

Pre-Operations Report

Operation Name: Easter Bonner
County: Benton
Management Basin: Bonner Ridge

Table 1. Operation Areas, Types and Acres

Area	Type of Operation	Net Acres
I	Partial Cut	43
II	Partial Cut	52
III	Partial Cut	10
IV	Partial Cut	41
V	Partial Cut	85
VI	Partial Cut	26
Total PC		257

I. PHYSICAL DESCRIPTION OF OPERATION AREA:

The operation consists of six partial cut units. The units lie in the western hemlock vegetation zone. Average rainfall is 60 to 68 inches for Area I and 78 to 100 inches for Areas II - VI. Soils are as follows: Areas I and V – Renhaven; Areas II and IV – Killam and Valino; Area III – Renhaven and Killam; Area VI – Valino. The soil information is derived from a soil survey completed in 1980.

The landforms for Areas I and IV are moderate to steep side-slopes near the upper portion of an un-named tributary of the Luckiamute River. The landforms of Areas II, III, & V are moderate to steep side-slopes in the headwaters of tributaries of Oleman Creek. The landform of Area VI is mostly moderate side-slope of the headwaters of the West Fork of Mary's River. There are bands of steep slopes in all (I – VI) areas of the sale. The underlying rocks are sedimentary origin of the Tyee Formation.

Aspect for the operation areas is as follows: Areas I, III, and IV – northeast; Area II – south; Area V – southeast; and Area VI – west.

II. CURRENT STAND CONDITION:

Areas I-VI support Douglas-fir plantations that range in age from 25-35 years old. Areas I, II, and IV-VI were pre-commercially thinned (PCT'd) about 10-12 years ago. Area III was PCT'd about 20 years ago and a small portion of it was

commercially thinned 5 years ago. In all operation areas, red alder and big leaf maple are present, mainly in the draws. A few snags and some down wood are present in these stands.

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

All six operation areas are classified as Understory (UDS) stand type. This was determined by SLI for Areas II, IV, V, and VI. District information was used to determine that the Areas I and III were UDS.

Table 2. Stand Inventory Information

Area	Prescription	Stand ID ¹	Species	Age	DBH	BA	TPA	RD	Acres ²
I	PC	18358	Douglas-fir	29	12	170	216	49	43
		Target ³			15	120	98	31	
II	PC	18725	Douglas-fir	29	12	175	222	51	52
		Target ³			16	120	86	30	
III	PC	18943	Douglas-fir	35	14	185	173	49	10
		Target ³			18	80	45	19	
IV	PC	18684	Douglas-fir	25	12	175	222	51	41
		Target ³			15	120	98	31	
V	PC	18733	Douglas-fir	25	11	170	257	51	85
		Target ³			14	120	112	32	
VI	PC	18055	Douglas-fir	25	12	180	229	52	26
		Target ³			16	120	86	30	

¹ The source of stand inventory information is from SLI and district plot data from 2004 and 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, Areas I, II and III are designated as Desired Future Condition Complex (DFCC) and targeted to become Layered (LYR) stands. Areas IV – VI, are designated as DFC General and are targeted to become Understory (UDS) stands.

Area I and II Vision: The LYR condition will be attained by the time the stands are approximately age 65. 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, grand fir, Douglas-fir 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 a few alder and bigleaf maple. Beneath the overstory will be a well-developed second layer of cedar, hemlock and grand fir. A lower layer of brush (salal, vinemapple, elderberry and hazel) 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 IV – VI Vision: These stands will remain in the UDS stand structure following initial thinning and will stay in that condition until final regeneration harvest at around 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, vinemapple) and forbs in the understory. A few hemlock and hardwoods will be scattered throughout the stands, both in the overstory and 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	18358	UDS	UDS	LYR	43
II	18725	UDS	UDS	LYR	52
III	18943	UDS	UDS	LYR	10
IV	18684	UDS	UDS	UDS	41
V	18733	UDS	UDS	UDS	85
VI	18055	UDS	UDS	UDS	26

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, the area will be thinned to an RD of about 31, leaving about 98 TPA. The average DBH of residual trees will be approximately 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, western redcedar and grand fir 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 will likely need to be trapped to protect planted seedlings.

