

Pre-Operations Report

Operation Name: Shellburg Creek Loop Alternate

County: Marion

Management Basin: Scattered

Table 1. Operation Areas, Types and Acres

Area	Type of Operation	Gross Acres	Net Acres
I	PC-M	41	39
	PC-M	87	84
	PC-M	13	12
Total		141	135

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 70 to 90 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 headwaters of Shellburg Creek. The underlying rocks are sedimentary origin mapped as “continental sedimentary rocks.”

Pechuck soils make up the soil within the operation. Pechuck soil is a well-drained, colluvial soil. The average 50 year site index for Douglas-fir is 120 for the operation area. The slopes range from 0% to 40%. The elevation ranges from 1,500 to 1,960 feet.

II. CURRENT STAND CONDITION:

Areas I and II are made up mostly of stands aged 85 years old currently classified as Understory. Approximately 80 acres of the operation was commercially thinned in 1980. Approximately 100 acres of the operation was fertilized in 1989. The overstory consists of Douglas-fir trees with western hemlock, bigleaf maple and red alder scattered throughout. The understory consists of vine maple, salal, dwarf Oregon grape and sword ferns. There are approximately 7 snags per acre; 400 cubic feet per acre of sound down wood; and 1,600 cubic feet per acre of down wood in all decay classes. (SLI 2004, 2002) The root disease *phellinus weirri* was discovered during field

reconnaissance in the northeast portion of the operation and also along Shellburg road. No formal root disease surveys have been performed on the operation area.

Area III is a 40 year old stand currently classified as Understory within the operation area. The overstory consists of a mixture of Douglas-fir and western hemlock with the occasional bigleaf maple scattered through out. There are also concentrations of red alder trees along the streams within this stand. The understory consists of sword fern with small amounts of vine maple and dwarf Oregon grape. There is approximately 1 snag per acre; 200 cubic feet per acre of sound down wood; and 2,200 cubic feet of down wood in all decay classes. (SLI 2004)

Table 2. Stand Inventory Information

Area	Prescription	Stand ID ¹	Species	Age	DBH	BA	TPA	SDI	Acres ²
I	PC-M	12220	DFWH	85	18	273	158	66	41
		Target ³			21	143	55	30	
II	PC-M	12098	DF	85	22	227	89	51	87
		Target ³			24	153	46	30	
III	PC-M	12099	CXDF	42	13	151	156	41	13
		Target ³			16	125	81	30	

1 The source of stand inventory information is SLI from 2002 and 2004 for trees greater than or equal to 8 inches in diameter.

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:

Overview

This operation is located in the Scattered Basin. This basin is a diverse mixture of ownership, stand ages, species mixtures, and site quality. As indicated by its name, the Scattered Basin is a conglomeration of scattered ODF ownership parcels that range in size from 40 acres to 1000 acres. The parcel where this operation is located is approximately 800 acres in size. Most of the smaller parcels within the basin are viewed as land exchange candidates due to the intermingled nature of the ownership. The Shellburg/Stout creek area is a location that the District would like to add additional acres to as an outcome of land exchange.

This operation is located within one of the larger parcels of ownership within the basin. The DFC for most of this area is Complex Structure, and the Shellburg parcel contains one of the District’s primary recreation sites. Any operation within this area is strongly influenced by these considerations.

Area I

The DFC for Area I (SLI type 12220) is Layered. The primary focus for Area I will be to remove some of the smaller Douglas-fir from the stand. Some areas of the stand have large pockets of hardwoods; both red alder and big-leaf maple. More often than not, these hardwood pockets will receive little or no treatment. The Douglas-fir will be removed where the species are more mixed.

The **Anticipated Pathway for Area I** begins with thinning the Douglas-fir overstory:

- This will be a medium density commercial thinning.
- This may be the last thinning entry into the stand as a commercial thinning.

