

Pre-Operations Report

Operation Name: Ice Box Thinning
County: Clatsop
Management Basin: Gnat

Table 1. Operation Areas, Types and Acres

Area	Type of Operation	Gross Acres	Net Acres
1	PC-M	126	113
2	PC-M	315	252
3	PC-M	130	117
4	PC-M	119	107
5	PC-M	46	41
Total	Partial Cut	736	630
Total		736	630

I. PHYSICAL DESCRIPTION OF OPERATION AREA:

These sale areas are located within the Gnat Basin, about nine miles southeast of the town of Knappa, south of State Highway 30, and about seven miles from the Columbia River. The Gnat Basin drains in a northerly direction towards the Columbia River. It is in the “hemlock zone” and is generally characterized by Douglas-fir and hemlock as the dominant tree species, with understory of salal, huckleberry, and ferns. Well maintained mainline roads and secondary rocked roads on ODF property provide primary access to all of the sale areas.

Soil types in these sale areas are mostly Aldrich, with a small amount of Brownsmead, Nicolai, and Lousignont types, moderately deep, well-drained, medium textured soils developing from siltstones and basalt. Elevations range from 1,500 to 2,000 feet.

The landforms are gentle to moderate slopes with a few scattered steep slopes in the headwaters of Gnat Creek and McNary Creek. The underlying rock is igneous origin rock of the Frenchman Springs member of Wanapum Basalt, and the Grande Ronde Basalt of the Yakima Basalt Subgroup, of the Columbia River Basalt Group. Subaerial basalt flows with associated breccias.

II. CURRENT STAND CONDITION:

Area 1 - The current stands are generally 54 to 57 years old, and are small to moderate sized, dense mixed conifer stands, composed of primarily hemlock, with minor components of true fir and spruce. Alder dominated clumps and stringers are present throughout the area. The understory vegetation consists mostly of scattered sword fern, salmonberry, and oxalis. Less than 1 snag per acre greater than 24 inches DBH is present as well as approximately 4,800 cubic feet per acre of down wood.

Area 2 – The current stands are generally 41 to 47 years old, and are small to moderate sized mixed conifer stands, composed of primarily spruce and hemlock, with minor components of Douglas-fir, true fir and alder. The current stocking of these stands is clumpy, with patches of conifer growing in dense pockets and other portions developing with very little competition. The northern portion consists of a fringe of larger and more densely stocked conifer. Alder dominated clumps and stringers are present throughout the area, mainly in the southern half. The understory vegetation consists mostly of scattered sword fern, salmonberry, and oxalis. Less than 1 snag per acre greater than 24 inches DBH is present as well as approximately 700 cubic feet per acre of down wood.

Areas 3 and 4 - The current stands are generally 43 to 44 years old, and are small to moderate sized mixed conifer stands, composed of primarily spruce and hemlock, with minor components of Douglas-fir, true fir and alder. Alder dominated clumps and stringers are present throughout the area. The understory vegetation consists mostly of scattered sword fern, vinemapple, salmonberry, and oxalis. Approximately 1 snag per acre greater than 24 inches DBH is present as well as approximately 3,700 cubic feet per acre of down wood.

Area 5 - The current stands are generally 42 years old, and are small sized mixed conifer stands, composed of primarily spruce, with minor components of true fir and hemlock. The stand floor is mostly bare of vegetation due to heavy stocking in the stands producing a mostly closed canopy throughout. The sparse understory vegetation consists mostly of scattered sword fern, vinemapple, salmonberry, and oxalis. Less than 1 snag per acre greater than 24 inches DBH is present as well as approximately 400 cubic feet per acre of down wood.

Table 2. Stand Inventory Information

Area	Prescription	Stand ID ¹	Species	Age	DBH	BA	TPA	SDI	Acres ²
1	PC	23381	WH,SS, DF	57	16	226	171	58	96
		23403	WH,SS	54	15	205	163	53	17
		Target ³	WH,SS, DF		18	140	92	30-40	113
2	PC	23406	WH,SS, DF	41	14	157	155	42	189
		23381	WH,SS, DF	44	16	226	171	58	63
		Target ³	WH,SS, DF		18	140	84	35	252
3	PC	23419	WH,SS, DF	44	15	210	163	54	117
		Target ³	WH,SS, DF		17	140	92	30-35	117
4	PC	23419	WH,SS, DF	43	15	210	163	54	107
		Target ³	WH,SS, DF		17	140	92	35	107
5	PC	23433	SS	42	14	299	294	81	41
		Target ³	SS		16	140	100	30-35	41

¹ The source of stand inventory information is SLI from 2002. Stand ages shown are as of 2007.

