

Pre-Operations Report

Operation Name: Sams Saddle
County: Tillamook
Management Basin: Kilchis and Wilson

Table 1. Operation Areas, Types and Acres

Area	Type of Operation	Gross Acres	Net Acres ¹
1	Modified clearcut	181	119
2	Retention Cut	114	88
3	Partial cut – Moderate	68	62
Total		363	269

1. The net acres are based on orthophotos and GIS and exclude roads, stream buffers, reserve areas and non-required thinning areas.

I. PHYSICAL DESCRIPTION OF OPERATION AREA:

Slopes have varied aspects, predominantly north and northeast. Elevations range from 920 to 2,220 feet. The major soil types are Humbug, Nedonna, and Killam.

The sale is located on and below both sides of a narrow ridgeline divide between Sam Downs Creek, a tributary of the Kilchis River and Blowout Creek, a tributary of the Wilson River. There are steep to very steep side slopes near the eastern boundary of both Areas 1 and 2. The sale is underlain by igneous origin rocks of the Tillamook Volcanics Formation. The western portion of Area 2 is mapped as “landslide deposit” (Wells et. al). Refer to the Overview of Harvest Operations in the Summary document for information.

II. CURRENT STAND CONDITION:

Table 2. Stand Inventory Information⁴

Area	Prescription	Stand ID ¹	Species	Age	DBH	BA	TPA	SDI	Net Acres ²
1	MC	120	DF/RA	45	12	160	204	46	119
2	RC	121	RA/DF/SS/WH	45	12	171	203	48	88
		Target ³	SS/WH/DF	45	24	35	11	7	88
3	PC	122	DF/WH/RA	45	14	200	188	53	62
		Target ³	WH/DF	45	16	120	86	30	62

1. The source of stand inventory information is from SLI in 2003, field reconnaissance and previous sales in the vicinity.

2. The net acres are based on orthophotos and GIS and exclude roads, stream buffers, reserve areas and non-required thinning areas. Modified clear cut acres are not contiguous and do not exceed 120 acres.
3. The Target identifies expected stand characteristics (DBH, BA, TPA and SDI) after harvesting has been completed.
4. These numbers are based on plot data taken to this point and final numbers may differ significantly. The directive for minor and major modifications will be followed for further review.

The sale areas burned in the 1933 (Tillamook) and 1939 (Saddle Mountain) fires. Portions were planted in 1963, aerially seeded in 1963, or naturally regenerated. These areas have had no prior stand management with the exception of small pockets of Area 3 which were within the 250 Bypass Thin commercially thinning (1999).

There is no Stand Level Inventory (SLI) available for these areas at this time. These areas are classified as 57% Understory (UDS) and 43% Closed Single Canopy (CSC) according to the district stand summary information (1999). See Table 3 for Area breakdowns. Area 1 and Area 2 will be further evaluated (as defined by the July 2004 guidance, "*Planned Sale Inventory Requirements – Alternative to Full Stand Level Inventory*"). See Table 2 for specific stand data.

Area 1 is primarily a Douglas-fir plantation that has alder dominated riparian areas. There are also several small pockets of alder (less than 1 acre) scattered throughout the area.

The Douglas-fir in this area has symptoms of Swiss needle cast (SNC) and crown ratios ranging from 20-30%, resulting in slowed diameter and height growth. Due to stand age and site quality, the alder in this stand has poor height and diameter growth. The alder was aerially sprayed in the 1970's to release the planted conifer, resulting in alder trees with short boles and many tops. No other significant insect or disease problems have been discovered at this time.

Area 2 is a mix of alder and planted Douglas-fir. The Douglas-fir is primarily located on the ridges and upper slopes. The alder is mainly located on the mid to lower slopes and in the riparian areas. There are also scattered hemlock and other minor conifer species throughout the sale area. All of these species are arranged at various densities throughout the sale areas.

Due to symptoms of Swiss needle cast (SNC), and stand density the Douglas-fir has slowed diameter and height growth. The alder was aerially sprayed in the 1970's to release the planted conifer, resulting in alder trees with short boles and many tops and poor height and diameter growth. All of the species are arranged at various densities throughout the sale area. No other significant insect or disease problems have been discovered at this time.

