

# Pre-Operations Report

**Operation Name:** Burnt Black  
**County:** Lincoln  
**Management Basin:** Burnt Woods

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

Area	Type of Operation	Net Acres
I	Partial Cut	39
II	Partial Cut	64
III	Partial Cut	27
IV	Partial Cut	54
V	Partial Cut	12
VI	Partial Cut	28
VII	Partial Cut	45
VIII	Partial Cut	39
Total PC		308

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

The operation consists of eight partial cut units. The units lie in the western hemlock vegetation zone. Average rainfall is 78 to 100 inches.

The landforms are gentle ridgetops of Strom Boulder Ridge and Goat Ridge and steeper side slopes of headwater draws of Spout Creek and Wolf Creek. Both of these streams drain south to Big Elk Creek. A very small, gentle area in the head waters of Cline Creek in Area VI drains north to Little Elk Creek. The underlying rocks are sedimentary origin rocks of the Tyee Formation.

Aspect for Area I is mostly westerly and Area II faces mainly north and west. Area III has a southerly aspect and Area IV is mostly west. Area V faces south and Area VI faces north. Area VII has a westerly aspect and Area VIII has primarily a southerly aspect.

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

Areas I-VIII support Douglas-fir plantations that range in age from 23-35 years old. Areas I-IV and VI-VIII have all been pre-commercially thinned about 10-13 years ago. There has been no pre-commercial thinning in Area V. In Area VI

approximately 130 Douglas-fir trees per acre were pruned about 6 years ago. In all operation areas there are some red alder and bigleaf maple present in the stands. There are few snags and little down wood in the operation areas.

Brush species consisting of salmonberry, vine maple, sword fern, salal, and elderberry are present in the understory but in small quantities.

All eight operation areas are classified as Closed Single Canopy (CSC)

**Table 2. Stand Inventory Information**

Area	Prescription	Stand ID <sup>1</sup>	Species	Age	DBH	BA	TPA	RD	Acres <sup>2</sup>
I	PC	18278	Douglas-fir	27	11	190	288	57	39
		Target <sup>3</sup>			14	120	112	32	
II	PC	18694	Douglas-fir	29	12	210	267	61	20
		18695		23	11	165	261	50	44
		Target <sup>3</sup>			14	120	112	32	
III	PC	18897	Douglas-fir	26	12	175	222	51	27
		Target <sup>3</sup>			16	80	57	20	
IV	PC	18897	Douglas-fir	26	12	175	222	51	54
		Target <sup>3</sup>			15	120	98	31	
V	PC	18824	Douglas-fir	35	14	180	168	48	12
		Target <sup>3</sup>			17	100	63	24	
VI	PC	18825	Douglas-fir	26	11	160	242	48	28
		Target <sup>3</sup>			14	120	112	32	
VII	PC	18136	Douglas-fir	26	11	175	216	53	45
		Target <sup>3</sup>			14	120	112	32	
VIII	PC	18311	Douglas-fir	28	12	175	222	52	39
		Target <sup>3</sup>			15	120	98	31	

1 The source of stand inventory information is district plot data from 2001, 2002.

2 The acres are based on (orthophotos and 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:**

According to the district's landscape design, all of Area I and the southern part of Area II are designated as Desired Future Condition (DFC) complex and are targeted to become Layered (LYR) stands. The rest of Area II and Areas III – VIII, are designated as DFC General which corresponds with Understory (UDS) stands.

Although the north part of Area II and all of Areas III, IV, and V are not designated as DFC complex stands they will be put on a pathway towards LYR stands because of the timely opportunity for developing future complexity with this operation. In addition, all of these areas are adjacent to a large block of land designated as DFC complex.

Areas VI-VIII will remain on a pathway towards UDS stands.

**Areas I, II and IV Vision:** The LYR condition will be attained by the time the stands are approximately age 60. At that time, the stands will consist of an overstory of Douglas-fir with a few scattered alder and bigleaf maple. Overstory trees will be both scattered and grouped in small clumps. A second layer consisting of patches of western hemlock, western redcedar and red alder will be present. An understory of natural Douglas-fir, alder, bigleaf maple and brush species (vinemapple, elderberry and salal) will be present in gaps and low density areas. Hemlock and cedar will be starting to seed-in naturally. Snags and downed wood will be present throughout the stand.

