory information is SLI from 2002 and 2003.

2 The acres are based on GIS 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:

The desired future stand condition (DFC) for Area 1 is Older Forest Structure (OFS). The desired future condition for Areas 2, 5, and 6 is predominately Layered (LYR), with a small amount of DFC of OFS in Area 6. 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. A follow-up partial cutting entry may be necessary in the future to complete the development of “layered” and “older forest structure” stands.

For Areas 3 and 4, the future stand condition is General (GEN).

Table 3. Stand Structure Information

Area	Stand ID	Current	Post Harvest ²	Desired Future	Acres
1	24258	UDS	LYR	OFS	124
1	24252	CSC	LYR	OFS	3
2	24227	LYR	LYR	LYR	26
2	24211	UDS	LYR	LYR	2
2	24215	UDS	UDS	LYR	16
3	24211	UDS	REG	GEN	11
3	24215	UDS	REG	GEN	19
4	24211	UDS	REG	GEN	29
4	24215	UDS	REG	GEN	3
5	24211	UDS	LYR	LYR	41
5	24215	UDS	LYR	LYR	8
6	24211	UDS	LYR	LYR	178
6	24211	UDS	LYR	OFS	16
6	24249	UDS	LYR	LYR	1
6	24288	UDS	LYR	LYR	2

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

IV. PROPOSED MANAGEMENT PRESCRIPTION:

Areas 1 and 6 are also “second” entry partial cuts. These areas will be thinned to a moderate level, approximately SDI 30 to 35, with the goal of moving these stands from an “understory” condition to “layered”. In Area 1, there are stringers of hardwoods scattered through portions of these area. In order to preserve some of the existing species diversity, the “biggest and best” trees will be retained regardless of species, including alder. A third “entry” may be necessary to reach the desired future condition of OFS, after the development of another cohort in the understory. In Area 6, the alder is mostly scattered, and is individually growing amongst the overtopping conifer. These straight stemmed, high value hardwoods will be removed, while all hardwoods less than 12 inches in diameter will be retained.

Area 2 is a partial cut, with the objective of moving the UDS portion of these stands to a “layered” condition, while maintaining the existing “layered” condition on the remainder. This “second” entry will be a lighter, moderate level thinning prescription, approximately SDI 35 to 40, 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 development of mid-story and understory conifer. All hardwoods will be retained in this area. As discussed with ODF and ODFW biologists, hardwood harvest prescriptions within the different partial harvest areas will vary, with the goal of creating and/or maintaining conifer and hardwood species diversity.

Areas 3 and 4 – are planned for modified clearcut, and will be replanted with a mixture of conifer species. An average of 5 to 10 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. In addition, individual and

small clumps of non-merchantable alder may be left in operationally feasible areas to provide short term snag recruitment for cavity nesting birds. Minor species such as red cedar and any existing larger remnant trees will be reserved from cutting. 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 on the conifer stocked portions of the areas. In areas which are dominated by hardwoods, down wood levels of 600 cubic feet per acre may not be achieved.

Area 5 will be partial cut to a moderate level, approximately SDI 30 to 35, with the goal of moving the stand from an “understory” condition to “layered”, retaining the “biggest and best” trees. Alder harvest strategies will be determined upon completion of development of a more detailed stand table.

Snags: In all areas, all existing snags will be retained unless deemed to be safety hazards. In MC areas, if pre-sale activities determine that fewer than 2 hard snags per acre exist, opportunities for snag creation or leaving additional live green trees will be implemented to supplement landscape snag levels as defined by the Forest Management Plan. In PC areas, it is anticipated that additional snags will develop during yarding activities by leaving, topping, or girdling damaged rub trees, tail trees, lift trees, and/or intermediate support trees.

Downed Wood: For all harvesting activities, all existing downed woody debris will be retained. In partial cut areas, to increase down wood levels, operations will be required to top trees prior to yarding and to yard only merchantable log segments to roadsides.

Site Preparation: Harvesting activities will provide the majority of the necessary site preparation on Area 4. Excavator slash piling is prescribed on Area 3. Tree protection is anticipated on Areas 3 and 4. Replanting will be with a mixture of Douglas-fir, western hemlock and western red cedar (target tree per acre 300-360 tree per acre).

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:		1 st	

	Conifer	Hardwood	Total
Net Volume (MBF)	9,000	1,500	10,500
Stumpage Value (\$/MBF)	\$300	\$200	
Estimated Gross Value	\$2,700,000	\$300,000	\$3,000,000
		Project Costs:	\$480,000
		Estimated Net Value:	\$2,520,000

VI. HARVESTING AND ACCESS CONSIDERATIONS:

Existing routes across State Forest will be used, and an estimated 3.6 mile of new spur roads and 1.5 miles of road improvement will be needed to fully access the sale areas for logging.

Another phase of the Cole Mountain Road transportation plan will be completed with this sale, which includes the construction of a new road system in the southwest corner of Section 23 to provide permanent access to Area 1 and set-up future access to the northwest corner of Section 26. Portions of this new road system will be designed to mainline road standards, as it is currently planned to reroute the Cole Mountain Road around the three large fills above the West Fork of Soapstone Creek in the northwest corner of Section 23. Access into the southern part of Area 6 is tentatively planned to follow the existing Sally Creek Road, across a private landowner (easement secured), and the reconstruction of a well located dirt spur. This access route requires the replacement of the existing culvert with a fish passable culvert on the Middle Fork of Sally Creek.

Approximately half of the sale area is currently accessed from existing rocked roads. The majority of the proposed new roads are accessed from existing rocked roads and are generally located along ridge tops. The new rocked roads into the partial harvest area will be needed for future harvesting entries, and will remain open upon completion of harvesting activities.