² The acres are based on (orthophotos, traverse, GIS, GPS, etc) 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 FUTURE CONDITION/VISION:

For approximately 96 acres of Area 1 and 63 acres of Area 2, the desired future stand condition is Older Forest Structure (OFS). The expected post operation result is Layered (LYR). For approximately 17 acres of Area 1, 59 acres of Area 3, and 21 acres of Area 4, the desired future stand condition is Layered (LYR). The expected post operation result is Layered (LYR).

Approximately 189 acres of Area 2, 58 acres of Area 3, 86 acres of Area 4, and all of Area 5 are not planned to have a complex desired future condition on the landscape.

Table 3. Stand Structure Information

Area	Stand ID	Current	Post Harvest ²	Desired Future	Acres
1	23381	UDS	LYR	OFS	96
1	23403	CSC	UDS	LYR	17
2	23406	UDS	LYR	General	189
2	23381	UDS	LYR	OFS	63
3	23419	UDS	LYR	LYR	59
3	23419	UDS	LYR	General	58
4	23419	UDS	LYR	General	86
4	23419	UDS	LYR	LYR	21
5	23433	CSC	UDS	General	41

² 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 1 - is a first entry partial cut, with the objective of stimulating stand, understory, and structure growth. This partial cut entry will be a moderate thinning prescription, approximately SDI 30-40, and will retain the “biggest and best” trees as well as a minor component of smaller sized conifer trees to provide multiple dimensions to the stand following harvest. It is anticipated that thinning to this level will allow the residual stand to gain individual tree growth as well as develop understory vegetation and another cohort of conifer in the understory. The goal of this prescription is to remove the trees with poor crown ratios while retaining the emerging dominants with better crown ratios. Minor species such as red cedar and any existing larger remnant trees will be reserved from cutting. Due to the large alder dominated clumps and stringers located throughout the area, thinning these portions will help diversify the stand as well as provide an accelerated path for the stand to move to the desired future stand condition of Older Forest Structure (OFS) for the majority of the area. In order to diversify the simplistic conifer dominated portions of the area, additional strategies to create varied stand densities may be employed. These strategies may include marking individual trees and removing all other trees within 75 feet. These marked trees may be individuals, or in small clumps of 2 to 10 trees, and would be scattered across the lower slopes of the sale area to minimize windfall, and maximize stand density diversity. It is anticipated this harvesting prescription, and possibly additional future entries, will move this area with a desired future condition of Older Forest Structure (OFS) and Layered (LYR) into a complex stand condition.

Areas 2, 3, and 4 - are first entry partial cuts, with the objective of stimulating stand and understory growth. This partial cut entry will be a moderate thinning prescription, approximately SDI 30-35, and will retain the “biggest and best” trees as well as a minor component of smaller sized conifer trees to provide multiple dimensions to the stand following harvest. It is anticipated that thinning to this level will allow the residual stand to gain individual tree growth as well as develop understory vegetation and another cohort of conifer in the understory. The goal of this prescription is to remove the trees with poor crown ratios while retaining the emerging dominants with better crown ratios. Minor species such as red cedar and any existing larger remnant trees will be reserved from cutting. Due to most of these stands being aerially seeded, the stocking varies throughout the sale areas. There are small patches of non-merchantable trees and unstocked areas scattered throughout the sale areas, which currently provide some horizontal and vertical diversity to the stands. No harvesting activities would take place within these areas. Within Area 2, the portion designated as having a desired future stand condition of Older Forest Structure (OFS), may utilize some or all of the strategies to create a variable stand density detailed for Area 1. It is anticipated this harvesting prescription, and possibly additional future entries, will move the portions of areas with a desired future condition of Layered (LYR) or Older Forest Structure (OFS) into a complex stand condition. The portions of

areas that do not have a complex desired future stand condition will benefit from increased stand growth as well as provide increased diversity across the landscape.