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, Douglas-fir and hardwood will have seeded naturally into spots in the understory. 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.

- 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.
- New patchcuts will be created on about 15% of the unit acreage. Patches will be replanted to cedar and hemlock and fir.
- 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 RD will have again reached about 50 and a third commercial thinning will likely occur. This thinning will take the overstory trees down to approximately 30 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.

Within 5 to 10 years after the third thinning (about age 65) the LYR condition will be attained. 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 Anticipated Pathway: During this commercial entry, Area II will be thinned to an RD of about 30, leaving approximately 86 TPA. The average DBH of residual trees is expected to be 16 inches.

- Most snags and downed wood will be left.
- All trees other than Douglas-fir will be reserved from cutting.
- Approximately 20% of the acreage will be put into either patchcuts or low relative density (LRD) areas. Patchcuts will range from 1/2 to 2 acre in size. In patchcuts that are at least one acre in size, a few trees will be marked for retention. LRD areas will be thinned to about an RD of 20 and will be about 3 acres each in size.
- Patchcuts and LRD areas will be treated with site preparation herbicides in order to deter brush competition.
- Patchcuts and LRD areas will be planted/underplanted with western hemlock, western redcedar and grand fir 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 may be necessary in portions of the area.

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

Five to ten years after thinning, Douglas-fir and hardwood will have seeded naturally into spots in the understory. Trees planted in the patchcuts and LRD areas 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.

- 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.
- LRD areas will again be thinned to an RD 20.
- New patchcuts and/or LRD areas will be created on about 20% of the unit acreage. These areas will be planted/underplanted to cedar, hemlock and grand fir.
- Following this harvest entry, trees planted/underplanted after the original thinning will be pre-commercially thinned (PCT) if needed.

In another 10 to 15 years, the stand RD will have again reached about 50 and a third commercial thinning will likely occur. This thinning will take the overstory trees down to approximately 30 TPA (20 TPA in LRD areas). It is possible that trees planted in patchcuts and LRD areas 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.

About 10 years after the third commercial thinning (about age 65), the stand will have reached the LYR condition. The stand will be evaluated at this point to determine if more overstory trees will be harvested or if the amount left will serve as legacy trees.

Over time, some legacy trees will become snags or 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 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, the need for a site preparation herbicide application to deter brush competition will be evaluated.
- The stand will be underplanted with western hemlock, western redcedar and grand fir 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, Douglas-fir and hardwood will have seeded naturally into 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 18, leaving about 28 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 IV – VI Anticipated Pathway: These three areas will be thinned to an RD of 30-32 and 120 ft² basal area. This will leave 86-112 TPA with an average

diameter of 14-16 inches. This thinning will capture harvest volume and maintain stand vigor. A second thinning will be conducted in 10 to 15 years, when stand RDs have reached about 50. The aim of this thinning will be to again capture volume and maintain stand vigor. 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 around 70 years old.

V. ESTIMATED TIMBER AND REVENUE INFORMATION:

Table 4. Timber and Revenue

Ownership		Sale Type	
BOF	CSL	Cash	Recovery
100%	0%		X
Planned Quarter: Alt			

	Conifer	Hardwood	Total
Net Volume (MBF)	1,600	0	1600
Stumpage Value (\$/MBF)	\$180		
Estimated Gross Value	\$288,000		\$288,000
		Project Costs:	\$120,000
		Estimated Net Value:	\$168,000

VI. TRANSPORTATION PLANNING AND HARVESTING:

Access to Area I is from Fathead Lake Road. The very bottom portion is across a small woodland owner. The STATE has secured a permanent easement for this section of road. The remaining portion of the haul route is over State Lands. This unit is planned as a summer operation. Therefore, the roads are in adequate condition to sustain dry weather hauling. Two short unsurfaced ridge top roads will be re-opened, and a new unsurfaced road segment will be constructed.

Access to Areas II, III & IV will most likely be along the east end of Bonner Ridge road. The majority of this road is over a small woodland owner for which the STATE has secured a permanent easement. This portion is poorly rocked and will require a 4" lift of maintenance rock to re-establish design standards for wet weather hauling.

