

Pre-Operations Report

Operation Name: Tin Tank
County: Tillamook
Management Basin: Lower Nehalem

Table 1. Operation Areas, Types and Acres

Area	Type of Operation	Gross Acres	Net Acres ¹
1	PC	172	67
2	PC	87	42
3	PC	842	479
4	PC	524	266
Total		1642	854

1. The net acres are based on orthophotos and GIS and exclude roads, stream buffers (special stewardship), and non-required thinning areas.

I. PHYSICAL DESCRIPTION OF OPERATION AREA:

Slopes have a varied aspect and range from 0% to 60%. Elevations range from 480 to 1160 feet. The major soil types are Pittsburg and Killam.

In Areas 1, 2, and 3 the landform is gentle ridgeline with moderated to very steep draws and side-slopes along the divide between the South Fork and East Fork of Cook Creek. The underlying rocks are igneous origin rocks of the Tillamook Volcanics formation, mostly phorpyritic basalt flows subaerial flow sequence with some subaerial Dacite, rhyodacite and rhyolite massive to flow banded, stony thick flows with basal basaltic breccias. In Area 4, the landform is gentle ridgeline with moderated to very steep draws and side-slopes above the East Fork of Cook Creek along the divide between the East Fork of Cook Creek and unnamed tributaries of Cook Creek to the northeast. The underlying rocks are igneous origin rocks of the Tillamook Volcanics formation, mostly phorpyritic basalt flows subaerial flow sequence with some submarine basalt, pillow basalt and pillow breccias. There is one "Landslide deposit", a very large-scale landslide feature mapped in the southeast corner of the sale area.

II. CURRENT STAND CONDITION:

Table 2. Stand Inventory Information⁴

Area	Prescription	Stand ID ¹	Species	Age	DBH	BA	TPA	SDI	Net Acres ²
1	PC	113	DF, RA	40	13	280	304	77	67
1		Target ³	DF, RA	40	15.3	120	94	31	67
2	PC	114	DF, RA	40	12.6	280	325	78	42
2		Target ³	DF, RA	40	15.7	120	89	31	42
3	PC	115	DF, WH, RA, NF	40	14.1	248	228	66	479
3		Target ³	DF, WH, RA, NF	40	16.3	120	83	30	479
4	PC	118	DF, RA	40	11.6	249	342	72	266
4		Target ³	DF, RA	40	13.8	128	124	35	266

1. The source of stand inventory information is from field reconnaissance cruise plots taken in 2004. The net acres are based on orthophotos and GIS and exclude roads, and stream buffers (special stewardship, and non-required thinning areas. Modified clearcut acres are not contiguous and do not exceed 120 acres.

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

4. These numbers are based on plot data taken to this point and final numbers may differ significantly from the actual conditions significantly. The directive for minor and major modifications will be followed for further review.

The sale areas burned in the 1933 Tillamook Fire and the 1945 Wilson River Fire and were planted in 1960 and 1962. Large portions of Area 3 and Area 4 were pre-commercially thinned in 1987.

Approximately 714 acres have been inventoried using the Stand Level Inventory (SLI) procedure and these stands have been identified as UDS. The remaining 140 acres have been identified as CSC according to the district stand summary information (1999).

All of the sale areas are comprised of single story planted Douglas-fir. These areas also have small pockets and stringers of alder, and scattered other conifer. Large portions of areas 3 and 4 were heavily pre-commercially thinned about 17 years ago. The understory in these stands is comprised mainly of patchy salmonberry. It varies in density in relation to the crown closure of the stand. The Douglas-fir shows symptoms of Swiss needle cast but due to the pre-commercial thin these trees have good live crown ratios. The Douglas-fir is becoming overstocked resulting in the loss of live crown ratios and slowed diameter growth. The alder components of these stands were aerially sprayed to release planted conifer in the 1970's resulting in alder trees with short boles and many limbs.

See Table 2 for specific stand data.

Down wood consists of scattered large old logs (36"+) in Class 3 and 4 stages of decay and some windthrow in decay classes 1 and 2 and slash from recent partial cut activity. SLI measurements show that the down wood level in decay classes 1 and 2 ranges from 0 to 398 cubic feet per acre in Areas 3 and 4. Total down wood levels in Areas 3 and 4 range from 3610 to 7859 cubic feet per acre. Down wood, greater than 24 inches on the large end in decay classes 0, 1, and 2, recorded for Areas 3 and 4 ranged from 0 to 2 trees per acre. In Area 1, the down wood requirements for OFS stands that are outlined in the FMP have not been met at this time and are lacking sufficient hard conifer logs larger than 24 inches. Areas 1 and 2 have not been Stand Level Inventoried at this time so down wood information is unavailable. These stands are adjacent to Areas 3 and 4 so the measured information could reflect what is happening in this stand. During sale preparation, different options for all of these areas such as down wood creation, additional green tree retention, and future stand management and monitoring will be considered in order to achieve FMP targets.

