

Pre-Operations Report

Operation Name: Buck-n-Bull
County: Lincoln
Management Basin: Burnt Woods Ridge

Table 1. Operation Areas, Types and Acres

Area	Type of Operation	Net Acres
I	Modified Clearcut	27
II	Modified Clearcut	22
III	Retention Cut	20
IV	Heavy Partial Cut	9
V	Heavy Partial Cut	22
Total MC		49
Total RC		20
Total PC		31

I. PHYSICAL DESCRIPTION OF OPERATION AREA:

The operation consists of two partial cut units, two modified clearcut units and one retention cut unit. The units lie in the western hemlock vegetation zone. Average rainfall is 68 to 78 inches per year.

Soils are predominantly Valino, covering about 70 percent of the operation area. Ork makes up the remaining 30 percent. Valino soils are composed of deep, well-drained, moderately coarse-textured soils that developed from Tye sandstone. Ork soils are deep, well drained, fine textured, rock-free residuum derived from Tye sandstone. The soil information is derived from a soil survey completed in 1980.

Aspect for the operation areas is as follows: Area I is primarily south; Area II is east; Areas III and IV are south-southeast and Area V is southwest.

II. CURRENT STAND CONDITION:

Area I supports an intermixed, natural stand of 66 year old Douglas-fir and red alder.

Area II contains an intermixed Douglas-fir/red alder natural stand that is approximately 74 years old with an older cohort of sparsely stocked Douglas-fir. The younger conifer timber was commercially thinned in 1998.

Area III supports a natural stand of 71 year old Douglas-fir timber with a few pockets of 110 year old Douglas-fir included. The younger conifer timber was commercially thinned in 1998.

Area IV supports a 38 year old Douglas-fir plantation. Part of this stand was thinned in 1998 and about two acres were underplanted with western hemlock in 2000.

A natural stand of 61 year old Douglas-fir is present within Area V. This stand was commercially thinned in 1998. Approximately 6 acres were underplanted with western hemlock in 2000.

In Area I, according to SLI data, there are no snags present over 15" dbh. Down wood in decay classes I and II totals approximately 74 cubic feet per acre. SLI information is not available for Area II but there are a few small snags and some down wood. For Area III, there are no snags present over 15" dbh. There is approximately 233 cubic feet per acre of down wood in decay class I and II. For Areas IV and V from district observation, snag and down wood amounts are low.

There are scattered big leaf maple within all the operation areas.

Brush species consist of salal, vine maple, sword fern, salmonberry, red huckleberry, snowberry, and hazel.

The stand type for all operation areas is classified as Understory (UDS).

Table 2. Stand Inventory Information

Area	Prescription	Stand ID ¹	Species	Age	DBH	BA	TPA	RD	Acres ²
I	Modified Clearcut	19015	Douglas-fir	66	17	206	124	49	27
		Target ³			19	20	10	5	
II	Modified Clearcut	19012	Douglas-fir	74	20	195	89	43	22
		Target ³			22	26	10	6	
III	Retention Cut	19019	Douglas-fir	71	18	246	138	58	20
		Target ³			22	52	20	11	
IV	Heavy Partial Cut	19018	Douglas-fir	38	15	180	145	46	9
		Target ³			18	80	45	19	
V	Heavy Partial Cut	19018	Douglas-fir	61	20	197	89	44	22
		Target ³			23	100	35	20	

1 The source of stand inventory information is district plot data and SLI from 2005 and 2007.

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 landscape plan, Area I is designated as desired future condition (DFC) general. Most of Area II is designated as DFC general. The remainder of Area II and a portion of Area III are designated as DFC LYR. The remainder of Area III is DFC OFS. Areas II and III lack the natural tree species that could provide the layering component needed for a LYR stand. Since the DFC for Area II is mainly general, the entire stand will be put on a pathway towards UDS. For Area III, the complex condition will not be reached without first regeneration harvesting with a retention cut and starting over at the Regeneration (REG) stage. By retaining legacy trees, planting a diverse mix of species and utilizing various silvicultural treatments, Area III will gradually be put on a pathway towards the OFS condition. Areas IV and V are designated as a mix of DFC LYR and OFS and will both be put on a pathway towards LYR.