Area 5 - is a first entry partial cut of a dense spruce stand, with the objective of stimulating stand and understory growth. This partial cut entry will be a moderate thinning prescription, approximately SDI 30-35, and will retain the “biggest and best” trees. It is anticipated that thinning to this level will allow the residual stand to gain individual tree growth as well as develop understory vegetation. The goal of this prescription is to remove the trees with poor crown ratios while retaining the emerging dominants with better crown ratios. Minor species such as red cedar and any existing larger remnant trees will be reserved from cutting. There are small patches of non-merchantable trees scattered throughout the sale area. No harvesting activities would take place in these undersized patches. While Area 5 does not have a complex desired future condition, this moderate thinning will provide increased stand growth as well as provide increased diversity at the landscape level.

Snags: In all areas, all existing snags will be retained unless deemed to be safety hazards. Snag retention will be emphasized during sale layout and coordinated with green tree retention marking practices to protect existing snags. It is anticipated that additional snags will develop during yarding activities by leaving, topping, or girdling damaged rub trees, tail trees, lift trees, and/or intermediate support trees.

Downed Wood: All existing down wood will be retained. Non-merchantable log segments suitable for downed wood will be bucked out prior to yarding.

V. ESTIMATED TIMBER AND REVENUE OUTPUTS:

Table 4. Timber and Revenue

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

	Conifer	Hardwood	Total
Net Volume (MBF)	4,700	0	
Stumpage Value (\$/MBF)	\$200	\$0	
Estimated Gross Value	\$940,000	\$0	\$940,000
		Project Costs:	\$235,000
		Estimated Net Value:	\$705,000

VI. HARVESTING AND ACCESS CONSIDERATIONS:

There are currently good quality surfaced forest roads accessing the vicinity of all the sale areas.

The proposed new roads are composed of secondary collector spurs and relatively short “working” spurs from existing rocked roads and are generally located along ridge tops. There is one potential stream crossing (small, Type N) in Area 4. The new rocked roads into the partial harvest areas will be needed for future harvesting entries, and will remain open upon completion of harvesting activities. Access and location for new construction roads will be evaluated further during sale layout.

Other alternative access routes would require large Type F stream crossings, and were considered environmentally and economically unfeasible. Multi-span cable yarding (long line) systems from the existing roads and helicopter yarding were also analyzed. These alternative harvesting strategies were determined to be economically unfeasible and provided minimal additional resource protection. Approximately 50% of the sale area will be cable logged, as the slopes are moderate to steep. Ground based harvesting systems will be utilized on the more gentle slopes. Cable yarding can be done with medium size yarders. Tractor logging can be done with shovel loggers, track or wheel skidders.

The road rock needed may need to be crushed at the Knob Point Quarry.

The project work for this sale is estimated to cost approximately \$235,000.

Table 5. Transportation Management Summary (Miles).

Activity	Mainline	Collector	Rocked Spur	Dirt Spur
Construct	0.0	0.0	2.0	0.5
Improve	0.0	0.0	0.0	0.0
Maintain	8.0	2.0	2.5	0.0
Close/Block	0.0	0.0	0.0	0.0
Vacate	0.0	0.0	0.0	1.0

VII. AQUATIC RESOURCES AND WATER QUALITY:

Type F Streams:

The headwaters of Gnat Creek (large, Type F stream) lie within Areas 1 and 2. Three unnamed headwater streams of Gnat Creek (medium, Type F streams) form a confluence just outside the northeast corner of Area 2 to form the main channel of Gnat Creek. The eastern headwater stream flows northeasterly through the southern half of Area 2 and into the northeastern portion of Area 2 to

the confluence that forms Gnat Creek. The middle headwater stream flows northwest through the southern half of Area 1 where it forms a confluence with the eastern headwater stream at the boundary between Areas 1 and 2. The western headwater stream flows northwesterly along the northern Area 1 boundary to the confluence.

All of the streams flow in a northerly direction towards the Columbia River through the Gnat Basin.

Type N Streams: There are small perennial Type N streams in all sale areas. NW Oregon Forest Plan stream riparian strategies will be employed along these streams.

The current riparian vegetation is composed of a patchwork of conifer and hardwood overstories. The understory in the conifer dominated reaches is similar to the headlands, with mostly ferns, salal, and some wild rose. The understory within the alder reaches is mostly salmonberry.