Area II

The DFC for Area II (SLI type 12098) is Layered. The primary focus for Area II will be to remove some of the smaller Douglas-fir from the stand. Damage to the understory trees will be avoided since these will be the layer for the stand.

The **Anticipated Pathway for Area II** begins with thinning the Douglas-fir overstory.

- This will be a medium density commercial thinning.
- This may be the last entry into the stand as a commercial thinning.

Area III

The DFC for Area III (SLI type 12099) is Layered. The Douglas-fir is the primary target for the thinning. The hardwoods associated with the RMA will not be thinned. The hardwood areas will be posted out of the sale area.

The **Anticipated Pathway for Area III** begins with thinning the Douglas-fir.

- This will be a medium density commercial thinning.
- The stand will be evaluated in 10 to 15 years for another potential commercial thinning.

Table 3. Stand Structure Information

Area	Stand ID	Current	Post Harvest ¹	Desired Future	Acres
I	12220	UDS	UDS	LYR	41
II	12098	UDS	UDS	LYR	87
III	12099	UDS	UDS	LYR	13

¹ The stand is expected to develop into this condition in the five to ten years after this operation is completed.

IV. PROPOSED MANAGEMENT PRESCRIPTION:

The **proposed management prescription for Area I** is:

- All trees greater than 8 inches DBH thin to: basal area of 143; TPA 55; Ave DBH 21 inches; and SDI 30%.
- Reserve all hardwoods and hemlock from cutting. Any of these trees which are greater than 20 inches in diameter may be used to count toward the target SDI.
- Maintain the existing snags where they do not pose a safety hazard. At the completion of the operation at least 2 snags per acre will be within Area I.
- Downwood will be added from the cull material that results from the harvest.
- The **Total Residual Stand (overstory and understory) in Area I will be:** basal area of 144; TPA 188; Ave. DBH 14 inches; SDI 31%.

The **proposed management prescription for Area II** is:

- All trees greater than 8 inches DBH thin to: basal area of 153; TPA 46; Ave DBH 24 inches; and SDI 30%.
- Reserve all hardwoods and hemlock from cutting. Any of these trees which are greater than 20 inches in diameter may be used to count toward the target SDI.
- Keep all snags as safety permits. Several large old-growth snags will be reserved from cutting in a “reserve snag area”. These snags are being used for educational purposes and shall be avoided if the area cannot be safely thinned. At the completion of the operation at least 2 snags per acre will be within Area II.
- Downwood will be added from the cull material that results from the harvest.
- The **Total Residual Stand (overstory and understory) in Area II will be:** basal area of 156; TPA 445; Ave. DBH 3 inches; SDI 33%.

The **proposed management prescription for Area III** is:

- All trees greater than 8 inches DBH thin to: basal area of 125 ; TPA 81; ave DBH 16 inches; and SDI 30%.
- Reserve all hardwoods and hemlock from cutting.
- Maintain the existing down wood and snags where they do not pose a safety hazard. At the completion of the operation at least 2 snags per acre will be within Area III.
- The **Total Residual Stand (overstory and understory) in Area III will be:** basal area of 141; TPA 143; Ave. DBH 4 inches; SDI 32%.

V. ESTIMATED TIMBER AND REVENUE INFORMATION:

Table 4. Timber and Revenue

Ownership		Sale Type	
BOF	CSL	Cash	Recovery
100%	0%	<input type="checkbox"/>	x
Planned Quarter:			

	Conifer	Hardwood	Total
Net Volume (MBF)	1,913	0	1,913
Stumpage Value (\$/MBF)	\$350		
Estimated Gross Value	\$669,550	0	\$669,550
		Project Costs:	\$14,600
		Estimated Net Value:	\$654,950

VI. TRANSPORTATION PLANNING AND HARVESTING:

The operation is accessed by the Shellburg forest road, a collector spur road. This crushed rock road spans approximately 2.5 miles from the sale to the Fern Ridge road, a paved county road. Two older dirt roads totaling 3,200 feet. that have been closed will need to be re-opened for this sale. One new road about 1,700 feet in length through the middle of the unit will be required with the sale to facilitate cable and ground logging. One operator spur about 850 feet may also be constructed to reduce ground-yarding distances in the unit. Since most of the sale will be ground logged during a dry part of the year; the new and re-opened roads will not be required to be rocked to save money and facilitate road closure. These roads will be closed again by blocking with logging debris and water bars at the conclusion of the sale. Road brushing will be performed on the Shellburg road and the SB 700 road, totaling 4.5 miles of road.