Areas I and II Vision: When the next final harvest occurs in these operation areas, the stands will be 60-70 years old and will be in the UDS structure. At that time, the stands will consist of an overstory of well stocked Douglas-fir with smaller amounts of western hemlock, western redcedar and red alder. Where there are gaps in the overstory, there will be an understory of hemlock, cedar, alder and brush (vinemapple, salmonberry, huckleberry and sword fern). Legacy trees (about 4 per acre) left from the first regeneration harvest will be located in small clumps scattered across the area. These Douglas-fir trees will average about 32 inches DBH. Both large and small snags and down wood will be located throughout the operation area.

Area III Vision: The OFS condition will be attained in about 70 years. At that time the stand will consist of an overstory of Douglas-fir, western hemlock, western redcedar and red alder with a few bigleaf maple. Numerous gaps in the overstory will promote an understory of mixed conifer, hardwood and brush (vinemapple, huckleberry, hazel, sword fern). Legacy trees (averaging 8-12 per acre) left from the regeneration harvest will be located in clumps and also scattered across the area. These Douglas-fir trees will average about 40 inches DBH. Large snags and down wood will be located throughout the unit.

Area IV Vision: The LYR condition will be attained in about 25 years when the stand reaches approximately age 63 years. When it reaches this DFC, the stand will consist of an overstory of fairly even-spaced Douglas-fir. Beneath the overstory will be a well-developed second layer of western redcedar and western hemlock. A lower layer of brush (hazel, elderberry and sword fern) 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: The LYR structure will be attained in about 20 years when the major portion of the stand reaches approximately age 80 years. When it reaches the DFC, the stand will consist of an overstory of fairly even-spaced Douglas-fir. Beneath the overstory will be a well-developed second layer of western hemlock and alder. A lower layer of brush (hazel, elderberry and sword fern) 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.

Table 3. Stand Structure Information

Area	Stand ID	Current	Post Harvest ¹	Desired Future	Acres
I	19015	UDS	REG	UDS	27
II	19012	UDS	REG	UDS, LYR	22
III	19019	UDS	REG	LYR, OFS	20
IV	19018	UDS	UDS	LYR, OFS	9
V	19018	UDS	UDS	LYR, OFS	22

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:

Areas I and II Anticipated Pathway: This harvest will be a modified clearcut prescription leaving behind 8-10 green trees per acre that will be greater than 17 inches DBH. The majority of these reserve trees will be Douglas-fir, but some alder and bigleaf maple may also be left. Existing snags that do not pose a safety hazard and all existing down wood will be retained. One snag per acre will be created and one tree per acre will be felled for down wood.

After harvest, on slopes less than 35%, slash will be piled and the piles will be burned. A site prep herbicide treatment will also be applied. Prior to planting, mountain beaver will be trapped from the areas.

Following completion of site prep activities, the units will be replanted with approximately 70% Douglas-fir, 15% western hemlock and 15% western redcedar at a rate of 360 trees per acre. All cedar will be tubed to deter elk and deer browse. Once planting is complete, the operation area will fit the REG classification.

It is likely that at least one herbicide application will be needed within the first 3 years after planting in order to release planted conifer from competing brush. It is also likely that mountain beaver will be trapped again the first year after planting. Alder is expected to seed-in naturally into the stand. By age 15 years the stands will have moved from REG to closed single canopy (CSC). When the stands reach age 15, it is likely that PCT will be used to reduce total trees per acre to around 222. The biggest and best trees will be selected to

leave, also keeping roughly the same percent species mix as was planted, and also allowing up to 10% of the mix to be comprised of hardwood.

At around age 30 the stands will be commercially thinned to an RD of 30-35. This thinning will capture harvest volume and will also move the stands on the pathway from CSC to UDS by opening the stands enough to allow vegetation to grow in the understory. Approximately 5-10 years following this thinning, the UDS structure will be achieved.

A second commercial thinning in this stand will be conducted in 10 to 15 years, when the stand's RD has reached about 50. Trees will be thinned to an RD of 30-35. This thinning will capture harvest volume and maintain stand vigor. The amount and condition of down wood and snags will be evaluated and more will be created at this time if needed.