Area 3 is a mix of planted Douglas-fir and naturally regenerated hemlock with small pockets of alder (less than 1 acre). The conifer in the majority of this area is dense and is showing signs of stem exclusion and receding live crown ratios,

resulting in, slowed diameter growth, and very little understory. The alder was aerially sprayed in the 1970's to release the planted conifer, resulting in alder trees with short boles and many tops and poor height and diameter growth. No other significant insect or disease problems have been discovered at this time.

The brush component in all the sale areas is comprised primarily of vine maple, sword fern, salmonberry, and huckleberry. The swordfern occurs throughout the stands and the other brush species are primarily concentrated in the riparian areas and openings within the stands.

There are some large snags in various states of decay and/or some hard snags created from (wind, snow, and/or bear damage). Down wood consists of scattered large old logs (36"+) in Class 3 and 4 stages of decay and some windthrow in decay classes 1 and 2. Stand Level Inventory taken in the vicinity of Area 2 shows 6,512 cubic feet per acre of down wood, with 252 cubic feet per acre in decay class 1 and 2. This exceeds the total down wood target for OFS structure. SLI also indicates that in the vicinity of Area 2 there is 1.7 snags per acre 24" DBH and greater. There are 5.2 snags per acre 12" DBH and greater. There are 1.7 hard snags greater than or equal to 15" DBH. The stand is just under the snag targets for OFS structure.

III. DESIRED STAND CONDITION AND VISION:

Table 3. Stand Structure Information

Area	Stand ID	Current	Post Harvest ¹	Desired Future	Net Acres
1	120	CSC	REG	OFS	83
1	120	UDS	REG	GEN	36
2	121	CSC	REG	GEN	20
2	121	UDS	REG	OFS	68
3	122	CSC	UDS	OFS	12
3	122	UDS	UDS	GEN	24
3	122	UDS	UDS	LYR	26

1. The stand is expected to develop into this condition in the five to ten years after this operation is completed except in REG stands which occur after harvest.

See Section IV: Proposed Management Prescription for more information on Green Tree, Down Wood, and Snag Strategies during operation. Also refer to Landscape Design in the Summary document for more information on strategies to move the district toward Desired Future Condition (DFC) goals.

Area 1 and Area 2: The DFC for these areas is Older Forest Structure (OFS) and General (GEN). Because of small live crown ratios, poor growth, and Swiss needle cast; the current stands are not a good candidate for establishing a pathway that maintains productivity and reach the DFC in a reasonable amount

of time. After the regeneration harvest the new stands will be composed of legacy structures and a young cohort of Douglas-fir, western hemlock and Douglas-fir trees. The green trees, including some hardwoods, retained on the site, provide a scattered overstory and also contribute to the down wood and snag recruitment as mortality occurs. In approximately 60 years the combination of residual trees, multiple species and trees size will provide Layered stands. Periodic thinnings will produce a multilayered stands with some of the larger tree trees approaching 32 inches in diameter in about 80 years. There is a high probability that these areas will meet the requirements of Older Forest Structure at this time.

Area 3: The DFC for this area is Layered (LYR), OFS, and GEN. The vision is for a stand of scattered Douglas-fir, western hemlock and alder. The stand will be composed of a mixture of species, size classes, and densities. A new cohort of western hemlock, alder, spruce, and cedar in the larger gaps and areas of alder clearcut will provide both horizontal and vertical diversity. This stand will be managed for stand density by providing more growing space while capturing anticipated tree mortality in order to allow for individual tree growth as was as developing understory diversity. After thinning in approximately 15 - 20 years the stand will have a mixture of sizes, species and densities and likely be in a Layered condition.

IV. PROPOSED MANAGEMENT PRESCRIPTION AND PATHWAY:

The prescriptions described below are based on the current stand condition such as overall tree and stand growth, species mix, stand density, and stand health.

See Table 2 for prescription targets.

Modified Clearcut:

Area 1: Merchantable Douglas-fir and alder will be harvested. All other species will be reserved. An average of 7 to 9 trees will be left per acre.