**Area III Vision:** The LYR condition will be attained by the time the stand reaches approximately age 60. When it reaches the DFC, the stand will consist of an overstory of fairly even-spaced Douglas-fir with patches of alder and bigleaf maple. Beneath the overstory will be a well-developed second layer of cedar, hemlock and alder. A lower layer of brush (vinemapple, elderberry and salal) and scattered mixed conifer and hardwood will exist in small openings located throughout the stand. Snags and downed wood will be present throughout the stand.

**Area V Vision:** By the age of approximately 65 this area will have become a LYR stand. It will consist of an overstory of mixed Douglas-fir, bigleaf maple and alder. Overstory trees will be both scattered and grouped in small clumps. Hemlock, cedar, alder, maple and Douglas-fir will comprise a second layer. Where gaps exist in the crown above, small groups of natural conifer and hardwood will be beginning to seed-in to form an understory along with sword fern and vinemapple. Snags and downed wood will be present throughout the stand.

**Area VI Vision:** This stand will move from CSC to UDS within 5-10 years following initial thinning and will remain in that condition until final regeneration harvest at about age 55 years. At that time the stand will consist mostly of pruned (to 22 feet) Douglas-fir and a few scattered hardwood in the overstory and a mix of shrubs (hazel, vinemapple and sword fern) and herbs in the understory. The final desired condition is to have a stand of large pruned Douglas-fir (24-28" DBH) which will be marketed for their high-value clear wood.

**Areas VII and VIII Vision:** These stands will move from CSC to UDS within 5-10 years following initial thinning and will remain in that condition until final regeneration harvest at age 60-70 years. At the time of final harvest, these areas will consist of well-stocked, large Douglas-fir in the overstory and brush (sword fern, hazel) and forbs in the understory. A few alder and bigleaf maple will be scattered throughout the stands, both in the overstory and understory. Snags and downed wood will be present throughout the stands.

**Table 3. Stand Structure Information**

Area	Stand ID	Current	Post Harvest <sup>1</sup>	Desired Future	Acres
I	18278	CSC	UDS	LYR	39
II	18694	CSC	UDS	UDS	20
II	18695	CSC	UDS	LYR	44
III	18897	CSC	UDS	UDS	27
IV	18897	CSC	UDS	UDS	54
V	18824	CSC	UDS	UDS	12
VI	18825	CSC	UDS	UDS	28
VII	18136	CSC	UDS	UDS	45
VIII	18311	CSC	UDS	UDS	39

<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:**

**Areas I, II and IV Anticipated Pathway:** During this commercial entry, these three areas will be thinned to an RD of 31-32, leaving from 98-112 TPA. The average DBH of residual trees will be 14-15 inches.

- Most snags and downed wood will be left.
- All trees other than Douglas-fir will be reserved from cutting.
- In each area, approximately 15% of the acreage will be patchcut. Patches will range from 1/2 to 2 acres in size. In patchcuts that are greater than one acre in size, a few trees will be marked for retention.
- Patchcut areas will be treated with site preparation herbicides in order to deter brush competition.
- The patches will be planted with western hemlock and western redcedar in approximately equal amounts and at a rate of approximately 360 tpa. A few Douglas-fir will be planted in the larger patchcuts.
- Animal damage mitigation will consist of tubing all cedar to protect against deer and elk browse. Mountain beaver control work is not expected to be necessary.

It is likely that at least one herbicide application will be needed within the first 3 years after planting in order to release planted seedlings from competing vegetation.

Five to ten years after thinning, forbs and brush will be established in the understory, moving the stands into a UDS condition. Small openings in the overstory, resulting from wind-throw and logging practices will have encouraged natural Douglas-fir and hardwood to seed-in in spots in the understory as well. Trees planted in the patchcuts will be free-to-grow and will be on their way to forming a second layer.