In 10-15 years following the second thinning, tree growth rates will be evaluated and a decision will be made to either conduct a third thinning or to wait and final harvest at 60-70 years old.

Area III Anticipated Pathway: This harvest will be a retention clearcut prescription leaving behind about 20 green trees per acre ranging from 20-24 inches DBH. Most of these reserve trees will be Douglas-fir with a few alder and big leaf maple. Existing snags that do not pose a safety hazard and all down wood will be retained. One snag per acre will be created and one tree per acre will be felled for down wood.

After harvest, portions of the stand with less than 35% slope will be slash piled and the piles will be burned. A site prep herbicide treatment will be applied. An attempt will be made to avoid treating brush and forb species located under leave tree clumps. Prior to planting, mountain beaver will be trapped from the area.

Following completion of site prep activities, the area will be replanted with approximately 50% Douglas-fir, 25% western hemlock and 25% western redcedar at a rate of 360 trees per acre. All cedar will be tubed to deter elk and deer browse. Once planting is complete, the operation area will fit the REG classification.

It is likely that at least one herbicide application will be needed within the first 3 years after planting in order to release planted conifer from competing brush. It is also likely that mountain beaver will be trapped again the first year after planting. By age 15 years the stand will have moved from REG to closed single canopy (CSC).

When the planted trees reach age 15, it is likely that pre-commercial thinning (PCT) will be used to reduce total trees per acre to around 222. The biggest and

best trees will be selected to leave, keeping roughly the same percent conifer mix as was planted, but allowing up to 20% of the stand to be comprised of naturally occurring hardwood. With PCT, there will be the opportunity to create gaps in the stand and to thin heavily around designated trees to create large limbs and deep crowns.

At approximately age 30 the unit will be commercially thinned to an RD of about 25. This will open the stand enough to allow growth of existing natural conifer and hardwood in the understory and will also allow additional natural seed-in of these species. It is possible that patchcuts may be included with the thinning, and replanted with a conifer mix.

At about age 45 years, the unit will again be thinned to an RD of about 15, leaving about 35 tpa in the overstory. The amount and condition of down wood and snags will be evaluated and more will be created if needed. The remaining overstory trees will be left as legacy trees. Over time, some will become snags and down wood. By age 50, the stand will have moved into the LYR condition. The understory 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 will likely occur. At around age 70, through tree growth and down wood and snag recruitment, the stand will have moved into the OFS condition.

Areas IV Anticipated Pathway: During this harvest, the stand will be thinned to an RD of about 19, leaving approximately 45 TPA. Average DBH of residual trees will be approximately 18 inches.

- Most snags and downed wood will be left.
- All trees other than Douglas-fir will be reserved from cutting.
- Following harvest, a site preparation herbicide application to deter brush competition will be applied.
- Portions of the stand not already underplanted will be underplanted with western hemlock and western redcedar in approximately equal amounts, at a rate of about 300 tpa.
- All cedar will be tubed to protect against deer and elk browse. Mountain beaver control work is not expected to be necessary.

Five to ten years after thinning, Douglas-fir and hardwood will have seeded naturally into spots in the understory. 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 18, leaving about 30 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 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 63 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: During this harvest, the area will be thinned to an RD of about 20, leaving approximately 35 TPA. Average DBH of residual trees will be approximately 23 inches.

- Most existing snags and downed wood will be left.
- New snags and down wood will be created.
- All trees other than Douglas-fir will be reserved from cutting.
- Following harvest, a site preparation herbicide application to deter brush competition will be applied where needed.
- Portions of the area not already underplanted will be planted with western hemlock at a rate of about 300 tpa.

Five to ten years after thinning, Douglas-fir and hardwood will have seeded naturally into spots in the understory. Trees planted in the understory will be free-to-grow and will be on their way to forming a second layer. At around age 15 to 20 years, this understory may require pre-commercial thinning (PCT).

By age 80 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.

