Pre-Operations Report

Operation Name: Switcheroo
County: Klamath

Table 1. Operation Areas, Types and Acres

Stand	Type of Operation	Gross Acres	Net Acres
237	Partial Cut	228	228
238	Partial Cut	365	365
239	Partial Cut	67	67
Total		**660**	**660**

I. PHYSICAL DESCRIPTION OF OPERATION AREA:

Soil Types:

Stand 237: Soil is the Wocus series, characterized as a deep, coarse textured soil developed from pumice and fine volcanic ash. This soil is operable with ground based equipment at any time of the year.

Stand 238: Soil is the Paunina series, characterized as a deep, coarse textured soil developed from pumice alluvium. This soil is operable with ground based equipment at any time of the year.

Stand 239: Soil in this stand is both the Wocus and Paunina series.

Vegetation Zone

Stand 237: White fir forest zone. Plant association – Mixed conifer/snowbrush/sedge (CWS1-15)

Stand 238: White fir forest zone. Plant association – Mixed conifer/snowbrush-squawcarpet/strawberry (CWS1-16)

Stand 239: Ponderosa pine forest zone. Plant association – Ponderosa pine/bitterbrush/sedge (CPS2-15)

Slope, Aspect, and Topography:

Sale area slopes range from level to a few short slopes up to 20%, while aspect is primarily south.

II. CURRENT STAND CONDITION:

Table 2. Stand Inventory Information.

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Area	Prescription	Stand ID [1]	Species	DBH [3]	BA [4]	TPA [5]	SDI [6]	Acres [2]
1	PC	237	IC		1	4	2	228
			LP	13	8	53	18	
			PP	13	109	180	196	
			SP	12	7	40	16	
			WF	14	55	514	138	
		Totals			**180**	**791**	**370**	
1	PC	238	LP	12	71	657	180	365
			PP	14	35	156	77	
			WF	10	12	110	31	
		Totals			**118**	**923**	**288**	
1	PC	239	LP	12	45	652	125	67
			PP	14	48	617	130	
		Totals			**93**	**1269**	**255**	

1 The source of stand inventory information is from2003 field inventory.
2 The acres are based on GIS and roads, stream buffers, reserve areas, etc are included in gross acreage.
3 DBH-average of trees 8"DBH and larger for volume and value computations.
4. BA – Basal Area per acre
5. TPA – Trees per Acre
6. SDI – Stand Density Index

Stands 237 and 238 are overstocked with stand density indices (SDI) of 370 and 288. Current guidelines in this area call for keeping stands under SDI 270 in order to maintain stand health at levels to resist insect attacks. Stand 239 is approaching the SDI 270 threshold and contains numerous overstocked clumps. In addition, Stands 238 and 239 contain a significant amount of lodgepole pine, which is known to be highly susceptible to bark beetle attack at any level above SDI 170. Beetle caused mortality has been occurring in all stands.

The following summary shows the current estimates for the number of large trees in the sale area.

Stand	**TPA >20"**	**TPA >30"**
237	21 (13PP, 6WF)	2.1
238	5.2 (4.8PP)	0.5
239	4.3 (4.3PP)	0.5

The following summary shows the most current estimates (2003 inventory) for snags in the sale area.*

Stand	Snags/acre >10"	Snags/acre>20"
237	4.09	1
238	1.04	.08
239	no data	no data

* Note: Snag densities in east side stands are very dynamic, recent beetle caused mortality has been noted since the 2003 inventory.

III. DESIRED FUTURE CONDITION/VISION:

Stand 237: Stand is comprised of 228 acres identified in the Long Range Forest Management Plan (LRFMP) as a Forest Connectivity Area (FCA). Connectivity Areas are managed for timber production, but in a manner that is consistent with providing connectivity for late successional wildlife species. These areas are managed to provide relatively higher densities, greater crown closure, and grow a greater percentage of larger trees. As a result, a relatively shorter cutting cycle (10 to 15 years, instead of 20 to 25 years) will probably be necessary to maintain individual tree vigor and forest health. At the next entry, in 10-15 years, this stand will have the following characteristics:

- Healthy uneven-aged, mixed species stands.
- Stand composition and structure that allows for future sustained periodic harvest entries at a 10 to 15 year interval.
- The stand meets or is closer to the LRFMP target for FCAs to have 15 trees per acre >20" DBH with at least 5.5 of those trees >30" DBH (average over area).
- There are younger cohorts of ponderosa pine, sugar pine, and incense cedar scattered throughout the stand, arranged individually and in small clumps.
- Fuels are arranged and at acceptable quantities to reduce the adverse impacts of wildfires.
- Snags, down wood, and cover, are present at levels to provide suitable wildlife habitat.
- Shrubs and forbs are maintained at levels to provide forage production.