All streams will be examined during sale layout to determine stream type and classification. Then, the specific RMA strategies required in the FMP will be implemented. These strategies are found in Appendix J, pages J-1 through J-16.

None of the sale areas are within proximity of streams in which listed fish are present.

Stream Enhancement Opportunities: There no known opportunities for stream enhancement on the unnamed tributaries to Gnat Creek. Further assessment and collaboration will be done with ODFW biologists and the Sunset Unit Forester.

Aquatic Resource Protection: For all areas, full log suspension is required when cable yarding over streams. No ground-based logging equipment operation is allowed within the stream bank zone. Adequate RMA buffers will be left where required on all streams per the FMP standards. To protect water quality during active operations, a variety of methods will be used to prevent sediment from entering live streams. These methods range from use of hay bales in road ditches, to “ditch-outs” away from streams, to complete shutdown of logging and hauling operations during times of heavy rainfall. There are no known high risk sites within the sale area. Any high-risk sites found will require at least one-end log suspension and cable logging. If any in-stream work is required with the sale, then the in-stream work will be conducted during in-stream periods established by ODFW.

VIII. WILDLIFE AND T&E SPECIES CONSIDERATIONS:

The ODF Northwest Area Biologist determined Area 5 does not contain suitable habitat for Northern Spotted Owls. Areas 1, 2, 3, and 4 have been surveyed for

Northern Spotted Owls in 2007, with no responses, and are scheduled to be resurveyed in 2008.

The ODF Northwest Area Biologist determined the sale areas do not contain suitable habitat for Marbled Murrelets.

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

IX. SLOPE STABILITY AND GEOTECHNICAL ISSUES:

This assessment is based off of USGS 1:24,000 topographic maps and available geologic maps. There are no high landslide hazard locations in Areas 1 and 5 and there are a few isolated high landslide hazard locations in Areas 2, 3, and 4. The entire sale area drains to Gnat Creek. The risk of landslides delivering directly to Gnat Creek from the sale area is low. The lower portions of the sale area appear to be located on a large, deep-seated landslide landform. The geotechnical specialist will be consulted if evidence of recent landslide activity is identified during sale layout.

X. RECREATION RESOURCES:

This area receives little dispersed recreation. This sale is located in the motorized recreation portion of the Clatsop State Forest, inventories of existing trails found desirable trails in the sale. At this time it is not known if the trails will become part of a developed motorized trail network on the Clatsop State Forest.

XI. CULTURAL RESOURCES:

There are no identified cultural resources within the operation areas.

XII. SCENIC RESOURCES:

The sale areas are not visible from any county or state highway. All forest roads accessing the sale areas are Level 3 classification.

XIII. OTHER RESOURCE CONSIDERATIONS:

None

XIV. LAND MANAGEMENT CLASSIFICATION SUMMARY:

The lands in this timber sale are all classified "general" management.

Legend

-  Fish Stream
-  Non-fish Stream
-  Unknown Stream
-  Timber Sale Boundary
-  Ownership Boundary
-  New Road Construction
-  Roads