In 10 to 15 years after the initial thinning, the RD is expected to be 50-55 and the stands will be thinned again to an RD of about 30. The stands will be opened up enough to maintain stand vigor and to allow the natural regeneration to persist in the understory. Without this thinning, these stands would likely revert to CSC.

- At this time, the amount of natural snags and downed wood will be evaluated. If it is determined that additional amounts are needed, then snags and downed wood will be created.
- Small patchcuts will be created on about 15% of the unit acreage. Patches will be replanted to cedar and hemlock.
- Following this thinning, trees planted in the original patchcuts will be pre-commercially thinned (PCT) if needed.

In another 10 to 15 years, the stands will have reached the LYR condition. The stand RD's will have again reached about 50 and a third commercial thinning will likely occur. This thinning will take the overstory trees down to approximately 25 TPA. It is possible that patchcut trees (those planted after the first harvest) could be commercially thinned at this time as well.

- The need for additional snags and downed wood will be evaluated and more will be created if needed.

From this point on, the remaining overstory trees will be left as legacy trees. Over time, some will become snags and downed wood. The understory trees will gradually become the overstory component. Continued seed-in of conifer and hardwood will keep the stands in the LYR condition. Density regulation (PCT of understory and commercial thinning of the overstory) will likely occur.

**Area III Anticipated Pathway:** During this harvest, the stand will be thinned to an RD of about 20, leaving approximately 57 TPA. Average DBH of residual trees will be approximately 16 inches.

- Most snags and downed wood will be left.
- All trees other than Douglas-fir will be reserved from cutting.
- Following harvest, the need for a site preparation herbicide application to deter brush competition will be evaluated.
- The stand will be underplanted with western hemlock and western red cedar in approximately equal amounts, at a rate of about 360 tpa.
- Animal damage mitigation will consist of tubing all cedar to protect against deer and elk browse. Mountain beaver control work is not expected to be necessary.

Five to ten years after thinning, conifer and other vegetation will be established in the understory, moving the stand into a UDS condition. Small openings in the overstory, resulting from wind-throw and logging practices will have encouraged natural Douglas-fir and hardwood to seed-in in spots in the understory as well. Trees planted in the understory will be free-to-grow and will be on their way to forming a second layer.

In 10 to 15 years, or when the RD approaches 30, the overstory will be thinned again to approximately an RD 20, leaving about 25 TPA. This will allow the underplanted trees to continue to grow.

- At this time, the amount of natural snags and downed wood will be evaluated. If it is determined that additional amounts are needed, then snags and downed wood will be created.
- Thinning of the overstory will result in loss of some of the understory trees. Therefore, PCT will likely not be needed in the understory.

By age 60 years the stand will have reached the LYR condition. The remaining overstory will be left as legacy trees. Over time, some will become snags and downed wood. The understory trees will gradually become the overstory component. Continued seed-in of conifer and hardwood will keep the stand in the LYR condition. Density regulation in the form of commercial thinning of the overstory and PCT of the understory trees will likely occur.

**Area V Anticipated Pathway:** This area will be thinned to an RD of about 24 which will leave approximately 63 TPA with an average DBH of 17 inches. District personnel will mark the trees to be left, leaving a mix of large and medium conifer and leaving all hardwood. Trees will be left in clumps in some areas and scattered in others. This thinning plan will enhance the existing stand structure.

- Snags and downed wood will be left wherever possible.
- Following harvest, the understory will be treated with site preparation herbicides in order to deter brush competition.
- The understory will be planted with equal amounts of western hemlock and western redcedar and a few Douglas-fir at a rate of about 360 tpa.
- Animal damage mitigation will consist of tubing all cedar to protect against deer and elk browse. Mountain beaver control work is not expected to be necessary.

Five to ten years after thinning, conifer and other vegetation will be established in the understory, moving the stand into a UDS condition. In the more open portions of the overstory, Douglas-fir and hardwood will have seed-in naturally as well. Trees planted in the understory will be free-to-grow and will be on their way to forming a second layer.

