

Pre-Operations Report

Operation Name: Juno Bay

County: Tillamook

Management Basin: Wilson/Kilchis/Tillamook Bay

Table 1. Operation Areas, Types and Acres

Area	Type of Operation	Gross Acres	Net Acres ¹
1	Modified clearcut	47	43
2	Modified clearcut	107	99
3	Retention cut	52	51
4	Modified clearcut	33	31
5	Partial cut	53	45
6	Modified clearcut	22	21
Total		314	290

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 and range from 20-90%. Elevations range from 40 feet to 1560 feet. The major soil types are Rye, Fishhawk, and Killam.

The landform is mostly gentle to moderate spur ridges and side slopes of tributaries to the Kilchis River. The underlying rocks are mostly igneous origin. Areas 1, 2, 4, 5, and 6 are flows of the Tillamook Volcanics Formation. Area 3 is underlain by sedimentary origin rock of the Alsea Formation.

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	261	RA/DF/SS	55	16	157	120	40	43
2	MC	262	RA/DF/SS	60	13	142	163	29	99
3	RC	263	RA/SS/DF	55	15	142	118	32	51
		Target ³	RA/SS/DF		23	50	17	9	
4	MC	264	DF	37	11	122	189	36	31
5	PC	265	WH/SS/DF	50	17	244	153	45	45
		Target ³	WH/SS/DF		20	160	70	28	
6	MC	266	RA	45	12	160	194	34	21

- 1. The source of stand inventory information is from field reconnaissance cruise plots taken in 2005 and SLI in 2002.*
- 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 from the actual conditions significantly. The directive for minor and major modifications will be followed for further review.*

The sale areas were naturally regenerated with the exception of Area 4 which was planted in 1966. These areas have had no prior stand management.

Approximately 126 acres has been inventoried using the Stand Level Inventory (SLI) procedure and these stands have been identified as UDS. The remaining acres of the sale were identified as CSC according to the district stand summary information (1999).

See Table 2 for specific stand data.

Areas 1, 2, 3, and 6 are predominantly alder stands with scattered hemlock, spruce and Douglas-fir throughout the stand. There are also denser patches of conifer in Areas 2 and 3.

The planted Douglas-fir in Area 4 have very severe Swiss needle cast (SNC) symptoms and poor live crown ratios resulting in slowed diameter and height growth. Plots taken by ODF, using the "Stand Growth Assessment Tool" (Burney/Robin 2005), show that the stand is growing at approximately 29% of the expected modeled growth. All of the remaining stands are within the SNC zone but the Douglas-fir is a minor component of the remaining stands and was naturally regenerated.

In Area 5, hemlock, spruce, and Douglas-fir are overstocked and have slowed diameter growth.

No other significant insect or disease problems have been discovered at this time.

The brush component in all but the partial cut area is comprised primarily of continuous salmonberry with sword fern and vine maple. Area 5, the partial cut area, has a sparse brush component in the main stand. It is predominantly located in small patches or draws and consists of vine maple and salmonberry.

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. SLI from Area 2 and 5 shows down wood in decay classes 1 and 2 at 0-6 cubic feet per acre with none

in the larger diameters. Total down wood per acre is 375 cubic feet in Area 2 and 4,225 cubic feet in Area 5.

There are a few large snags in various states of decay and some hard snags created from natural conditions. No snags were recorded in the SLI cruise of Area 2. In Area 5, no snags were recorded in decay classes 1 and 2 greater than 15” in diameter. A total of 1.4 snags per acre greater than 12” was recorded. Opportunities for snag or down wood creation will be evaluated but are expected to be minimal for this entry in most sale areas.

III. DESIRED STAND CONDITION and VISION:

Table 3. Stand Structure Information

Area	Stand ID	Current	Post Harvest ¹	Desired Future	Net Acres
1	261	UDS	REG	GEN	43
2	262	UDS/LYR	REG	GEN/LYR	99
3	263	CSC	REG	LYR/GEN/OFS	51
4	264	CSC	REG	GEN	31
5	265	UDS/CSC	UDS	GEN	45
6	266	CSC	REG	GEN	21

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 goals.