This harvest will remove the slow growing Douglas-fir and alder. Due to difficult topography this prescription has also been designed to facilitate logging. The residual trees will be distributed both in groups and scattered across the area. A component of alder and other conifer will be retained in the sale areas and stream buffers. The area will be reforested with a mixture of conifer species: western hemlock, SNC tolerant Douglas-fir, western red cedar and/or noble fir. A precommercial thinning is anticipated at 12 to 17 years when the crowns begin to close. A commercial thinning at age 40 will produce a stand that has an average diameter of about 16 inches and 125 trees per acre. This will keep the stand on the desired trajectory, and produce revenue.

Retention Cut:

Area 2: Merchantable Douglas-fir and alder will be harvested. Minor conifer species will be reserved. A diameter limit will be used to reserve 11 to 13 trees per acre.

This retention cut prescription will remove the slow growing alder and Douglas-fir and retain the larger hemlock, spruce, and Douglas-fir. The residual stand SDI will be approximately 7%. The harvest prescription is designed to achieve variable densities throughout the area. The resulting stand will have conifer pockets of various sizes and large residual conifer scattered in the small clearcuts. There may be areas of Douglas-fir and alder clearcuts that are larger than 5 acres. The actual size and location of these will be determined during sale prep and will be treated as modified clearcuts if they are larger than 5 acres. This is a first entry harvest that will begin to move the stand along the pathway to a more complex structure. The openings and gaps will allow for understory reinitiation of shrubs and tree species creating horizontal and vertical diversity. A thinning will be needed in 25 to 30 years to keep this stand on a trajectory to complex stand structure. At this time managers will review density stand health, and landscape goals to develop future management prescriptions

Partial Cut:

Area 3: Merchantable western hemlock and Douglas-fir will be thinned to a basal area range of 120 to 140 square feet. Merchantable alder will be harvested. All other species will be reserved.

This partial cut prescription will reduce the amount of overstocking. The resulting stand will have a stand density index of 25-30% which will maintain the crown ratios, stand vigor, and develop healthier and larger trees in the residual stand. This is predominantly a first entry operation. A few areas were lightly thinned in 1999. This thinning will continue to move the stand along the pathway to more complex structure. Openings and gaps will allow for understory reinitiation of shrubs and tree species creating increased horizontal and vertical diversity. Another thinning will likely be needed in 10 to 15 years to keep this stand on a trajectory to complex stand structure. At this time managers will review density stand health, and landscape goals to decide future management prescriptions

Green Tree, Down Wood and Snag Strategies

A variety of methods will be used to achieve green tree retention requirements. These residual green trees will supplement the future stand by promoting growth of dominant/co-dominant leave trees. Small non-merchantable hardwood and conifer will also be retained where possible. These leave trees function as future source of snags and down wood recruitment across the landscape. Green trees will be left on precipitous slopes, headwalls, and those areas not reached by conventional logging methods. Stream buffers adjacent to small perennials and the outer Riparian Management Area (RMA) of Sam Downs Creek and unnamed Type F tributaries of Sam Downs Creek will also contribute additional green trees. Many of these areas will be posted so they are outside of the timber sale boundary.

Existing down wood will be left in the sale areas. Down wood recruitment is expected through mortality and windthrow of residual or leave trees, felled snags and tops left during harvest. Obvious defect in conifer logs will be bucked out in all harvest areas to enhance down wood levels. Small non-merchantable hardwood and conifer will be retained where possible in harvest units with the expectation they will become short term snags and down wood. Tops resulting from ground yarding will also be left in the unit. Down wood in decay class 1 will be created in Areas 2 and 3. A prescription will be developed after the cruise has been completed.

Existing snags not determined to be a safety hazard will be retained and any felled snags will be left for down wood. Creation of snags is expected during harvest activities (rub trees, lift trees, or tail trees) and over time by natural processes. Snags will be created in Areas 2 and 3. A prescription will be developed after the cruise has been completed.

Due to the size of the trees in Area 1, it is unrealistic to expect that the snag and down wood targets in the FMP will be met with this operation. During sale layout an assessment will be done to help determine the best green tree retention prescription to help meet these goals in the future.