V. ESTIMATED TIMBER AND REVENUE INFORMATION:

Table 4. Timber and Revenue

Ownership		Sale Type	
BOF	CSL	Cash	Recovery
10%	90%		x
Planned Quarter:	3		

	Conifer	Hardwood	Total
Net Volume (MBF)	1,700	300	2,000
Stumpage Value (\$/MBF)	\$350	\$400	
Estimated Gross Value	\$595,000	120,000	\$715,000
		Project Costs:	\$216,000
		Estimated Net Value:	\$499,000

VI. **TRANSPORTATION PLANNING AND HARVESTING:**

Access to the northern sale areas (I, II & IV) is from Salmon Creek Road, Baber Ridge Road, and Deer Creek Ridge Road. Access to the southern areas (III & V) is from Big Elk County Road. All of these roads are all weather roads and will require only routine maintenance. Existing unsurfaced roads access the interior of all units. Some new road construction will be required for interior access in all units. These roads will be constructed on ridges or gentle ground and no stream crossings are involved.

Area I will require approximately 0.52 miles of new construction. Roads will be unsurfaced and constructed on gentle ground or ridges.

Area II will require approximately 0.05 miles of new construction. This will be ridge top construction and surfaced.

Area III will require approximately 0.11 miles of new construction. This road will be surfaced and built on gentle ground.

The existing roads in areas IV and V will be surfaced for all weather haul.

Approximately 2 miles of roads will be improved.

All needed easements have been acquired.

Logging operations consist of 80% cable and 20% ground based.

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

Table 5. Transportation Planning Summary (Miles).

Activity	Mainline	Collector	Rocked Spur	Dirt Spur
Construct			0.2	0.5
Improve			1.7	0.3
Maintain		6.5		
Close/Block				0.8
Vacate				

VII. AQUATIC RESOURCES AND WATER QUALITY:

Water flowing from streams in the operation areas is part of the Yaquina River System. The upper portion of Bevens creek is a type D stream due the presence of a domestic water intake. The intake is about 1,100 feet downstream from Area II. The downstream water user will be contacted regarding timber harvesting in the proximity of his water intake.

Big Elk creek, which is south of Area V is a large, type F stream.

The classification of other streams within the operation areas or adjacent to unit boundaries is not known. The ODFW fish biologist will be consulted to determine if the streams are type F or N.

Streams form the east boundary of Area I and the north boundary of Area III. The timber sale boundary will be posted approximately 50'-75' from these streams. There are also streams within these operation areas. For these streams, a 50'-75' horizontal distance buffer will be posted. In the remaining portion of the Riparian Management Area (RMA) zones sufficient trees will be retained to comply with current FMP standards.

A type D stream is adjacent to the north boundary of Area II. The timber sale boundary will be posted approximately 100' horizontal distance from this stream. There is also a short portion of type D stream in the southern portion of this area. A posted buffer will be established approximately 100' horizontal distance from each side of this stream. Sufficient trees will be retained in the outer Riparian Management Area (RMA) zone to comply with current FMP standards.

There are no streams in Areas IV or V. However, a type F stream (Big Elk Creek) exists adjacent to Area V. The timber sale boundary will be posted approximately 100' horizontal distance from Big Elk Creek in an effort to maintain the integrity of the riparian vegetation next to the stream. The partial cut thinning prescription will

retain sufficient trees in the outer RMA zone to comply with current FMP standards.

For type F, D, or unknown streams, no harvesting will be allowed within the buffers except to facilitate cable yarding.

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

The following mitigation measures will be employed to minimize impacts to streams from timber felling and yarding activities: 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 to minimize impacts to streams include seasonal restrictions for road construction and log hauling.

VIII. T&E SPECIES CONSIDERATIONS:

According to the area wildlife biologist, the operation areas contain suitable habitat for northern spotted owls and marbled murrelets. Surveys for both species were conducted in 2008 with no detections. Surveys will continue in 2009.

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:

This assessment is based off of USGS 1:24,000 topographic maps and available geologic maps. There are a few high landslide hazard locations in Areas II and V. There are no high landslide hazard locations in Areas I, III, and IV. Area II and Portions of Area IV drain into Bevins Creek. Areas I, III, V, and portions of Area IV drain to Big Elk Creek. The risk of landslides delivering to Bevins Creek from Area II is low to moderate and the risk to Big Elk Creek from Areas I, III, IV, and V is low.