Stands 238 &239: At the next entry in 20-25 years, the stands will have the following characteristics:

- Healthy uneven-aged, mixed species stands.
- Stand composition and structure that allows for future sustained periodic harvest entries at a 20 to 25 year interval.
- The stands meet or are closer to the "Desired Future Condition for Large Trees in the Sun Pass State Forest " guidance. The goal is to have 10 trees per acre > 20" DBH with at least 2 of those > 30" DBH.

- There are younger cohorts of ponderosa pine, sugar pine, and incense cedar scattered throughout the stands, arranged individually and in small groups.
- Fuels are arranged and at acceptable quantities to reduce the adverse impacts of wildfires.
- Snags, down wood, and cover, are present at levels to provide suitable wildlife habitat.
- Shrubs and forbs are maintained at levels to provide forage production.

IV. PROPOSED MANAGEMENT PRESCRIPTION:

The sale objectives are: 1. Maintain and enhance suitable wildlife habitat within the FCA for late successional wildlife species, and 2. Develop and maintain healthy uneven-aged stands dominated by ponderosa pine. Other tree species (incense cedar, lodgepole pine, sugar pine, white fir and aspen) will be retained for biodiversity and market diversity. Stand 237 is above the desired future condition goal for trees greater than 20" DBH , but below the goal for trees greater than 30 "DBH. Stands 238 and 239 are below the target for both 20" and 30" DBH trees. This prescription will result in faster growth rates for the residual trees, maintaining and enhancing the current condition in Stand 237 and enabling stands 238 and 239 to meet the desired future condition for trees >20" DBH. Meeting the goal for trees >30" DBH in may take longer than 20 years.

The forest health objectives will be accomplished by reducing stand density and by manipulating species composition in all three stands.

Stand 237: Silvicultural manipulation of this stand will be single tree selection favoring ponderosa pine and will primarily be a thinning from below. Some clumps (1/4 to 1/2 acre) will not be entered to provide cover and layering components and recruitment for future down material. Approximately 11 acres (5%) of the FCA will be group selection harvests, ranging in size of 1 to 2 acres each. These areas will be planted with primarily ponderosa pine.

ODF's staff biologist, with consultation by ODFW, recommends additional standards and modified management practices for stands in FCA's. The following recommendations will be applied for stand 237:

1. Large Trees: Retain 15 trees per acre >18" DBH, with at least 4 of these > 25" DBH. With a desired future condition resulting in 15 trees per acre > 20" DBH, with at least 5.5 of these > 30" DBH (average over area).

Manage to provide large trees with the following characteristics:

- Large diameter white fir, ponderosa pine or aspen with heartwood decay

- Trees with broken tops, Indian paint fungus, previous wildlife use, fire scars, butt scars, presence of carpenter ants, or other evidence of heartwood decay.

2. Snags: Most of the existing snags and high defect trees will be retained unless their location conflicts with the safety of the logging operation.

Desired post harvest targets (average over area):

- Minimum of 2 white fir or ponderosa pine snags/acre > 28" DBH. Aspen snags > 16" DBH, recently dead (solid wood) can substitute for conifer snags.
- 5 to 10 snags/acre > 13" DBH, primarily white fir, but also ponderosa pine; dead > 3 years.
- Snags should be clumped rather than uniformly distributed. Surround snags with live trees to provide shade in order to retain moisture content to be suitable for arthropods.
- Current snag densities will be estimated during sale preparation. If snag densities are below the desired targets listed above, snag creation will be considered to bring the stand closer to the desired targets.

3.Down logs: Existing large down wood, long butts from the logging operation, and cull logs will be left in place. Desirable tops and non-merchantable segments from processed logs will be skidded from the landing and placed on the sale area if needed. Existing pockets of beetle-kill will be retained as much as possible with minimal entry, and leaving smaller, low value or defective pine throughout the area to be slashed post harvest, will add to existing down wood. Desired shade for these areas (to retain moisture content) will be addressed during marking operations. These methods are expected to bring the stand closer to the following desired post harvest condition.

Desired post harvest condition:

- Patches of high density small pine logs (>4" large end diameter).
- Large logs: 3/acre > 20 " diameter, scattered throughout stand.