FY 2009
Ice Box Thinning

Map A: Topography

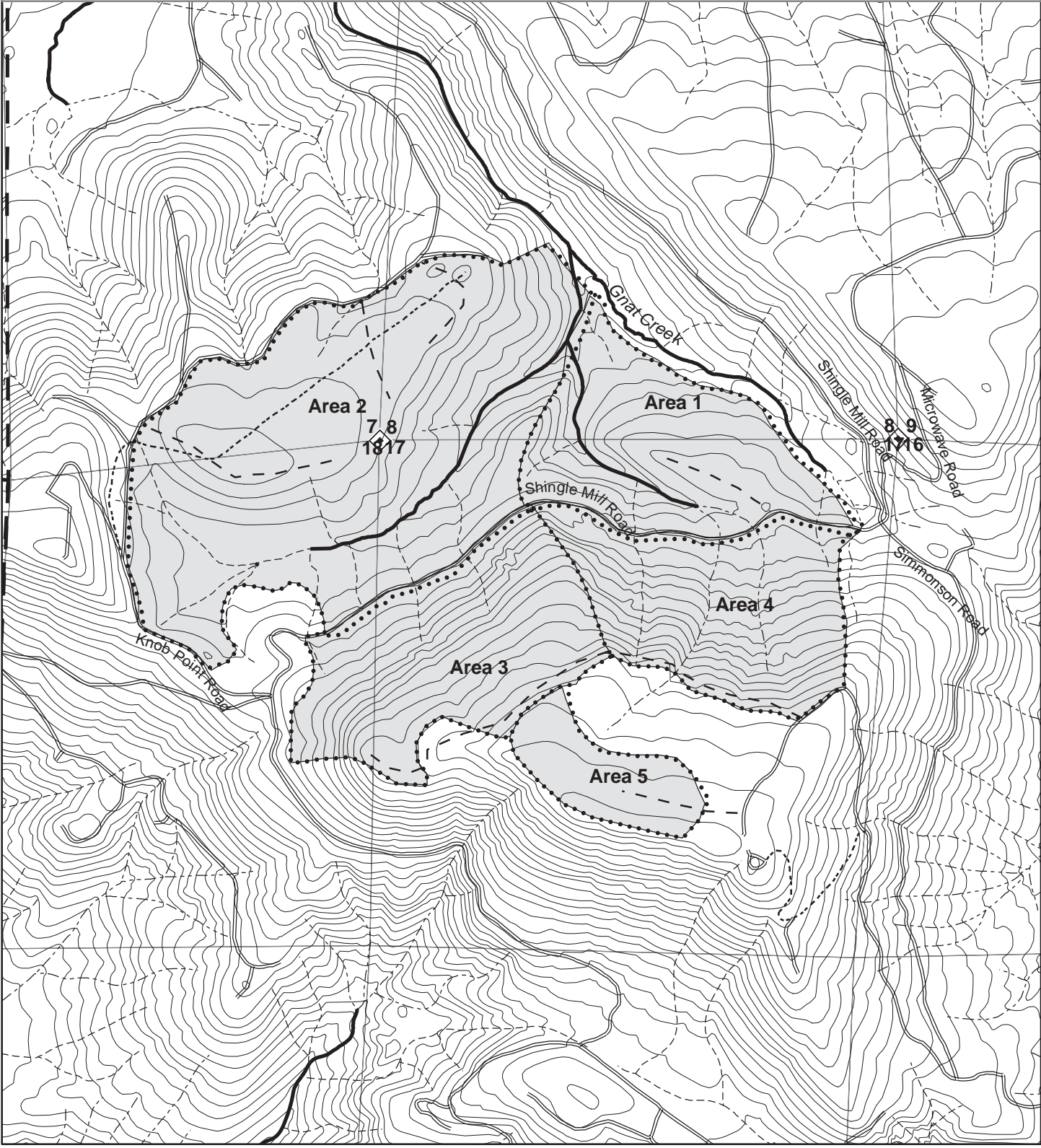
Portions of Sections 7, 8, 17, & 18 of T7N, R6W,
W.M., Clatsop County, Oregon

500 0 500 1,000 1:18,000

 Feet

Approximate Net Acreage

	MC Acres	PC Acres
Area 1 (PC) -		113
Area 2 (PC) -		252
Area 3 (PC) -		117
Area 4 (PC) -		107
Area 5 (PC) -		41
Total =		630



LEGEND

-  Fish Stream
-  Non-fish Stream
-  Unknown Stream
-  Timber Sale Boundary
-  Ownership Boundary
-  New Road Construction
- Desired Future Condition
-  Layered
-  Older Forest Structure
-  Roads