The sale area is predominately on slopes less the 40%: thus the majority of the area can be logged with ground yarding equipment. There is one 28 acre area in the west 1/3 of the sale that is between two streams that does not have good access. To avoid about 2,000 ft of new road construction this area will be yarded by cable yarder to landings on the east and west. The east 1/3 of the sale area has a gentle ground slope that may be ground yarded but it may be determined during sale setup that some cable ground exists to protect resources. There are two or three streams to protect in the east 1/3 of the unit that may be better protected with a cable logging system.

Table 5. Transportation Planning Summary (Miles).

Activity	Mainline	Collector	Rocked Spur	Dirt Spur
Construct	0	0	0	0.48
Improve	0	0	0	0.61
Maintain	0	4.5	0	1.1
Close/Block	0	0	0	1.1
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:

There are no listed fish within the operation. There are 4 small fish bearing streams and 3 small non-fish bearing streams located within the operation. The overstory along these streams consists of Douglas-fir and red alder trees. The understory consists of salmonberry, vine maple and ferns.

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.

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 bearing streams or within 50 feet of the fish bearing 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 during the 2005 survey season with no response. It will be surveyed again during the 2006 survey season.

The operation area was checked against District knowledge for any listed plant location. The operation area was also checked against the Oregon Natural Heritage Program's database of known listed plant locations. No listed plant records were identified within the operation area.

IX. SLOPE STABILITY AND GEOTECHNICAL ISSUES:

There are no steep slopes in the sale area. The initial hazard and risk assessment from the geotechnical specialist is low. If during field work high landslide hazard locations are identified the geotechnical specialist will be consulted.

X. RECREATION RESOURCES:

The Shellburg Falls Recreation Area is a popular location for hikers, cyclists, campers and horse back riders. This area is also an important site for forest education and interpretation with regularly held field trips and guided nature hikes. During these programs it is common for school buses and 30-60 children to be present in this area. Currently within the Shellburg Falls Recreation Area there are 3.5 miles of non-motorized trail, 4 campsites with amenities including restrooms and drinking water, and day-use parking at major trailheads. Visitor use is moderate during weekdays with an average of 20-50 visitors throughout the year. Use is often high during weekends with an average of 200 visitors during the summer months.

The thinning will take place in the northern area of the recreation area in the focused stewardship land classification outside of the special stewardship boundary. In order to limit impacts to recreational and scenic resources and to ensure public safety the following measures will be implemented:

Signage

Several months prior to the thinning operation, signs describing the upcoming activities will be posted at trailheads, staging areas and at the campground. These signs will remain posted throughout the duration of the thinning operation. During the operation warning signs will be posted along roads and at trailheads to ensure visitors are aware of the activities taking place. In addition signage designating the boundary of the special stewardship area which contains Shellburg Falls Campground will be posted.

Campground and Roads

The Shellburg Campground is a small secluded site in which camp facilities are located on each side of the SB 200 Rd. Educational programs are also staged and conducted here. There will be no log truck traffic on the SB 200 Rd where it

travels through the Shellburg Falls Campground and the south Shellburg Creek/August Mountain Loop Trailhead. In addition no skid roads or landings will be developed in this area. These measures will ensure visitor safety and preserve recreational and scenic resources.