In 10 to 15 years, or when the RD approaches 30, the overstory will be thinned again to an RD 20-25, leaving about 25 TPA. This will allow the planted trees to continue to grow in the understory.

- At this time, the amount of natural snags and downed wood will be evaluated. If it is determined that additional amounts are needed, then snags and downed wood will be created.
- Thinning of the overstory will result in loss of some of the understory trees. Therefore, PCT will likely not be needed in the understory.

By age 65, the area will have moved to a LYR condition. The remaining overstory will be left as legacy trees. Over time, some will become snags and downed wood. The understory trees will gradually become the overstory component. Continued seed-in of conifer and hardwood will keep the stand in the LYR condition. Density regulation in the form of commercial thinning of the overstory and PCT of the understory trees will likely occur.

**Area VI Anticipated Pathway:** This area will be thinned to an RD of about 32 removing most of the unpruned Douglas-fir from the stand and leaving space for the pruned trees to rapidly produce clear wood on their boles. Approximately 112 trees, averaging 14" DBH will remain after harvest. Increased sunlight will allow brush and herbaceous vegetation development on the forest floor. Five to ten years following harvest, this area will have moved into the UDS condition. A second thinning, in about 10-15 years (when RD has again approached 50), will re-open the overstory, allowing the remaining trees to produce clear wood volume and also allowing the understory vegetation to grow. At about age 55 the average diameter of the stand will be about 26 inches and the stand will be regeneration harvested.

**Areas VII and VIII Anticipated Pathway:** These two areas will be thinned to an RD of 31-32 and 120 ft<sup>2</sup> basal area. This will leave 98-112 TPA with an average diameter of 14-15 inches. Five to ten years following harvest, brush and forbs will have become re-established in the understory, moving the areas into the UDS condition. A second thinning will be conducted in 10 to 15 years, when stand RDs have reached about 50. The aim of this thinning is to capture volume, maintain stand vigor and prevent the stands from reverting to the CSC condition. In another 10-15 years, tree growth rates will be evaluated and a decision will be made to either conduct a third thinning or to wait a few years and conduct a regeneration harvest. If a third thinning is chosen, then final harvest will likely occur when the stands are 75-85 years old.

## V. ESTIMATED TIMBER AND REVENUE INFORMATION:

**Table 4. Timber and Revenue**

Ownership		Sale Type	
BOF	CSL	Cash	Recovery
96%	4%	<input type="checkbox"/>	X
Planned Quarter:	2		

	Conifer	Hardwood	Total
Net Volume (MBF)	1,800	0	1800
Stumpage Value (\$/MBF)	\$225		
Estimated Gross Value	\$405,000		\$405,000
		Project Costs:	\$133,000
		Estimated Net Value:	\$272,000

## VI. TRANSPORTATION PLANNING AND HARVESTING:

Access to the majority of the sale areas are along roads on State Lands. There is a short segment of road accessing Area VIII which passes over an industrial forest landowner from whom an easement has been secured. These haul routes are in good condition and will require limited spot rock and maintenance grading during log hauling. Short unsurfaced ridge top spurs will be constructed into Areas III & IV to minimize logging disturbance. Short surfaced ridge top spurs will be constructed in Areas I & VIII to minimize logging disturbance and provide additional wet weather operation opportunities. An old existing unsurfaced road will be reopened for accessing a portion of Area VII. The existing surfaced spurs accessing Area VI will receive a lift of rock for wet weather operation. Because the existing transportation system provides the most efficient access, other alternatives were considered but not used.

Wet weather access is available for Areas I, II, V, VI and VIII. A portion of Areas III, IV and VII also possess some wet weather access.

Fish distribution surveys are needed for tributaries of Wolf and Cline Creek for evaluation of stream crossing structure replacements along Wolf Creek, Wolf Cabin, Burnt Woods Forest roads and their associated spurs.

Existing roads provide timber harvest access to 90% of the operation acreage. Because existing roads already access the sale area, no other harvest alternatives were considered.

Harvesting timber in the operation areas would require a combination of 80% cable yarding and 20% ground skidding.