An unsurfaced road will be reopened for access to Area II. One stream crossing culvert will be removed after harvest operations are complete, and the streambed returned to a natural condition. An existing unsurfaced road accessing the northwest portion will be reopened. New construction will be needed to extend this road to the southwest. Another short spur will also be added to this existing

spur and will access a portion of the unit to the north. All construction is on gentle ridge top ground. Area III will be harvested from Filched Gate road. Accessing Area IV will require reopening an old unsurfaced road and utilizing a portion of Tamewood Road. The reopened road will be surfaced with a 10" lift of crushed rock for wet weather access. A 4" maintenance lift of crushed rock will also be applied to the lower portion of Tamewood Road.

Access to Areas V & VI will most likely be along the south end of Bonner Ridge Road. The road on the west side of Area V will have an unsurfaced extension constructed extending the road to the south. Area VI is accessed by an existing rocked road. All of the roads to be constructed or reopened in Areas V and VI are on State Lands and will not require access agreements.

Wet weather access is planned for Areas III, IV, & VI. Portions of Areas I and V also contain some wet weather access, but hauling should be limited to drier periods.

Because existing roads provide access to 80% of the operation acreage, other alternatives were considered but not used.

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

About 1.3 miles of road improvement will be necessary.

All unsurfaced roads will be waterbarred and blocked to vehicular traffic 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				0.5
Improve			0.2	1.1
Maintain		7.8	2.5	
Close/Block				
Vacate				

VII. AQUATIC RESOURCES AND WATER QUALITY:

Water flowing from streams in the operation area is part of the Mary's River System.

Streams are present in all six operation areas.

A type F stream is located on the east side of Area V. The timber sale boundary will be posted at least 25' horizontal distance from this stream. 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.

Fish distribution surveys need to be conducted for streams in all six operation areas. For either type F or N streams, 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 two unregistered domestic water sources in close proximity to Area V. If the intakes are from streams located within Area V a no harvest buffer will be posted sufficient distance from the water intake that no degradation of water quality will be experienced. The land owner will be informed of the operation and measures taken to protect water quality.

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

The operation area contains 14 acres of Special Stewardship (Aquatic and Riparian Habitat) associated with Type F streams in Areas I and II and adjacent to Area V, and there are 70 acres of Focused Stewardship (Aquatic and Riparian Habitat) associated with these and the Type N streams present in or adjacent to all of the units.

VIII. T&E SPECIES CONSIDERATIONS:

The operation area does not contain suitable habitat for northern spotted owls. There is suitable habitat for marbled murrelets adjacent to some of the operation

areas. Surveys for murrelets were conducted in 2006 with no detections. Surveys will continue in 2007.

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:

All of the operation areas have bands of steep slopes within the boundaries. The initial hazard and risk assessment from the geotechnical specialist is low for Area I and moderate for Areas II - VI. If these steep slopes are confirmed to exist in the operation areas as sale layout proceeds, the geotechnical specialist will be consulted to determine if a field visit is needed.

X. RECREATION RESOURCES:

Recreation in the vicinity of the operation areas is mostly hunting.

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:

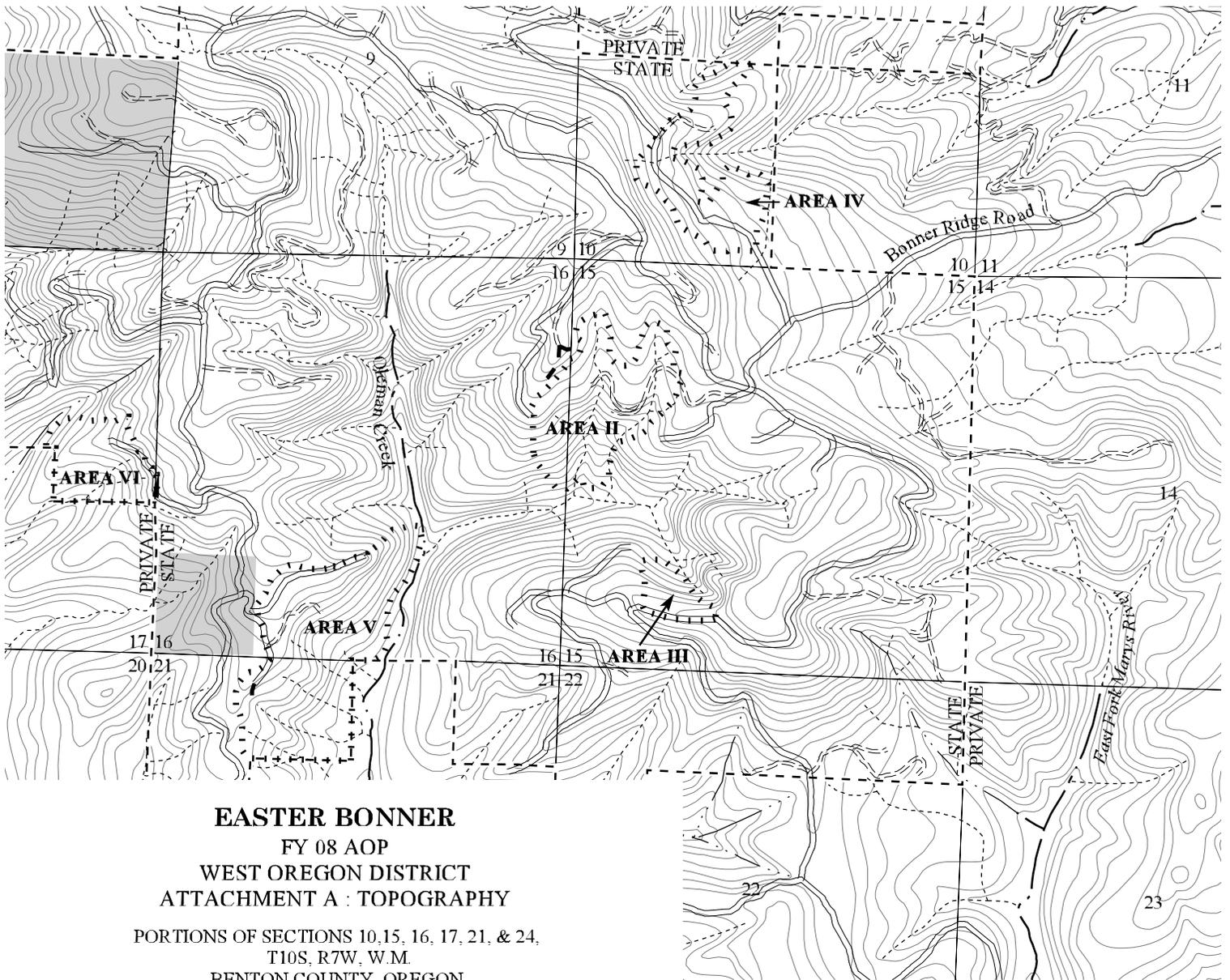
None of the operation areas are visible from paved roads.

XIII. OTHER RESOURCE CONSIDERATIONS:

No other resource considerations have been identified.

XIV. LAND MANAGEMENT CLASSIFICATION SUMMARY:

The operation area contains 14 acres of Special Stewardship (Aquatic and Riparian Habitat) associated with Type F streams in Areas I and II and adjacent to Area V, and there are 70 acres of Focused Stewardship (Aquatic and Riparian Habitat) associated with these and the Type N streams present in or adjacent to all of the units. See Section VII, Aquatic Resources and Water Quality, for the management guidelines to be utilized.