X. RECREATION RESOURCES:

There are two primitive camping areas adjacent to Area V on Big Elk Creek. No timber harvesting will take place within 100' of the camp sites.

XI. CULTURAL RESOURCES:

The operation area was checked for cultural resources with the district's GIS inventory. No cultural resources are located in the vicinity of the operation area.

XII. SCENIC RESOURCES:

About 20 acres of Area V and 2 acres of Area III are visible from Big Elk Creek and the Big Elk county road.

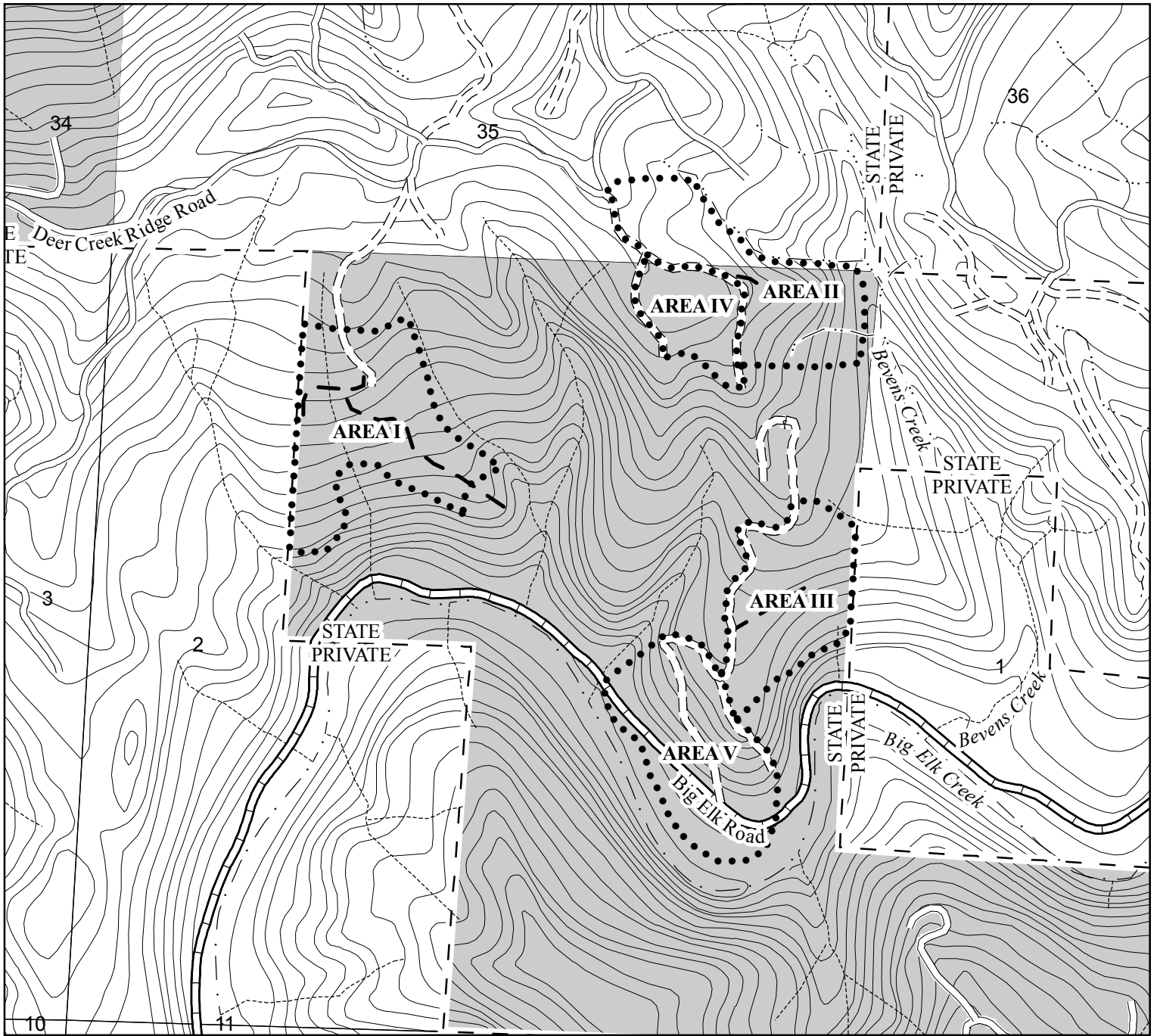
XIII. OTHER RESOURCE CONSIDERATIONS:

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XIV. LAND MANAGEMENT CLASSIFICATION SUMMARY:

The operation areas contain 14 acres of Focused Stewardship, Aquatic and Riparian Habitat along the type N (assumed) stream riparian areas. See Section VII, Aquatic Resources and Water Quality, for the management guidelines to be utilized. The operation areas also contain 22 acres of Focused Stewardship, Visual for the areas that are visible from the Big Elk Road.

About 8 acres are in Special Stewardship, Recreation for two undeveloped campgrounds along Big Elk Creek. Another 4 acres are classified Special Stewardship, Easements for an old road location that goes through the lower end of Area V.



BUCK N BULL

FY 2010 AOP
 WEST OREGON DISTRICT
 ATTACHMENT A : TOPOGRAPHY
 PORTIONS OF SECTION 35, T11S, R9W
 & SECTION 2, T12S, R9W, W.M.
 LINCOLN COUNTY, OREGON

This product is for informational use and may not have been prepared
 for or be suitable for legal, engineering or surveying purposes.
 Users of this information should review or consult the primary data
 and information sources to ascertain its useability.



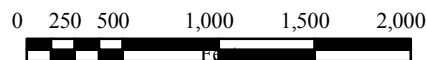
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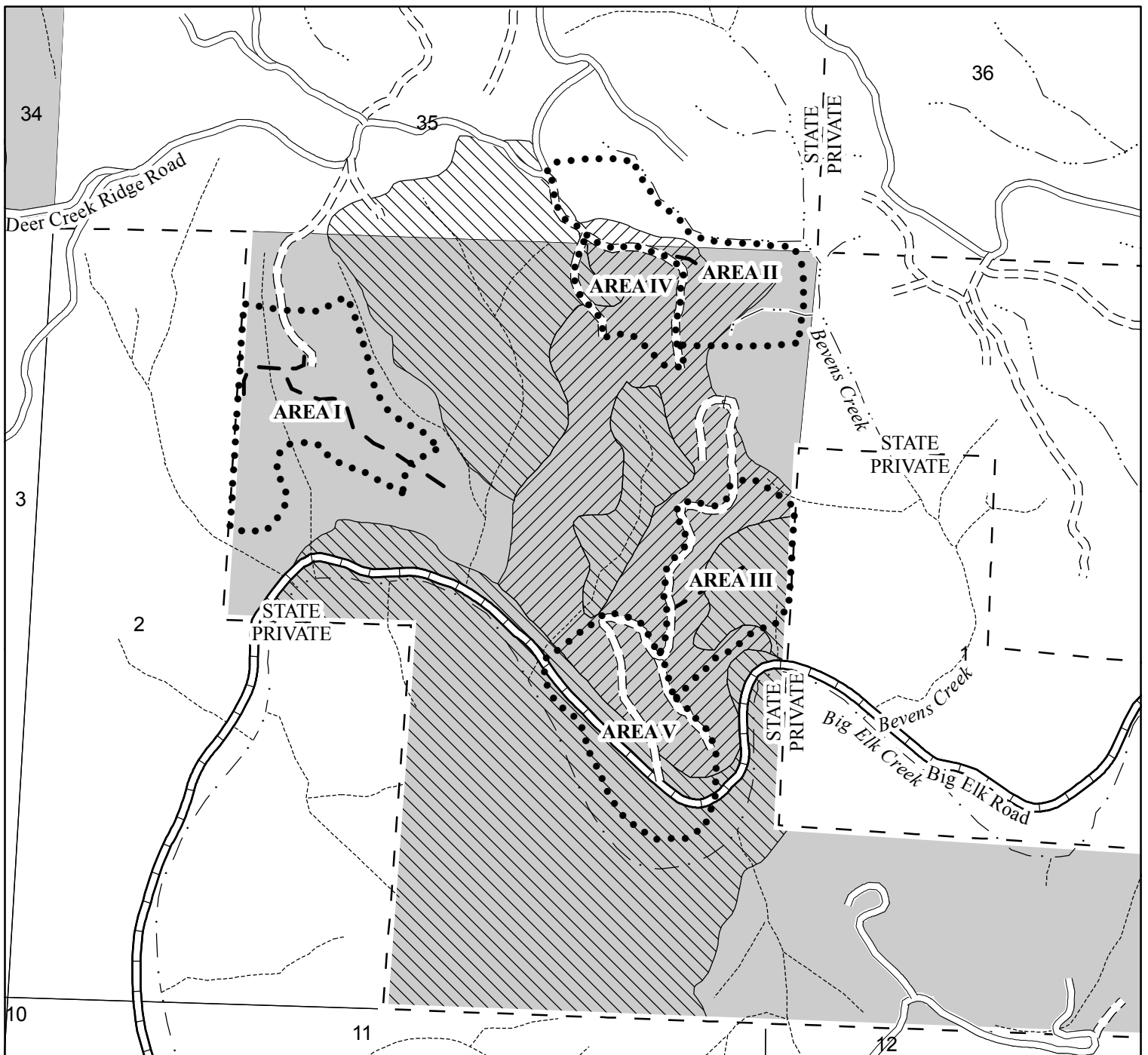
- Timber Sale Boundaries
- ▬ Highway
- ▬▬ County Road
- ▬▬▬ Surfaced Road
- ▬▬▬▬ Unsurfaced Road
- ▬▬▬▬▬ New Construction
- ▬▬▬▬▬▬ Domestic Use Stream
- ▬▬▬▬▬▬▬ Type F Stream
- ▬▬▬▬▬▬▬▬ Type N Stream
- ▬▬▬▬▬▬▬▬▬ Unknown Stream
- ▬▬▬▬▬▬▬▬▬▬ State Forest Property Boundary
- ▬▬▬▬▬▬▬▬▬▬▬ 40 Foot Contour
- ▬▬▬▬▬▬▬▬▬▬▬▬ Common School Land