Vision: Areas 1, 2, 3, 4, and 6 have a DFC of GEN. These areas will have regeneration harvests removing most of the merchantable alder and a portion of the conifer. Pockets of conifer will have some density management and some conifer will be retained for green tree retention, snag, and down wood recruitment. The area is reforested with mixed conifer species. A fully stocked CSC conifer stand is expected at age 40-45 in Areas 1,2 and 3. Areas 4 and 6 may be directed into more complex stand structures to increase suitable habitat acreage within the owl cluster.

Area 5 is within the owl cluster and has developed into complex structure. Management has begun with a partial cut leaving the natural Douglas-fir trees and thinning the other conifer to a hemlock SDI of 33. Alder has been retained. Snags and coarse down wood have been retained during the operation and additional has been created. The basal area thinning leaves the residual trees unevenly distributed across the area. The residual trees have grown larger in diameter and crown depth. Openings and gaps in the stand have allowed for understory reinitiation of shrubs and tree species creating horizontal and vertical

diversity. The desired stand condition is to have a multi-layered stand with both conifer and hardwood species, horizontal as well as vertical diversity and abundant large snags and down wood.

IV. PROPOSED MANAGEMENT PRESCRIPTION and ANTICIPATED PATHWAY:

See table 2 for prescription targets

Area 1 and 2: Merchantable alder will be removed and a diameter limit will be used to retain the larger Douglas-fir. These residual trees will provide a future down wood and/or snags. All other species will be retained. These are modified clearcuts.

Area 3: Merchantable alder will be removed and all other species will be reserved with the exception of a conifer sub-area on the top of the ridge. In that area, a diameter limit will be used to retain the larger conifer and all hardwood will be reserved. Overall, the amount of residual basal area will classify this as a retention cut.

Area 4: A modified clearcut will remove all merchantable Douglas-fir. All other species will be reserved.

Area 5: Merchantable hemlock and spruce will be thinned to a basal area range of 160-180 square feet. Hardwood and all other conifer will be reserved. Understory vegetation will be enhanced by the additional growing space available.

Area 6: A modified clearcut will remove all merchantable hardwood. A diameter limit will reserve a component of the hardwood. All other species will be reserved.

Green Tree, Down Wood and Snag Strategies

See also Section III: Desired Future Condition for long term 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 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. 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 be left in the unit.

A snag assessment will be done in conjunction with the timber cruise in Areas 2, 3, 5 and 6 and the areas will be reviewed for snag creation at time of harvest. Snag supplementation is especially important in Areas 5 and 6 which are in the owl cluster. An SLI cruise in this area shows snag levels below FMP targets.

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.

During sale prep, different options such as snag/down wood creation, additional green tree retention and future stand management and monitoring will be considered in order to achieve FMP targets.

V. ESTIMATED TIMBER AND REVENUE INFORMATION:

Table 4. Timber and Revenue

Ownership		Sale Type	
BOF	CSL	Cash	Recovery
83%	17%	<input type="checkbox"/>	x
Planned Quarter:		3	

	Conifer	Hardwood	Total
Net Volume (MBF)	0.8	1.9	2.7
Stumpage Value (\$/MBF) *	192	250	
Estimated Gross Value	\$153,600	\$475,000	\$628,600
		Project Costs:	\$264,550
		Estimated Net Value:	\$364,050

**Conifer average based on species, size, and harvest type.*

VI. HARVESTING AND ACCESS CONSIDERATIONS:

Areas 1 and 2 are accessed via Patterson Creek Road, Doty Ridge Road, Vaughn Creek Road and Mapes Creek Road. Area 3 is accessed via Beaver Creek Road. The hauling from this area is through a residential area. Areas 4, 5, and 6 are accessed via the Kilchis Forest Road and Bayview Road. All of the above roads are currently all weather, crushed rock roads with the exception of Bayview Road which is currently a pit run road. A gate will be installed on Bayview Road.

See maps for specific road locations and conditions.

Approximately 8.4 miles of existing surfaced road will be improved. Improvement will include grading, rocking, widening, culvert replacement, spot rocking, sidecast pullback, and/or adding new culverts. This work will bring all roads up to standards described in *the Forest Roads Manual*.

Approximately 1.85 miles of road will be constructed to provide access to cable yarding areas. Following harvest, roads within the sale areas will be reviewed for closure. Ground yarding roads will be closed and water-barred following harvest. See summary document for more information on this topic.