The sale plan is intended to include the treatment of both sawlog and sub-sawlog size timber in this stand. Designated trees 5" to 8" DBH will be required to be yarded to the landing as part of project work. These trees will be chipped or utilized as poles if the market allows or the landing piles will be burned.

Stands 238 &239: Past harvests in stands 238 and 239 both prior to and since state ownership have led to significant increases in lodgepole pine stocking in this site. Silvicultural manipulation of these stands will include group selection and single tree selection, generally as a thin from below favoring ponderosa pine.

Group selections will focus primarily on lodgepole pine concentrations and will be planted with ponderosa pine, sugar pine and possibly some incense cedar.

Group selections will total approximately 40 to 50 acres with groups ranging in size from ½ to 5 acres in size. Some seed tree cutting (leaving 10 to 12 seed trees per acre) may be performed in the frost pockets of pure lodgepole pine. In areas with a large ponderosa pine component, nearly all merchantable lodgepole pine will be harvested.

Most of the existing snags and high defect trees will be retained for wildlife habitat enhancement unless their location conflicts with the safety of the logging operation. LRMP targets for snags are: 2.2 snags per acre greater than 10" DBH with at least 0.2 of these greater than 20" DBH. Current snag densities will be estimated during sale preparation. If snag densities are below the desired targets above, snag creation will be considered to bring the stands closer to the desired targets. Existing large downed wood, long butts from the logging operation, and cull logs will be left in place or skidded from the landing and scattered on the sale area.

The sale plan is intended to include the treatment of both sawlog sized material and sub-sawlog size timber in these stands. Designated trees 5" to 8" DBH will be required to be yarded to the landing as part of the project work. These trees will be chipped or utilized as poles if the market allows or the landing piles will be burned.

V. ESTIMATED TIMBER AND REVENUE INFORMATION:

Table 4. Timber and Revenue

Ownership		Sale Type	
BOF	CSL	Cash	Recovery
100%	%		X
Planned Quarter:		4th	

	Conifer	Hardwood	Total
Net Volume (MBF)	3,500		3,500
Stumpage Value ($/MBF)	$175.00		
Estimated Gross Value	$612,500		
		Project Costs:	$40,260.00
		Estimated Net Value:	$572,240.00

VI. HARVESTING AND ACCESS CONSIDERATIONS:

Pre-existing roads, skid trails, and landings will be used whenever possible. Access for hauling will require a road use permit from Cascade Timberlands of Oregon LLC. Because of the gentle terrain and favorable soil characteristics, ground based logging equipment will be employed. A mechanical feller buncher will be required for harvesting of the smaller diameter timber and sub-merchantable material. This will minimize damage to reserved trees.

The District will vacate an estimated 2.9 miles of existing roads, using methods described in the Summary Document under Road Access Management.

Table 5. Transportation Management Summary (Miles).

Activity	Mainline	Collector	Dirt Spur
Construction	0.0	0.0	0.0
Improvement	2.5	0.0	2.6
Maintenance	3.0	0.0	0.0
Vacation	0.0	0.0	2.3

See AOP Summary Document for road use level definitions.

VII. AQUATIC RESOURCES AND WATER QUALITY:

None.

VIII. WILDLIFE AND T&E SPECIES CONSIDERATIONS:

A portion of this sale (stand 237) is located in a Forest Connectivity Area (FCA) managed for late successional habitat. This stand has been used by Pileated woodpeckers, an indicator species in the Long Range Forest Management Plan (LRFMP). A Pileated woodpecker nest tree was located within a ¼ mile of the sale area in 1997. Seasonal restrictions will be in place for Stand 237 to protect adults and young during the critical nesting season.

The sale area has no known presence of listed plants. The sale area was checked against the Oregon Natural Heritage Program (ONHP) database of known listed plant locations. No listed plant records exist in the database for the sale area.

IX. SLOPE STABILITY AND GEOTECHNICAL ISSUES:

None. The entire sale area is less than 20% slope.

X. RECREATION RESOURCES:

Hunting and mushroom picking are the only known recreational uses of the sale area.

XI. CULTURAL RESOURCES:

There are no known cultural resource sites within the sale area.