About 1.0 mile of road improvement will be necessary.

All unsurfaced roads will be waterbarred, blocked to vehicular traffic, and grass seeded after harvesting operations are completed and/or at the beginning of the wet season.

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

Activity	Mainline	Collector	Rocked Spur	Dirt Spur
Construct	0	0	0.2	0.1
Improve	0	0	0.6	0.4
Maintain	0	7.5	2.2	0
Close/Block	0	0	0	0.5
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:**

Water flowing from streams in the operation areas are part of the Yaquina River System.

Type F streams are assumed to be present flowing from the west side of Area I and the north side of Area II. Fish distribution surveys will be conducted to determine if fish are present. If these streams are determined to be Type F a 25' horizontal distance buffer will be posted to protect these streams. No trees will be felled within the buffer except to facilitate cable yarding corridors. The partial cut thinning prescription will retain sufficient trees in the inner and outer riparian management area (RMA) zones to comply with current standards.

Type N streams are present six of the seven units. A 25' horizontal distance buffer will be established on either side of these streams. No harvesting will be allowed within the buffer except to facilitate cable yarding. The partial cut thinning prescription will retain sufficient trees in the RMA to comply with current standards.

Vegetation along Type F and N streams consists of Douglas-fir and red alder trees and brush species such as salmonberry, elderberry, sword fern, and vine maple.

There are no sources of domestic water intakes in close proximity to the operation areas.

Activities that will take place in proximity to the streams, listed above, include timber felling and yarding. The following measures will be employed to minimize impacts to the stream: 1) no timber will be felled within the buffer except to facilitate cable yarding, 2) timber above the buffer will be felled away from or parallel to the stream, 3) timber will be yarded away from the stream, where possible, 4) if it is necessary to yard logs across the stream, logs will be fully suspended above the buffer vegetation, and 5) single end suspension of logs will be required elsewhere in the units.

Other requirements designed minimize impacts to streams include seasonal restrictions for road construction and log hauling.

The Land Management Classification System for Aquatic and Riparian category determined 62 acres in Focused Stewardship. Focused Stewardship acres are distributed along type N stream RMA's and the outer zone of type F streams.

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

The operation area does not contain suitable habitat for northern spotted owls or marbled murrelets so no surveys are scheduled.

T&E fish: Tributaries of the Yaquina River that flow from the operation areas support "threatened" Coho salmon. For a discussion of protection measures see Section VI "Harvesting and Access Considerations" and Section VII "Aquatic Resources and Water Quality".

The operation areas were checked against district knowledge for any listed plant locations. The operation areas were also checked against the Oregon Natural Heritage Program (ONHP) database of known listed plant locations. No listed plant records were identified within the operation areas.

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

There are bands of steep slopes scattered in many of the eight sale areas. The steepest slopes appear to be along the western side of Area II in the headwaters of Wolf Creek and the lower slopes in the east portion of Area IV above Lake Creek. The initial assessment from the geotechnical specialist is moderate. The geotechnical specialist will be consulted during field work and the need for field visit will be decided at that time.

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

Recreation for these operation areas consists mostly of hunting.

**XI. CULTURAL RESOURCES:**

There are no known cultural resources within or adjacent to the operation areas.

**XII. SCENIC RESOURCES:**

Area VII is adjacent to the Burnt Woods – Harlan road and has 12 acres of Focused Stewardship, Visual. The thinning prescription used in this area will not impair the visual resource.

**XIII. OTHER RESOURCE CONSIDERATIONS:**

No other resource considerations have been identified.

**XIV. LAND MANAGEMENT CLASSIFICATION SUMMARY:**

The operation area contains 62 acres of Focused Stewardship, Aquatic and Riparian Habitat along the type N stream riparian areas that are in all areas except Area VI. See Section VII, Aquatic Resources and Water Quality for management guidelines to be utilized.

The operation area contains 12 acres of Focused Stewardship, Visual, in Area VII which is adjacent to the Burnt Woods – Harlan Road. See Section XII, Scenic Resources for management guidelines to be utilized.