V. ESTIMATED TIMBER AND REVENUE INFORMATION:

Table 4. Timber and Revenue

Ownership		Sale Type	
BOF	CSL	Cash	Recovery
100%	%	<input type="checkbox"/>	x
Planned Quarter:		4	

	Conifer	Hardwood	Total
Net Volume (MBF)	2618	466	3084
Stumpage Value (\$/MBF) *	\$203	\$201	
Estimated Gross Value	\$531,454	\$93,666	\$625,120
		Project Costs:	\$211,580
		Estimated Net Value:	\$413,540

**Combined Douglas-fir, hemlock, and spruce stumpage values based on harvest type.*

VI. HARVESTING AND ACCESS CONSIDERATIONS:

The sale areas are accessed via the Kilchis Forest Road, Sam Downs Road and 250 Saddle Bypass. These are currently all weather, crushed rock roads. See maps for specific road locations and conditions.

Road improvement consists of reopening approximately 0.78 miles of existing surfaced roads, improvement to 3.5 miles of 250 Bypass road and rocking 2.1 miles of the Kilchis Forest Road. The reopened roads are primarily ridge top

roads and need minimum improvement. Improvement includes grading, rocking, widening, culvert replacement, spot rocking, sidecast pullback, and/or adding new culverts. The work will bring all roads up to standards described in *the Forest Roads Manual*.

Approximately 1.5 mile of road will be constructed to provide access to cable yarding areas and shorten ground yarding distance. It is anticipated that 0.58 miles of new construction will be closed after harvest. Following reforestation the remaining roads will be reviewed for closure. Ground yarding roads will be closed and water-barred following harvest. See summary document for more information on road closure. No other project work is planned with this sale. The operation will be approximately 60% cable and 40% ground yarding.

Table 5. Transportation Planning Summary (Miles)⁴

Activity	Mainline	Collector	Rocked Spur ¹	Dirt Spur ¹
Construct			0.95	0.58
Improve	2.1	3.5	0.78	
Maintain ²		6.3		
Close/Block ³				0.58
Vacate ³				

1. *Additional roads may be built by the operator at the time of harvest and will be approved by the State through the Operations Plan. These will be short dead end spurs and closed or blocked after harvest*
2. *All roads accessing the sale area will be maintained during the life of the timber sale contract. Maintenance miles in the table are those roads not being constructed or improved.*
3. *Roads not closed/blocked or vacated at the end of the sale will be reviewed for closure after reforestation is established.*
4. *The numbers in this table reflect planned Project Work associated with the sale.*

VII. AQUATIC RESOURCES AND WATER QUALITY:

Sam Downs Creek, a medium Type F stream, is adjacent to the sale area. Two small Type F tributaries are within the sale areas. There are additional unnamed small perennial and seasonal Type N streams within the sale areas. These streams will be reviewed and protected appropriately during sale layout based on flow, topography, and terrain.

The Oregon Department of Fish and Wildlife (ODFW) will be requested to complete stream surveys prior to sale layout. Streams of unknown status will be treated as Type F until surveys are completed to verify fish use. The inner and outer riparian zones of these Type N streams will be managed towards mature forest condition where feasible

Stream buffers within or adjacent to harvest unit boundaries will be managed according to *Forest Management Plan* Riparian Strategies. The riparian areas will be reviewed during sale layout for current stand conditions and/or operational constraints for implementing FMP strategies.

Approximately 61 net acres of the sale are within the Little North Fork sub-basin and 209 net acres are within the Middle Kilchis River sub-basin. These sub-basins have been identified as a Salmon Anchor Habitat (SAH) Basin. The SAH Basin Strategies will be used in addition to the FMP Riparian Strategies at the time of sale layout and contract development. See the Salmon Anchor Summary Table for tracking of acres managed in each basin.

Refer to Aquatic Resource Protection Strategies in the Summary document for information on in the "in stream work period" road work and stream improvement projects.

