

Pre-Operations Report

Operation Name: Miller-Deer
County: Lincoln
Management Basin: Burnt Woods Ridge

Table 1. Operation Areas, Types and Acres

Area	Type of Operation	Net Acres
I	Partial Cut	75
II	Partial Cut	73
III	Partial Cut	32
IV	Partial Cut	16
V	Partial Cut	26
VI	Partial Cut	26
VII	Partial Cut	10
VIII	Partial Cut	88
IX	Partial Cut	55
Total		401

I. PHYSICAL DESCRIPTION OF OPERATION AREA:

The operation consists of nine partial cut units. The units lie in the western hemlock vegetation zone. Average annual rainfall for Areas I through VI is 68 to 78 inches and for Areas VII through IX is 78 to 100 inches. The soils are 74% Valino, 22% ORK and 4% Kilchis.

The landforms are gentle ridgetop and steeper side slopes to headwater draws of Miller Creek draining north to Little Elk Creek and Deer, Cougar, Bevans and Wolf Creeks draining south to Big Elk Creek. The underlying rocks are sedimentary origin rocks of the Tye Formation.

Aspect for Area I is mostly west with a portion of steep southeast. Area II aspect is primarily north. Area III has an easterly aspect. Area IV has a gentle southwest aspect. Area V has a westerly aspect. Aspect for Areas VI and VII is southwest. Area VIII has components of west, north and east aspect and Area IX is west to southwest.

II. CURRENT STAND CONDITION:

Areas I, II, III, VI, VIII, and IX are Douglas-fir plantations that are 23-35 years old. They were pre-commercially thinned from 10-19 years ago. In all operation areas there are some redalder and bigleaf maple present in the stands. Few snags and little down wood exist in these operation areas.

Areas IV, V, and VII are natural stands consisting of 58-62 year old Douglas-fir with some bigleaf maple and red alder present mainly in riparian areas. These areas received a "light" commercial thinning about 6 years ago. A few snags and some down wood are present in these stands.

Areas I-III, VI, VIII, and IX are currently classified as Closed Single Canopy (CSC). Areas IV, V, and VII are classified as Understory (UDS).

Table 2. Stand Inventory Information

Area	Prescription	Stand ID ¹	Species	Age	DBH	BA	TPA	RD	Acres ²
I	PC	18556	Douglas-fir	25	12	175	222	51	75
		Target ³			15	120	98	31	
II	PC	18888	Douglas-fir	32	12	170	216	49	73
		Target ³			16	80	57	20	
III	PC	18260	Douglas-fir	26	12	160	203	46	32
		Target ³			16	100	72	25	
IV	PC	18259	Douglas-fir	62	22	225	85	48	16
		Target ³			25	160	47	32	
V	PC	18935	Douglas-fir	60	20	220	101	49	26
		Target ³			23	160	55	33	
VI	PC	18260	Douglas-fir	26	12	160	203	46	26
		Target ³			16	100	72	25	
VII	PC	18881	Douglas-fir	58	20	215	98	48	10
		Target ³			23	160	55	33	
VIII	PC	18795, 98	Douglas-fir	35,28	11	170	257	52	88
		Target ³			14	120	112	32	
IX	PC	18133	Douglas-fir	23	13	180	195	50	55
		Target ³			16	120	86	31	

1 The source of stand inventory information is district plot data from 1999-2005.

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 RD) after harvesting has been completed.

III. DESIRED STAND CONDITION:

According to the district's landscape design, all areas of the timber sale are designated as Desired Future Condition General and are targeted to become UDS stands. However, because of their proximity to areas already targeted for

complexity, and in order to develop additional complex areas, Areas I and II are targeted to become Layered (LYR) stands.

Area I Vision: The LYR condition will be attained by the time the stand is approximately age 60. At that time, the stand 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 numerous small patches of western hemlock, western redcedar and red alder will be present. An understory of natural Douglas-fir, alder, bigleaf maple and brush species (vinemaple, salmonberry and sword fern) 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 II 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 (vinemaple, 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.

Areas III, VI, VIII and IX 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 Douglas-fir in the overstory and brush (sword fern, hazel, vinemaple) 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 down wood will be present throughout the stands.

Areas IV, V and VII Vision: These stands are currently classified as UDS and will remain in that condition following harvest and until final regeneration harvest at about age 80 years. At that time, these areas will consist of well-stocked, large Douglas-fir in the overstory with a few patches of alder and bigleaf maple. The understory will consist mainly of sword fern, hazel and vinemaple. Where there are gaps in the overstory, small clumps of Douglas-fir and hardwood will also be found in the understory. Snags and down wood will be present throughout the stands.

Table 3. Stand Structure Information

Area	Stand ID	Current	Post Harvest ¹	Desired Future	Acres
I	18556	CSC	UDS	UDS	75
II	18888	CSC	UDS	UDS	73
III	18260	CSC	UDS	UDS	32
IV	18259	UDS	UDS	UDS	16
V	18935	UDS	UDS	UDS	26
VI	18260	CSC	UDS	UDS	26
VII	18881	UDS	UDS	UDS	10
VIII	18795,98	CSC	UDS	UDS	88
IX	18133	CSC	UDS	UDS	55

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:

Area I Anticipated Pathway: During this commercial entry, this area will be thinned to an RD of about 31, leaving approximately 98 TPA. The average DBH of residual trees is expected to be 15 inches.

- Most snags and downed wood will be left.
- All trees other than Douglas-fir will be reserved from cutting.
- 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 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 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 stand will be thinned again to an RD of about 30. The stand will be opened up enough to allow the natural regeneration to persist in the understory. Without this thinning, the stand 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 stand 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 II 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.