EASTER BONNER
 FY 08 AOP
 WEST OREGON DISTRICT
 ATTACHMENT A : TOPOGRAPHY

PORTIONS OF SECTIONS 10, 15, 16, 17, 21, & 24,
 T10S, R7W, W.M.
 BENTON COUNTY, OREGON

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LEGEND

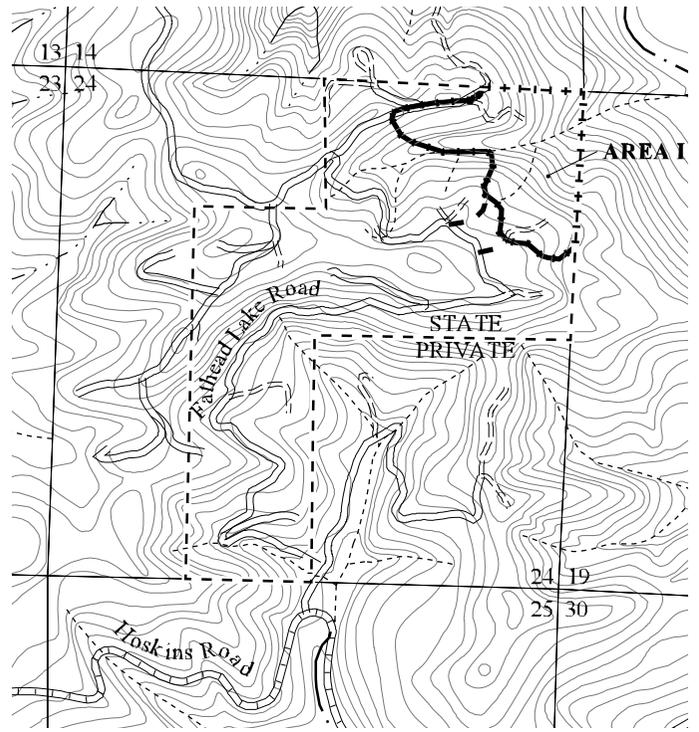
- Timber Sale Boundary
- Roads
 - ==== County Road
 - ===== Surfaced Road
 - ===== Unsurfaced Road
 - New Construction
- Streams
 - Fish
 - Nonfish
 - Unknown
- State Forest Property Boundary
- County Line
- Forty Foot Contour Lines
- Common School Land
- ▭ Sale Area