There are some large snags in various states of decay and some hard snags created from wind and snow damage. Areas 3 and 4 have a range of 0 to 11 snags per acre, greater than 12 inches DBH, of which an average of 0 to 5 snags per acre is greater than 24 inches DBH in these two areas. There is 0 to 1 snag per acre in Areas 3 and 4 that are greater than 15 inches DBH and in decay classes 0, 1, and 2. Areas 3 and 4 do not meet the snag retention goals in the FMP. Area 1 and 2 have not been Stand Level Inventoried at this time so snag information is unavailable. These stands are adjacent to Areas 3 and 4 so the measured information could reflect what is happening in this stand. During sale preparation, different options such as snag creation, additional green tree retention, and future stand management and monitoring will be considered in order to achieve FMP targets.

III. DESIRED STAND CONDITION:

Table 3. Stand Structure Information

Area	Stand ID	Current	Post Harvest ¹	Desired Future	Net Acres
1	113	CSC	UDS	GEN	63
1	113	CSC	UDS	LYR	3
1	113	UDS	UDS	LYR	1
2	114	CSC	UDS	GEN	41
3	115	CSC	UDS	GEN	348
3	115	CSC	UDS	LYR	127
3	115	UDS	UDS	GEN	5
4	118	CSC	UDS	GEN	266

1. The stand is expected to develop into this condition in the five to ten years after this operation is completed except in REG stands, which occur after harvest.

See Section IV: Proposed Management Prescription for more information on Green Tree, Down Wood, and Snag Strategies during operation. Also refer to Landscape Design in the Summary document for more information on strategies to move the district toward Desired Future Condition goals.

In the short term, all of the sale areas will be a partial cut to reduce stand density. This is a first entry operation to begin to move the stand along the pathway to more complex structure. In the long term this operation moves the stand toward more complex structure. This prescription will allow for openings and gaps in the stand to allow the residual trees to grow larger in diameter and crown depth. The openings and gaps will also allow for understory reinitiation of shrubs and tree species creating horizontal and vertical diversity. The expectation is future density management to continue the growth of overstory trees as well as understory trees and shrubs species.

The timber sale areas will combine with adjacent recently managed thinnings, planned future sales and unmanaged stands to create a mosaic of openings, gaps, variable densities and mixed species stands. As the future stand is established the residual trees from previous stands will add to complexity of sizes, species and densities. These trees will also add to snags and down wood over time and through the life of the stand.

A snag and down wood assessment will be done approximately five years following sale completion. Partial cut units with a resulting average diameter over 15 inches will be reviewed for snag and down wood creation at time of harvest.

IV. PROPOSED MANAGEMENT PRESCRIPTION:

See table 2 for prescription targets

Partial Cut:

In the sale areas, the merchantable alder will be harvested and the Douglas-fir and hemlock will be thinned to a basal area range of 120 to 140 square feet. All other species will be reserved.

Green Tree, Down Wood and Snag Strategies

See also Section III: Desired Future Condition for long term strategies

A variety of methods will be used to achieve green tree retention requirements. These residual green trees will supplement the future stand by promoting growth of dominant/co-dominant leave trees. Small non-merchantable hardwood and conifer will also be retained where possible. Unmanaged hardwood will also be left in headwalls and on high landslide hazard locations that are identified during field work. Conifer other than Douglas-fir and hemlock will be left throughout both sale areas. There also are areas adjacent to the sale areas that will be left unmanaged and outside of the timbersale boundary due to Salmon Anchor

Habitat strategies. These leave trees function as future source of snags and down wood recruitment across the landscape.

Existing down wood will be left in the sale areas. Down wood recruitment is expected through mortality and windthrow of residual or leave trees, felled snags and tops left during harvest. Small non-merchantable hardwood and conifer will be retained where possible in harvest units with the expectation they will become short term snags and down wood. Tops from harvesting operation will be left in the areas that are approved for ground yarding.

Existing snags not determined to be a safety hazard will be retained and any felled snags will be left for down wood. Creation of snags is expected during harvest activities (rub trees, lift trees, or tail trees) and over time by natural processes.

V. ESTIMATED TIMBER AND REVENUE INFORMATION:

Table 4. Timber and Revenue

Ownership		Sale Type	
BOF	CSL	Cash	Recovery
98%	2%	<input type="checkbox"/>	X
Planned Quarter:		1st	

	Conifer	Hardwood	Total
Net Volume (MBF)	7933	458	8391
Stumpage Value (\$/MBF)*	\$172	\$200	
Estimated Gross Value	\$1,364,476	\$91,600	\$1,456,076
		Project Costs:	\$359,500
		Estimated Net Value:	\$1,096,576

***Combined Douglas-fir and hemlock stumpage values**

VI. HARVESTING AND ACCESS CONSIDERATIONS:

The sale areas are accessed via Cook Creek Road, Tin Shack Road, East Fork Cook Creek Road, and F.B. 8 Road. These are currently all weather, crushed rock roads and dirt roads. Approximately 6.5 miles of existing surfaced road will be improved which includes grading, rocking, widening, and spot rocking. This work will bring all roads up to standards described in *the Forest Roads Manual*. See maps for specific road locations and conditions. Approximately 0.85 miles of road will be constructed to provide access to cable yarding areas that were previously ground yarded. Following harvest, roads within the sale areas will be reviewed for closure. See summary document for more information on this topic. Other project work that will be included with this sale is the vacation of 1.0 mile of road that is located just past the junction of Cook Creek Road and East Fork

Cook Creek Road. The operation will be 95% cable yarding and 5% ground yarding.