XII. SCENIC RESOURCES:

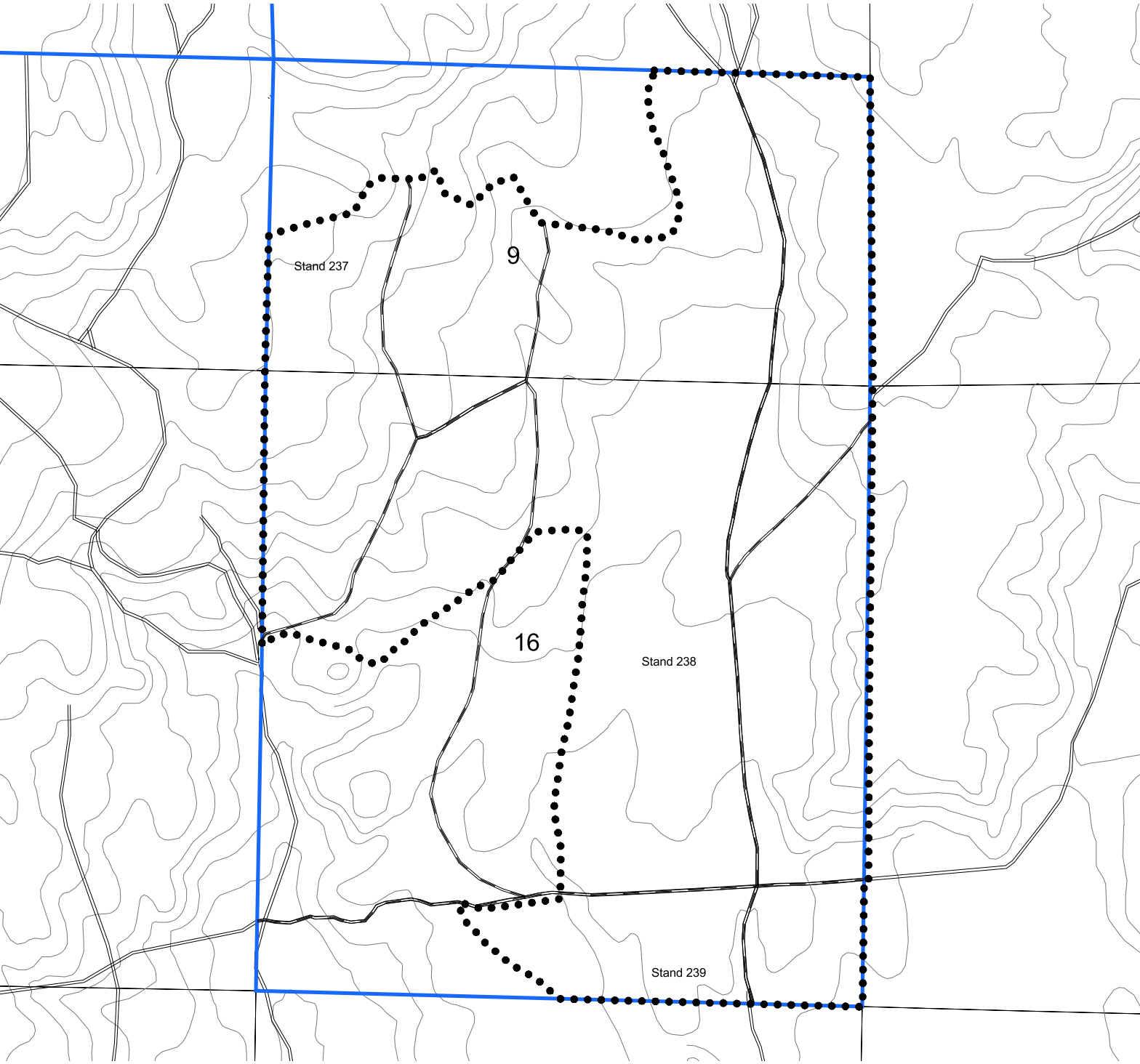
Harvesting is anticipated to have no adverse impact on scenic resources in the area.

XIII. OTHER RESOURCE CONSIDERATIONS:

None

XIV. LAND MANAGEMENT CLASSIFICATION SUMMARY

Stands 238 &239 are classified as General Stewardship.
Stand 237 contains 228 acres classified as Focused Stewardship.



0.5 0 0.5 Miles

Legend

- Timber Sale Boundary
- Road Improvement
- Existing Roads
- Sun Pass Forest Boundary

N

FY 09
Klamath-Lake District
Switcheroo Timber Sale
T.33S.,R.7E.,Sec. 9,16 W.M.
Klamath County, Oregon
Approximately 660 Acres