APPROXIMATE NET ACRES

AREA I	27 ACRES (MC)
AREA II	22 ACRES (MC)
AREA III	20 ACRES (RC)
AREA IV	9 ACRES (PC)
AREA V	22 ACRES (PC)
TOTAL	49 ACRES (MC)
	31 ACRES (PC)
	20 ACRES (RC)

1 inch equals 1,000 feet





DFCC Legend

- Timber Sale Boundaries
- ▬ Highway
- ▬▬ County Road
- ▬▬▬ Surfaced Road
- ▬▬▬▬ Unsurfaced Road
- ▬ New Construction
- ▬▬▬ Domestic Use Stream
- ▬▬▬▬ Type F Stream
- ▬▬▬▬▬ Type N Stream
- ▬▬▬▬▬▬ Unknown Stream
- ▬ State Forest Property Boundary
- ▨ Future Condition LYR
- ▩ Future Condition OFS
- Common School Land

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BUCK N BULL

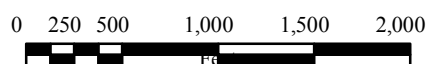
FY 2010 AOP
 WEST OREGON DISTRICT
 ATTACHMENT B : DESIRED FUTURE CONDITION
 PORTIONS OF SECTION 35, T11S, R9W
 & SECTION 2, T12S, R9W, W.M.
 LINCOLN COUNTY, OREGON