Table 5. Transportation Planning Summary (Miles).

Activity	Mainline	Collector	Rocked Spur ¹	Dirt Spur ¹
Construct			.85	
Improve	3.0	2.0	1.5	
Maintain ²	4.2	5.0		
Close/Block ³				
Vacate ³			1.0	

1. *Additional roads may be built by the operator at the time of harvest and will be approved by the State through the Operations Plan. These will be short dead end spurs and closed or blocked after harvest*
2. *All roads accessing the sale area will be maintained during the life of the timber sale contract. Maintenance miles in the table are those roads not being constructed or improved.*
3. *Roads not closed/blocked or vacated at the end of the sale will be reviewed for closure after reforestation is established.*
4. *The numbers in this table reflect planned Project Work associated with the sale.*

VII. AQUATIC RESOURCES AND WATER QUALITY:

Cook Creek, South Fork Cook Creek, and East Fork Cook Creek are Type F streams that are adjacent to the sale areas. A small portion of East Fork Cook Creek is within the sale area. There are unnamed perennial and seasonal Type N streams within the sale areas. Riparian vegetation along these streams includes a hardwood and conifer mix. Additional streams may be identified during fieldwork and will be managed according to FMP riparian strategies.

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.

Stream buffers within and adjacent to the harvest unit boundaries will be managed according to *Forest Management Plan* Riparian Strategies. The riparian areas will be reviewed during sale layout for current stand conditions and operational constraints for implementing FMP strategies.

All of the sale areas are within the Cook Creek sub-basin. This sub-basin has been identified as a Salmon Anchor Habitat (SAH) Basin and the most current SAH Basin Strategies will be used at the time of 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 monitoring logging and hauling operations. Culvert installment and replacement in live streams will be conducted between July 1 and September 15. 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 (Clint Smith).

Surveys for marbled murrelets and northern spotted owls are not required for the sale areas due to the absence of potentially suitable habitat.

T & E Plant species: The sale areas were checked against the Oregon Natural Heritage Program (ONHP) database of known threatened or endangered listed plant locations as well as local records in the Land Management Classification System (LMCS). No listed plants were identified within or adjacent to the sale areas. No listed plants were identified within or adjacent to the sale areas.

IX. SLOPE STABILITY AND GEOTECHNICAL ISSUES:

The initial assessment from the geotechnical specialists for Areas 3 and parts of 1 and 2 is high. In Area 4, The initial assessment from the geotechnical specialist is high with high landslide hazard locations in draws and especially near the lower (southwest) portion of the sale area. The geotechnical specialist will review the sale in the field. If the sale boundaries are changed prior to field review, the geotechnical specialist may be consulted and the need for field review may be reassessed

The sale areas have been identified as SAH Basin and the most current SAH Strategies will be used at the time of contract development. See the Summary Document for more information.

X. RECREATION RESOURCES:

The sale areas have been designated as Motorized in the *Tillamook State Forest Comprehensive Recreation Plan* (1993). There is an OHV trail that intersects with the sale boundary in Section 24, T2N, R8W. A plan will be developed to advise the public when trails are closed due to harvest activity. Recreational use common to this area includes hunting, hiking, OHV use, and 4WD use. The District Recreation Coordinator has identified possible future 4WD routes within the sale area. A plan will be developed for these routed during sale layout. The District Recreation Coordinator will be consulted during sale layout and sale contract preparation.

XI. CULTURAL RESOURCES:

The *Tillamook State Cultural Assessment* does not list any cultural sites within or adjacent to the proposed sale boundary.

XII. SCENIC RESOURCES:

The sale areas have a visual classification of Level 3, low sensitivity. No scenic impact is expected.

XIII. OTHER RESOURCE CONSIDERATIONS:

None known.

XIV. LAND MANAGEMENT CLASSIFICATION SUMMARY:

Table 6. Land Management Classification Summary

Area	LMCS Subclass	Focused Stewardship	Special Stewardship
1	Aquatic and Riparian	41	>1
1	Deeds	9	
1	Operationally Limited		5
1	Recreation	10	
1	Wildlife Habitat	172	
2	Aquatic and Riparian	21	
2	Recreation	6	
2	Wildlife Habitat	87	
3	Aquatic and Riparian	250	33
3	Operationally Limited		1
3	Recreation	19	
3	Wildlife Habitat	837	
4	Aquatic and Riparian	179	26
4	Recreation	8	
4	Wildlife Habitat	524	

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 (Feb. 2003). For example, a particular acre can be classified as Focused Stewardship for Aquatic and Riparian, Recreation, and Scenic resources.