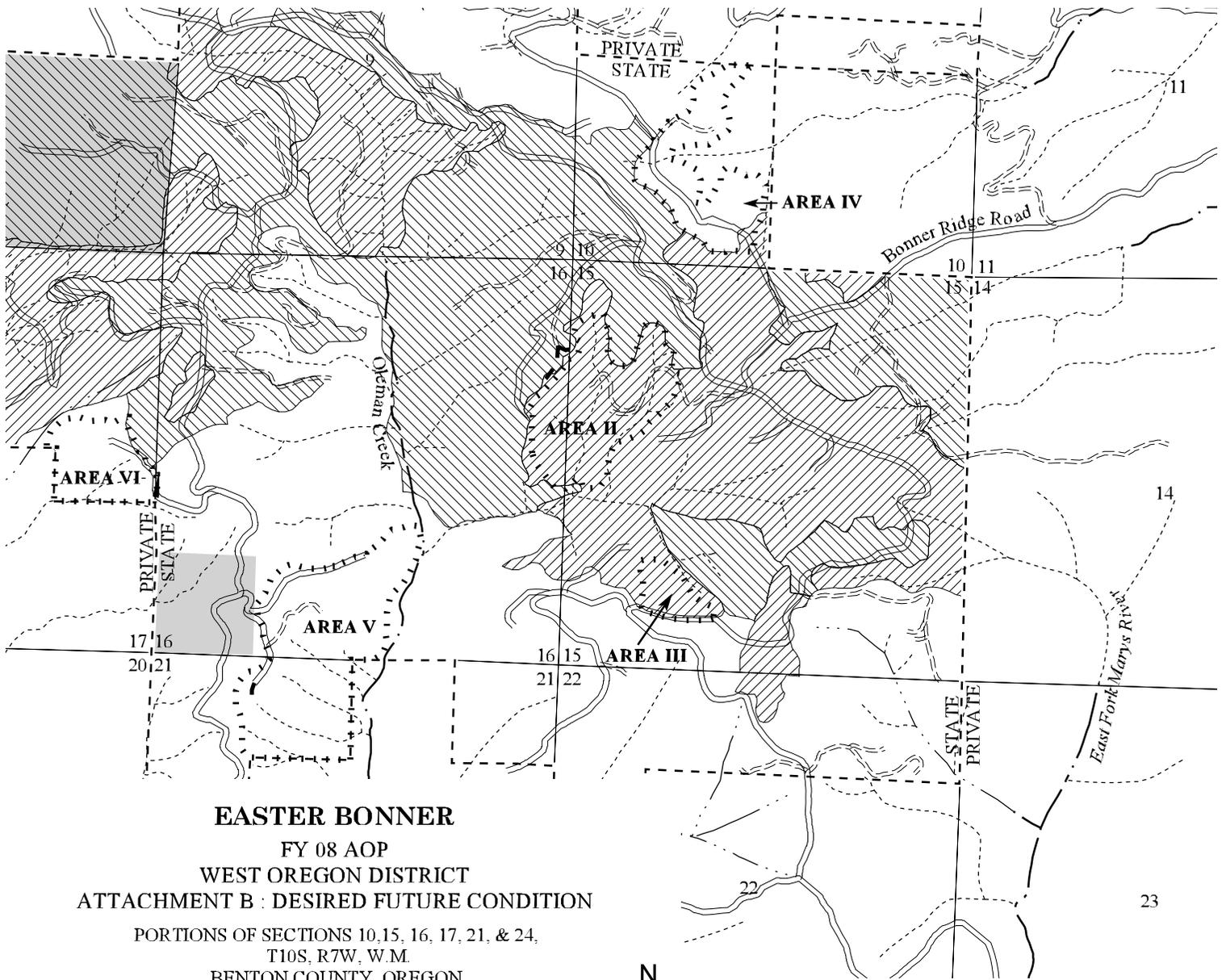
APPROXIMATE NET ACRES

AREA I	43 ACRES (PC)
AREA II	52 ACRES (PC)
AREA III	10 ACRES (PC)
AREA IV	41 ACRES (PC)
AREA V	85 ACRES (PC)
AREA VI	26 ACRES (PC)
TOTAL	257 ACRES



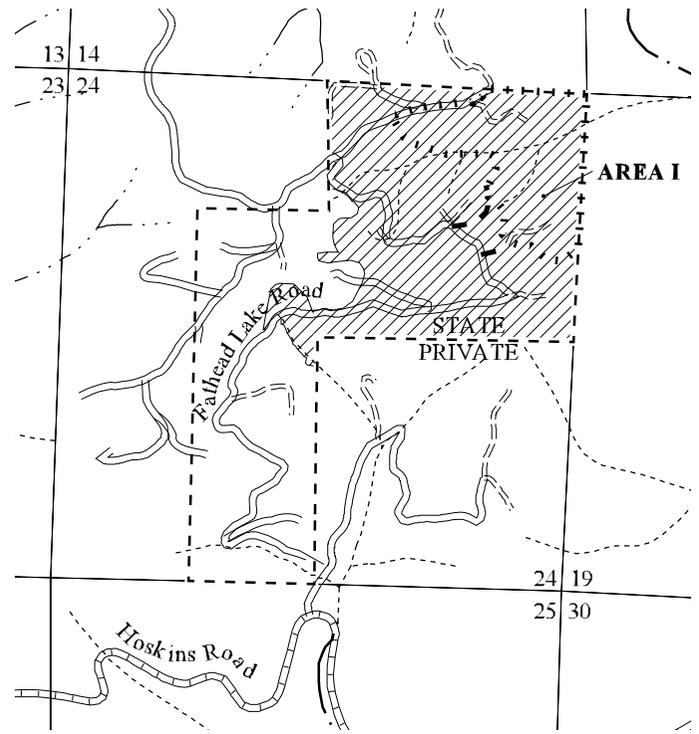
Scale
 1 : 24,000
 1 inch = 2000 feet





EASTER BONNER
 FY 08 AOP
 WEST OREGON DISTRICT
ATTACHMENT B : DESIRED FUTURE CONDITION
 PORTIONS OF SECTIONS 10, 15, 16, 17, 21, & 24,
 T10S, R7W, W.M.
 BENTON COUNTY, OREGON