VIII. T&E SPECIES CONSIDERATIONS:

The sale areas have been reviewed with the ODF Northwest Oregon Area Biologist. Surveys for marbled murrelets are not required due to the absence of potentially suitable habitat. Spotted owl surveys are not required as the sale is within the Tillamook Burn (see November 2002 ODF Policy Guidance: *Northern Spotted Owl Surveying on State Forest Lands*). T & E seasonal hauling restrictions on the Kilchis Forest Road will not be required. Current public use of the road is high and the use of engine brakes will not be necessary due to the flat grade.

T & E Plant species: The sale areas were checked against the Oregon Natural Heritage Program (ONHP) database of known threatened or endangered listed plant locations as well as local records in the Land Management Classification System (LMCS). A plant on the state candidate list was identified as being in the general location of the sale. As such, this plant is not given special legal protection, but ODF is documenting its occurrence and managing around it where possible.

IX. SLOPE STABILITY AND GEOTECHNICAL ISSUES:

There are steep and very steep side slopes near the eastern boundary of Areas 1 and 2. The initial risk assessment by the geotechnical specialist for the sale is moderate. If these steep to very steep slopes areas remain in the sale the geotechnical specialist will be consulted during sale layout field work to see if a field visit is needed. The landslide deposit mapped in the western most portion of Area 2 (Wells et al.) is not expected to be a risk for the sale due to the deep seated nature of the large scale feature, however if indications of active slope movement is observed the geotechnical specialist will be consulted.

The sale areas have been identified as within SAH basins and the most current SAH Strategies will be used at the time of contract development. See the Summary Document for more information.

X. RECREATION RESOURCES:

The sale areas are designated as Non-Motorized in the *Tillamook State Forest Comprehensive Recreation Plan* (1993). This sale has been reviewed by the District Recreation Coordinator. This sale has been reviewed by the District Recreation Coordinator. No OHV trails were identified within or adjacent to the sale areas. Recreational use common to this area includes hunting and OHV use.

XI. CULTURAL RESOURCES:

The *Tillamook State Cultural Assessment* does not list any cultural sites within or adjacent to the proposed sale boundary. If a potential site is identified, the Public Use Coordinator will be contacted for appropriate protection and tracking.

XII. SCENIC RESOURCES:

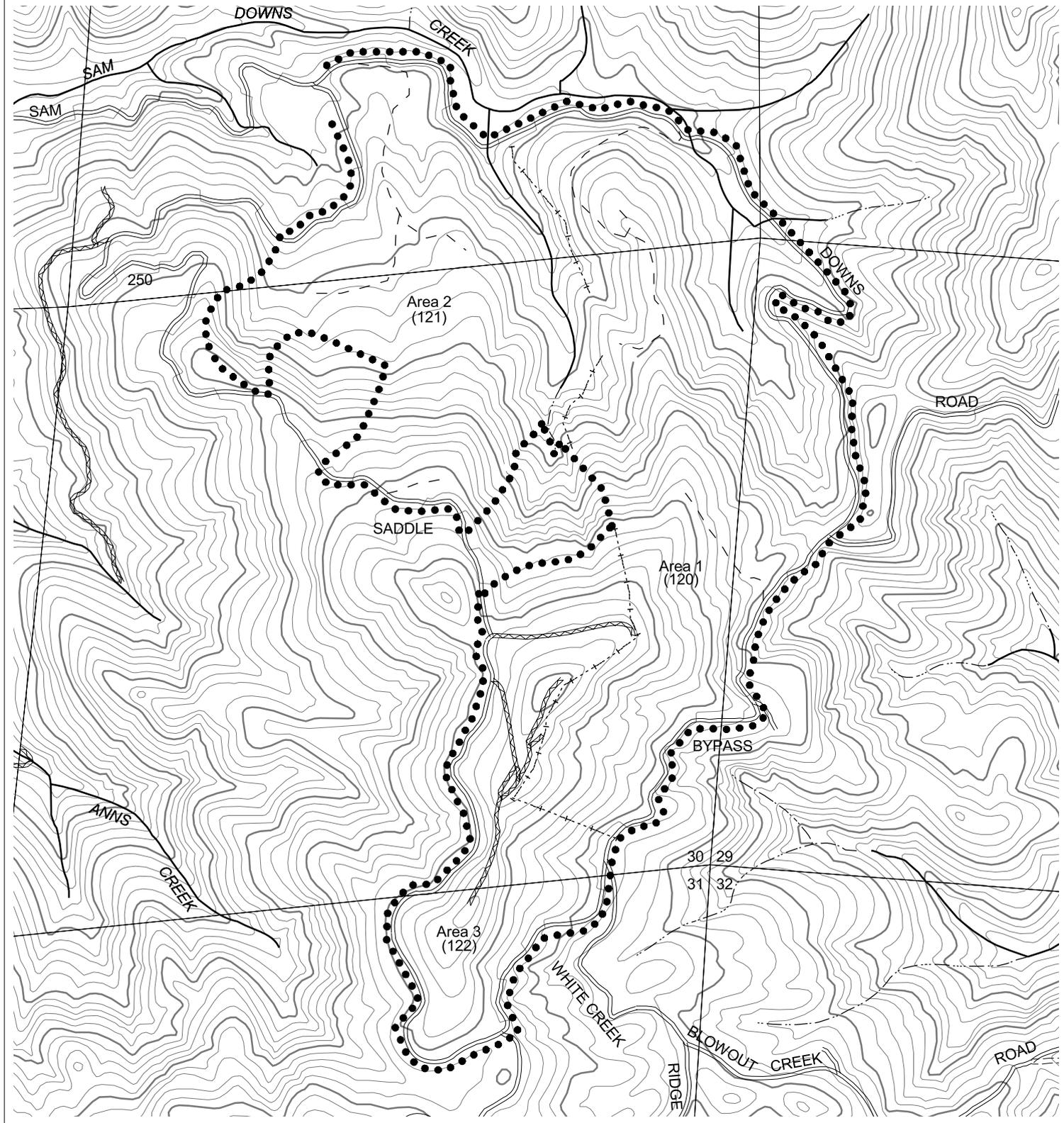
The sale areas have a visual classification of Level 3, low sensitivity. No scenic impact is expected.