Areas III, VI, VIII and IX Anticipated Pathway: During this operation, Areas III and VI will be thinned to an RD of about 25, leaving 100 ft² basal area and about 72 TPA. The target average DBH will be 16 inches. Areas VIII and IX will be thinned to an RD of 31-32, leaving 120 ft² basal area and from 86 to 112 TPA. The target average diameter will be 14-16 inches. Trees other than Douglas-fir will be reserved from cutting.

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 in Areas VIII and IX (15-20 years in Areas III and VI), when stand RDs have reached about 50. This thinning will be conducted 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.

Areas IV, V and VII Anticipated Pathway: All three areas will be thinned to an RD of 32-33 and about 160 ft² basal area per acre. From 47-55 TPA will be left, averaging 23-25 inches DBH. This operation will capture volume and open the overstory enough to maintain stand vigor and allow the existing understory vegetation to grow. Without this thinning, the stand would likely revert to CSC. Snags and down wood will be created with this operation. Regeneration harvest of these areas will occur in about 20 years following this operation.

V. ESTIMATED TIMBER AND REVENUE INFORMATION:

Table 4. Timber and Revenue

Ownership		Sale Type	
BOF	CSL	Cash	Recovery
72%	28%	<input type="checkbox"/>	x
Planned Quarter:	3		

	Conifer	Hardwood	Total
Net Volume (MBF)	2,600	0	2,600
Stumpage Value (\$/MBF)	\$225		
Estimated Gross Value	\$585,000		\$585,000
		Project Costs:	\$190,000
		Estimated Net Value:	\$395,000

VI. TRANSPORTATION PLANNING AND HARVESTING:

Access to the majority of the sale areas are along roads on State Lands. The portions that are not have access permits in place. The only exception to this is the westerly spur of Area I off Miller Creek road which will require a road use agreement with an industrial forest landowner.

Access to the Northern portion of Area I is over Miller Creek and Cline Creek Roads. Access to the Southern portion of Area I is over Stromboulder, Burnt Woods Ridge and Salmon Creek roads. A lift or rock will be placed along a portion of Miller Creek and Stromboulder roads bringing them back to their original design standard. An existing road on industrial forest land West of Area I will need to be extended onto state and surfaced. This spur will require an access permit. For the southern portion of Area I, two existing spurs will need to be reopened and surfaced, and one new ridge top spur will need to be constructed and surfaced, all off of Stromboulder road.

Access to Areas II through V is over Aire King, Wolf Cabin and Burnt Woods Ridge roads. These roads are rocked and in good condition. Maintenance grading and spot rock will be required in order to keep these roads in good condition for all season hauling. Existing unsurfaced spurs in these areas will be reopened and rocked. An easement from an industrial forest land owner is secured for hauling over the Aire King road.

Access to Areas VI and VII is over Deer Creek Ridge, Baber Ridge and Salmon Creek roads. Three unsurfaced spurs will need to be constructed to access the majority of Area VII and a portion of Area VI. Two of the spurs will be on gentle side slopes. The other spur will have approximately 300 feet of full bench construction with the remainder of the road on ridge top.

Access to Area VIII is over Baber Ridge and Deer Creek Roads. Easements from Industrial forestland owners are in place. A narrowed section along Deer Creek road will need to be repaired. An existing road in the southern portion will need to be reopened. This road is on gentle to flat side slopes.

The existing transportation system provides the most efficient access to the sale areas. Access alternatives were limited to short spurs which accessed areas not accessible from the existing road system.

Wet weather access is available for Areas I through V, with limited wet weather access for Areas VI through VIII.

Fish distribution surveys will need to be conducted on the tributaries of Salmon Creek. If fish presence is verified then some stream crossing structures will be evaluated for possible replacement along Salmon Creek road.

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.

About 3.6 miles 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.

Harvesting timber in the operation areas will require a combination of 70% cable yarding and 30% ground skidding.

Table 5. Transportation Planning Summary (Miles).

Activity	Mainline	Collector	Rocked Spur	Dirt Spur
Construct	0	0	0.1	0.7
Improve	0	1.8	1.7	0.1
Maintain	0	14.9	5.1	0
Close/Block	0	0	0	0.8
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 is part of the Yaquina River System. This operation is in proximity to streams in which T&E listed fish are present.

Wolf Creek, a type F stream, flows along the east side of Area III. Type F streams are assumed to be present flowing from the south side of Area I and the east side of Area VIII. Fish distribution surveys will be conducted to determine if fish are present. Type F streams will have a 25' horizontal distance buffer 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 in Area I, II, V, VII, VIII and IX. 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 is a domestic water intake to the west of Areas V and VI that needs to be identified and protected if associated with waters coming from one of the sale 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 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 unit.

ODFW will be consulted regarding large wood placement in the portion of type F streams on ODF land to the west of Areas VII and VIII and to the east of Area IX.

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

The Land Management Classification System for Aquatic and Riparian category determined 51 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 contains suitable habitat for northern spotted owls and marbled murrelets. Surveys were conducted in 2005 with no detections. Surveys will be continued in 2006.

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 most of the nine sale areas. The steepest slopes appear to be along the western down slope side of sale area VI along Bevens 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 in the operation area consists mostly of hunting.

XI. CULTURAL RESOURCES:

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

XII. SCENIC RESOURCES:

The operation areas are not visible from paved highways.

XIII. OTHER RESOURCE CONSIDERATIONS:

No other resource considerations have been identified.

XIV. LAND MANAGEMENT CLASSIFICATION SUMMARY:

Areas I, II, III and V, VI, VIII and IX contain Focused Stewardship, Aquatic and Riparian Habitat in the Deer Creek and Wolf Creek drainages. See Section VII, Aquatic Resources and Water Quality, for the management guidelines to be utilized.