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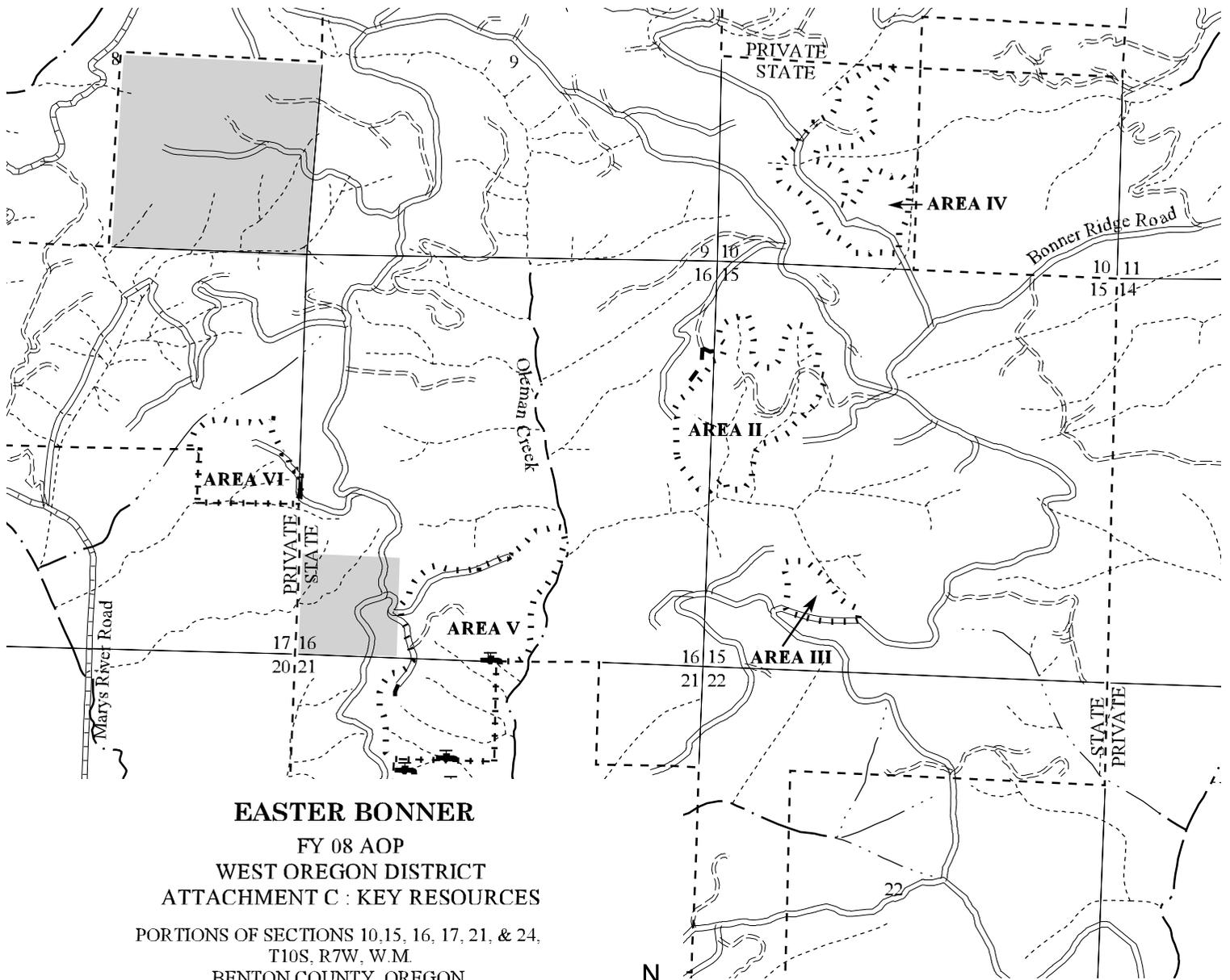
- ⋯⋯⋯ Timber Sale Boundary
- Roads
- ▭ County Road
- ▬ Surfaced Road
- ▬▬▬ Unsurfaced Road
- ▬▬▬ New Construction
- Streams
- Fish
- ⋯⋯ Nonfish
- ⋯⋯ Unknown
- State Forest Property Boundary
- ▬▬ County Line
- Desired Future Condition
- ▨ OFS
- ▨ LYR
- ▭ Common School Land

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AREA I	43 ACRES (PC)
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AREA V	87 ACRES (PC)
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TOTAL	257 ACRES

Scale
 1 : 24,000
 1 inch = 2000 feet





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LEGEND

- Timber Sale Boundary
- Roads**
- ==== County Road
- ===== Surfaced Road
- ===== Unsurfaced Road
- New Construction
- Streams**
- Fish
- Nonfish
- Unknown
- ⊕ Domestic Water
- State Forest Property Boundary
- County Line
- Common School Land

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