XIII. OTHER RESOURCE CONSIDERATIONS:

None known

XIV. LAND MANAGEMENT CLASSIFICATION SUMMARY:

The sale areas contain Focused and Special Stewardship, Aquatic and Riparian Habitat. The areas also contain Focused, Wildlife because they are within Salmon Anchor Habitat basins. See Section VII, Aquatic Resources and Water Quality, for the management guidelines to be utilized. Boundary lines depicted on Attachment C are approximate; exact locations and site specific management activities will be determined during the sale preparation process.



- Contour Interval 40'
- +--- Area boundary
 - Sale boundary
 - Ownership boundary
 - Perennial Type-F stream *
 - Perennial Type-N stream *
 - ==== Unsurfaced road
 - ===== Surfaced road
 - State/Federal highway
 - ==== Legacy road
 - xxxxxx Blocked road
 - - - Road construction
 - County road
 - T T Transmission line

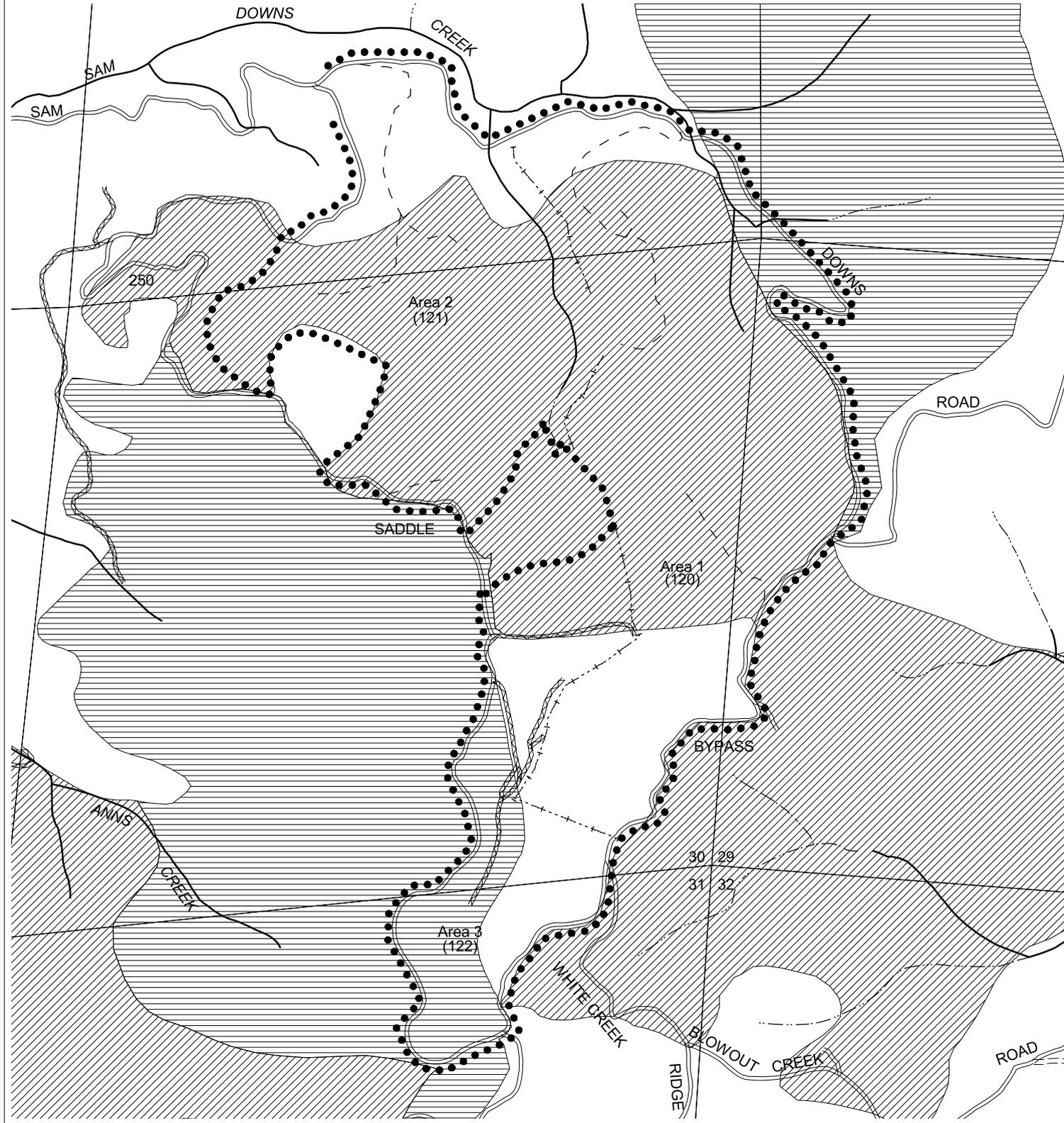
Sams Saddle
-- Topography --
2008 SALE PLAN
TILLAMOOK DISTRICT
 Portions of Sections 19, 20, 29, 30,
 and 31, T1N, R8W, W. M.
 Tillamook County, Oregon

Area	Type of Operation
1	Modified clearcut
2	Retention cut
3	Partial cut



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 may not have been prepared for, or suitable
 for legal, engineering, or surveying purposes.

* Streams of unknown fish presence are not shown but will be surveyed prior to the sale



- Desired future condition
- Layered
 - Older forest
 - Area boundary
 - Sale boundary
 - Ownership boundary
 - Perennial Type-F stream *
 - Perennial Type-N stream *
 - Unsurfaced road
 - Surfaced road
 - State/Federal highway
 - Legacy road
 - Blocked road
 - Road construction
 - County road
 - Transmission line