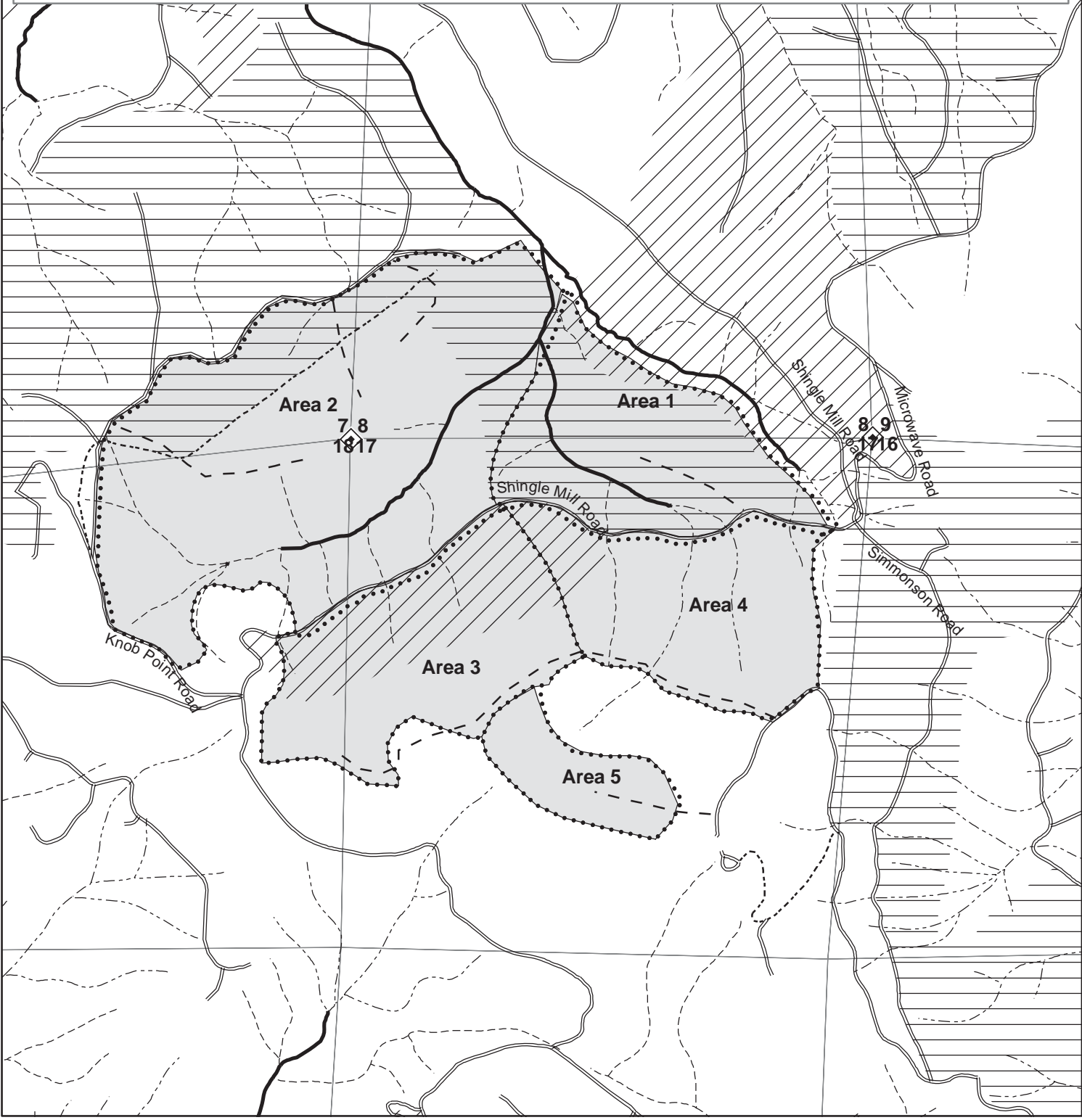


FY 2009 Ice Box Thinning


Map B: Desired Future Condition

Portions of Sections 7, 8, 17, & 18 of T7N, R6W,
W.M., Clatsop County, Oregon

	Approximate Net Acreage	MC Acres	PC Acres
Area 1 (PC) -			113
Area 2 (PC) -			252
Area 3 (PC) -			117
Area 4 (PC) -			107
Area 5 (PC) -			41
Total =			630



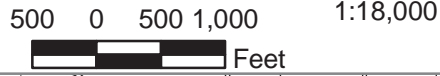
Legend

-  Fish Stream
-  Non-fish Stream
-  Unknown Stream
-  Timber Sale Boundary
-  Ownership Boundary
-  New Road Construction
-  Roads

FY 2009
Ice Box Thinning

Map C: Key Resources

Portions of Sections 7, 8, 17, & 18 of T7N, R6W,
W.M., Clatsop County, Oregon



	Approximate Net Acreage	
	MC Acres	PC Acres
Area 1 (PC) -		113
Area 2 (PC) -		252
Area 3 (PC) -		117
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Total =		630