Rock will need to be crushed and stockpiled in order keep up with road maintenance within the North Fork Basin. It is currently planned to use the Cole Mountain Quarry as the rock source for base rock development and the Munce Quarry for higher quality surface rock. Cole Mountain Quarry's rock quality has been degrading over the years, and rock quality from this quarry needs to be analyzed before it is determined to crush rock from this resource. Securing the rock from second parties and or developing a new rock source within the area are other options.

Exploration core sampling is suggested for an area at the south end of Sally Ridge road and in the south Soapstone area.

The culvert on Cole Mountain Road crossing the west tributary of Hakura Creek is currently scheduled to be replaced with a fish passable structure.

Multi-span cable yarding (long line) systems from the existing roads and helicopter yarding were also analyzed. These alternative harvesting strategies were determined to be economically unfeasible since the road system is already largely in place.

The main access route for this sale are Cole Mountain Road and Cole Ridge Road, connecting to State Highway 53 and Hamlet County Road respectively. Existing routes across State and adjacent Longview Fibre lands will be used, and an estimated 1 mile of new spur roads will be needed to fully access the sale areas for logging.

Both cable and ground based yarding will be used on these sale areas, due to a variety of slope conditions. We anticipate mostly tractor logging in Areas 1 and 3. Cable yarding can be done with a medium size yarder. Tractor logging can be done with shovel loggers, track and wheeled skidders. Additionally, Area 3 may need a short dirt spur constructed to allow yarder access to the southern slopes of the area.

Table 5. Transportation Planning Summary (Miles).

Activity	Mainline	Collector	Rocked Spur	Dirt Spur
Construct	1.0	1.0	1.6	0.0
Improve	0.6	0.9	0.0	0.0
Maintain	3.0	3.0	1.5	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:

Area 1 – One medium Type F stream (unnamed) is located along the northwest boundary of Area 1 for approximately 1,500 feet (a tributary to North Fork Nehalem River). This stream and the tributary Type N streams all flow to the west through the North Fork Nehalem River towards the Nehalem River.

Areas 2 and 3 – There is a small Type F stream (tributary of Sally Creek) located between these sale areas. Approximately 500 feet of the stream is located along the eastern boundary of Area 2 and western boundary of Area 3.

Areas 3, 4, and 5 – One small Type F stream (a tributary of Sally Creek) is located between these sale areas. The stream flows along the southern boundary of sale Area 3 for approximately 1,000 feet, and is located along the northern boundary of sale Area 4 for approximately 900 feet. The stream originates along the southwestern portion of sale Area 5 for approximately 300 feet.

All of the streams in Areas 2 – 5 flow in a southerly direction towards the North Fork of the Nehalem through the Sally Creek Basin.

Area 6 – One small Type F stream (a tributary of Sally Creek) is located Adjacent to the sale area by the southwest corner of the sale unit.

Some of these Type F streams contain “listed” fish.

Type N Streams: There are small perennial Type N streams in all sale areas. 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, vinemapple, and some devils club. The understory within the alder reaches is mostly salmonberry.

The Cole Mountain Road and Sally Creek Road, which will receive impacts from log hauling, have streams which may contain listed fish.

All streams will be examined during sale layout to determine stream type and classification, and then the specific RMA strategies required in the FMP will be implemented. 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 would only be allowed during weather conditions and use levels commensurate with the capabilities of the road drainage systems; (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 Type F streams and perennial Type N streams that are within 500 feet of streams in which listed fish are present.

Stream Enhancement Opportunities: There are several opportunities for stream enhancement within the sale area, most notably in Sally Creek (as noted by ODFW biologist Dave Plawman). Further assessment and collaboration will be done with ODFW biologists and the Unit Forester.

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.

VIII. T&E SPECIES CONSIDERATIONS:

The suitable habitat portions of Areas 1, 2, 3, 4, 5, and 6 have been surveyed for marbled murrelets, in 2001, 2002, and 2003, with no detections. In addition, the suitable habitat portions of Areas 1, 5, and 6 were surveyed for marbled murrelets, in 2004, with no detections.

The sale areas are within 1.5 miles of the "historic" Cole Mountain spotted owl site. However, four consecutive years of protocol surveys have yielded no responses. The individual sale areas have also been surveyed during 2001, 2002, 2003, and 2004 for spotted owls, with no responses. Surveys will be repeated during 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 (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 hazard and risk assessment from the geotechnical specialists is low. There are scattered isolated steep slopes shown on the topographic maps. If, during field work, high landslide hazard locations are identified, 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. There are no established recreation sites within the operation areas. The planned operations will only temporarily impact recreational road use.

XI. CULTURAL RESOURCES:

The cultural resources database lists two old cabins located within the general area of this timber sale. These old cabins no longer exist, and the locations are not within the proposed sale boundaries. The old homestead locations will be protected if any remains are found to exist.

XII. SCENIC RESOURCES:

No sale areas should be visible to the public from any State Highway or public viewpoints. All forest roads accessing the sale areas are Level 3 visual classification.

XIII. OTHER RESOURCE CONSIDERATIONS:

The North Fork of Nehalem Fish Hatchery and several domestic water rights are located downstream from the sale areas.

XIV. LAND MANAGEMENT CLASSIFICATION SUMMARY:

The lands in this timber sale are all classified “general” management, except for those within stream buffers, which receive “aquatic and riparian” classifications.

Table 6. Land Management Classification Summary

Area	LMCS Subclass	Focused Stewardship	Special Stewardship
1	Aquatic and Riparian Habitat	51	2
2	Aquatic and Riparian Habitat	12	3
3	Aquatic and Riparian Habitat	18	4
4	Aquatic and Riparian Habitat	13	4
5	Aquatic and Riparian Habitat	11	1
6	Aquatic and Riparian Habitat	88	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.