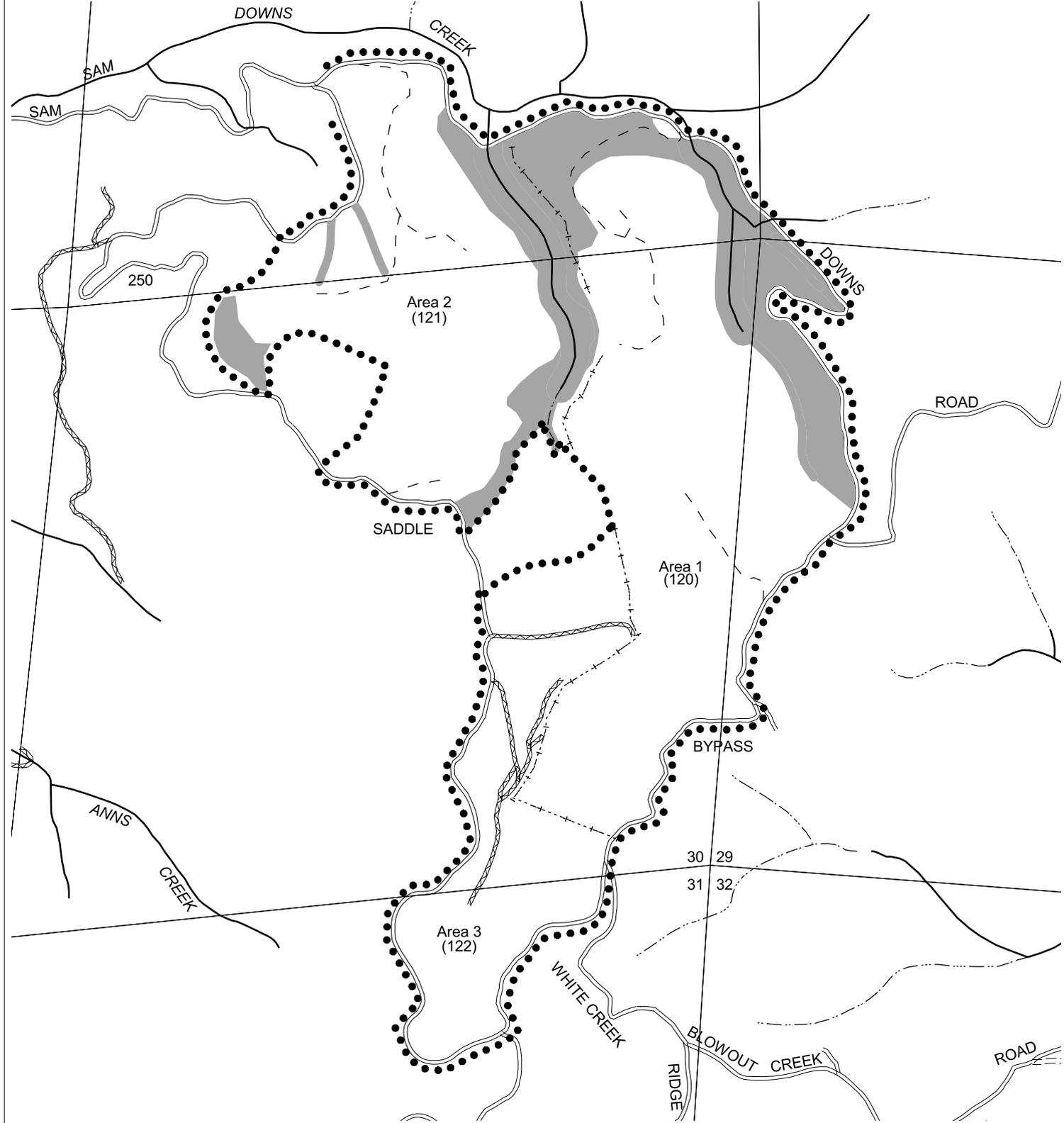
Sams Saddle
-- Current and Future Condition --
2008 SALE PLAN
TILLAMOOK DISTRICT
 Portions of Sections 19, 20, 29, 30,
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- Buffer
- Non-required thinning
- Area boundary
- Sale boundary
- Ownership boundary
- Perennial Type-F stream *
- Perennial Type-N stream *
- Unsurfaced road
- Surfaced road
- State/Federal highway
- Legacy road
- Blocked road
- Road construction
- County road
- Transmission line

Sams Saddle
-- Key Resources --
2008 SALE PLAN
TILLAMOOK DISTRICT

Portions of Sections 19, 20, 29, 30,
 and 31, T1N, R8W, W. M.
 Tillamook County, Oregon



Area	Type of Operation
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