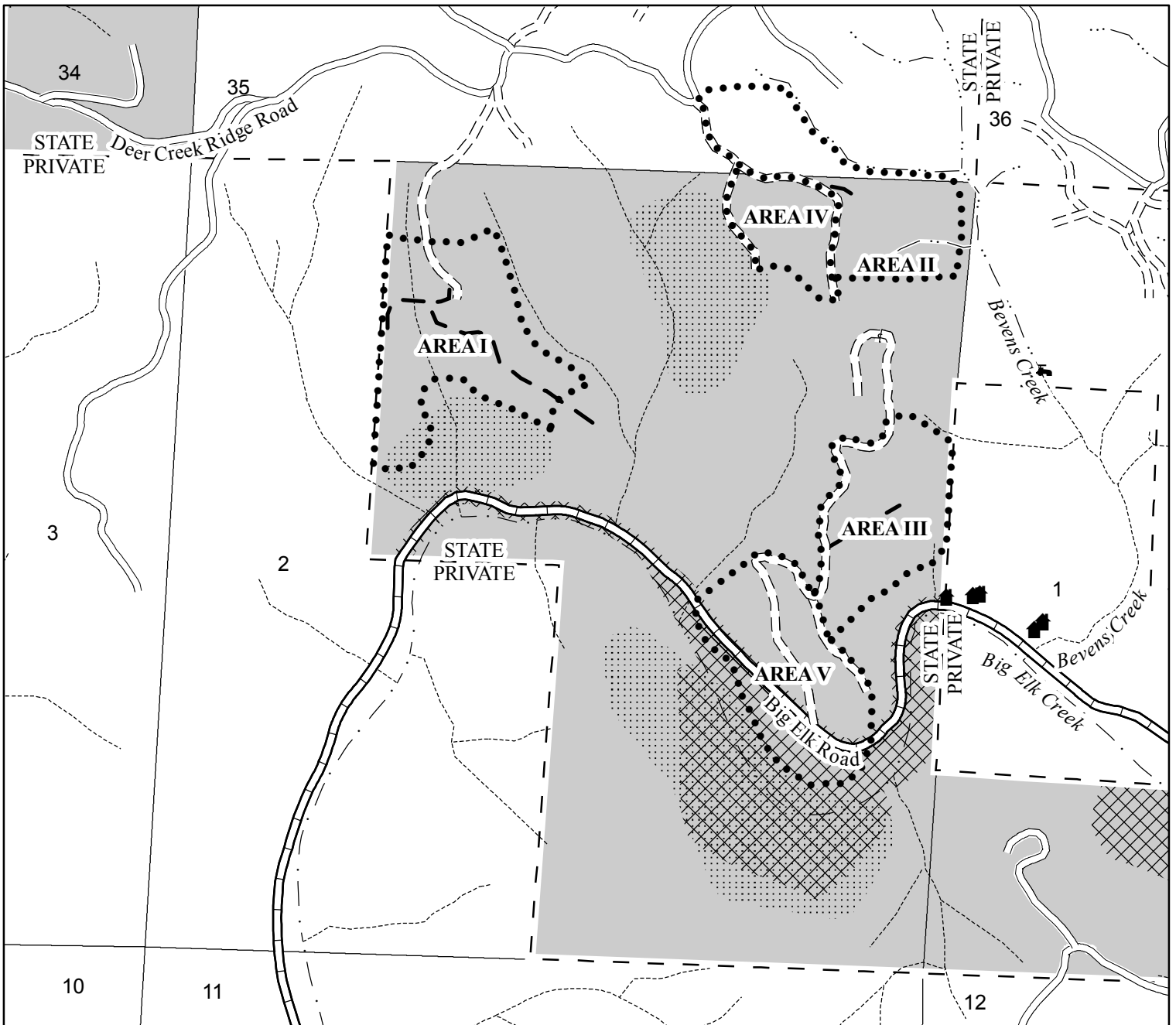


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Key Resources Legend

- Timber Sale Boundary
- Buildings
- ⊥ Water System Intake
- ▬ Highway
- ▬▬ County Road
- ▬▬▬ Surfaced Road
- ▬▬▬▬ Unsurfaced Road
- ▬ New Construction
- ⋯— Domestic Use Stream
- ⋯— Type F Stream
- ⋯— Type N Stream
- ⋯— Unknown Stream
- ▬ State Forest Property Boundary
- ⊗⊗ Special Stewardship Area
- ⋮⋮⋮ High Hazard Areas
- Common School Land

BUCK N BULL

FY 2010 AOP
 WEST OREGON DISTRICT
 ATTACHMENT C : KEY RESOURCES
 PORTIONS OF SECTION 35, T11S, R9W
 & SECTION 2, T12S, R9W, W.M.
 LINCOLN COUNTY, OREGON



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