The Shellburg Road is the main road which travels through the Shellburg Falls Recreation Area. This road travels over ODF land and into private lands where it then junctions with Fern Ridge Road. The Shellburg Road is gated where it travels over private land. Visitors may drive in from the north during the summer months and walk in year round from the south. The staging point for walk-in access is the parking area at the Fern Ridge Road/Shellburg Road junction. Visitors park here and then bike or hike to Shellburg Falls. Log truck traffic will take place on this road. All vehicle traffic should follow the posted speed limit and take precautions to ensure visitor safety.

Trails

There are approximately 1.5 miles of trail within the thinning boundary. These trails are the Shellburg Creek Trail and Snag Loop. Shellburg Creek Trail is a connecting trail to Silver Falls State Park. During the thinning operation these two trails will be closed. One of the factors studied in the planning process of the thinning operation was to limit impacts to recreational resources in the area. The following are measures that will be taken to minimize impacts. It should be noted that this is a thinning operation. The crown will be opened creating an increase in growth in large trees and especially among the understory plants and young trees.

Shellburg Creek: During the operation the majority of the trail will be protected. However in places, logs will be skidded across the trail. Steps will be taken to limit the number of locations where the trail is crossed. The west section of the Shellburg Creek Trail is currently on an old road bed (SB 300). This road will be used as an access point for hauling out logs. After operations are complete the SB 300 will be closed and rehabbed by covering it with downed woody material. The section of trail that once traveled over this road will be rerouted. Heavily used skid roads in the operations boundary will also be covered with woody material. All other sections of the Shellburg Creek Trail will be reestablished and in some instance rerouted to bring the trail closer to a small stream in this area. These reroutes will provide visitors a more scenic experience as they hike or ride along the stream.

Snag Loop: Snag Loop is an interpretive trail that travels near several large standing snags. To maintain the integrity of the trail the same measures will be taken as listed above for Shellburg Creek Trail. In addition a snag retention area will be created to ensure that significant snags remain and that this trail continues to be an important interpretive area.

All trails will be reestablished within one year after the thinning operation is complete.

XI. CULTURAL RESOURCES:

Pre-operation reconnaissance revealed no visible cultural resource features or artifacts. If discovery is made, the cultural resource will be protected and field staff will consult with the Cultural Resource Specialist in Salem.

XII. SCENIC RESOURCES:

Please see recreation write-up above.

XIII. OTHER RESOURCE CONSIDERATIONS:

There are no other resource considerations.

XIV. LMCS:

Area 1 contains Focused Stewardship, Visual. See Section XII, Scenic Resources, for the management guidelines to be utilized.

Area 1 contains Focused Stewardship, Aquatic and Riparian Habitat for one perennial Type N stream. See Section VII, Aquatic Resources and Water Quality, for the management guidelines to be utilized.

Area 1 contains Special Stewardship, Aquatic and Riparian Habitat for two small Type F stream. See Section VII, Aquatic Resources and Water Quality, for the management guidelines to be utilized.

Area 2 contains Focused Stewardship, Recreation. See Section X, Recreation Resources, for the management guidelines to be utilized.

Area 2 contains Focused Stewardship, Aquatic and Riparian Habitat for one perennial Type N stream. See Section VII, Aquatic Resources and Water Quality, for the management guidelines to be utilized.

Area 2 contains Special Stewardship, Aquatic and Riparian Habitat for one small Type F stream. See Section VII, Aquatic Resources and Water Quality, for the management guidelines to be utilized.

Area 3 contains Focused Stewardship, Recreation. See Section X, Recreation Resources, for the management guidelines to be utilized.

Area 3 contains Focused Stewardship, Aquatic and Riparian Habitat for one perennial Type N stream. See Section VII, Aquatic Resources and Water Quality, for the management guidelines to be utilized.

Area 3 contains Special Stewardship, Aquatic and Riparian Habitat for one small Type F stream. See Section VII, Aquatic Resources and Water Quality, for the management guidelines to be utilized.