An alternate access to the southern portion of Area 2 will be evaluated crossing the City of Bay City property to the west.

A Bureau of Land Management License Agreement will be needed for access to Areas 4,5, and 6 over a small portion of federal land.

No other project work will be included with the sale.

Areas 1, 2, 4, and 6 will be 100% cable yarded. Area 3 will have 10 % ground yarding and 90 % cable yarding. Area 5 will be approximately 20% ground yarding and 80% cable yarding.

Table 5. Transportation Planning Summary (Miles)⁴

Activity	Mainline	Collector	Rocked Spur ¹	Dirt Spur ¹
Construct			1.0	.85
Improve		0.7	7.7	
Maintain ²		0.5		
Close/Block ³				
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:

The Oregon Department of Fish and Wildlife (ODFW) has completed the majority of the stream surveys for this sale. Completion of any additional stream surveys will be requested to be completed prior to sale layout. Streams of unknown status will be treated as Type F until surveys are completed to verify fish use.

An unnamed medium Type F is adjacent to Areas 5 and 6. 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.

Vaughn Creek delivers water to known water rights downstream from Area 1. There is a water right within Area 6 on an unnamed stream.

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.

In order to protect water quality during active operations, a variety of methods will be used to prevent sediment from entering live streams. These methods include (but are not limited to) maintaining culverts and other road drainage structures, using sediment control devices in road ditches when necessary, and monitoring logging and hauling operations. Culvert installment and replacement in live streams will be conducted between July 1 and September 15. Operations outside of this period will be reviewed with ODFW.

ODFW fish biologist will work with ODF to identify possible stream enhancement project areas.

VIII. T&E SPECIES CONSIDERATIONS:

T & E Wildlife species: The sale areas have been reviewed with the ODF Northwest Oregon Area Biologist.

It was determined that all areas have potential marbled murrelet habitat within or adjacent to the sale boundary. Surveys for marbled murrelets have been conducted during the 2004 survey season for Area 3 and during the 2005 survey season for all areas. Surveys will be conducted in the 2006 survey season on Areas 1, 2, 4, 5, and 6. All surveys for marbled murrelet were and will be conducted in accordance with Pacific Seabird Group (PSG) protocol.

Area 2 is adjacent to a marbled murrelet management area. A biological assessment has been prepared by the Area Biologist to address road improvement through the marbled murrelet management area to access to the unit. The biological assessment has been reviewed with ODFW.

It was determined that all areas have potential northern spotted owl habitat within or adjacent to the sale boundary. Surveys for northern spotted owls have been conducted during the 2004 survey season for Area 3 and during the 2005 survey season for all areas. All areas will be surveyed during the 2006 survey season. All northern spotted owl surveys were and will be conducted in accordance with USFWS endorsed protocol.

Areas 4, 5, and 6 are located within a northern spotted owl cluster designated in the draft Western Oregon Habitat Conservation Plan (HCP). The draft HCP defers management on the most suitable habitat within the cluster and allows for up to eight percent per decade of the remaining acres to have management activity. These acres are currently low to non-suitable habitat. 63 acres within the cluster were managed in the 2001 AOP and 47 acres in the 2003 AOP. The additional 97 acres in this sale will bring the total acres managed in the current implementation plan period to 207 acres; 2.5% of the non-deferred acres. Sales within the cluster in these three AOP periods are geographically apart which will avoid concentration of silvicultural activities in any one area. Doug Robin, the staff silviculturist, visited these sale areas and supported the prescriptions.

The intent of management within the cluster is to convert non-suitable habitat to suitable habitat and to maintain or enhance the characteristics of existing suitable habitat. These sale areas fit the priorities identified for management within the cluster. Area 4 is a regeneration harvest in a stand severely infected with Swiss Needle Cast. Area 5 is a thinning in a CSC/UDS stand where structural development could be enhanced and accelerated through stand density management. Area 6 is a regeneration stand that is predominantly red alder with minimal potential for developing into suitable habitat.

Areas 5 and 6 will be further assessed by the Area Wildlife Biologist prior to sale.

Areas 4 and 5 are located on the outer edge of a historic northern spotted owl circle. This circle became historic in 2001.

Seasonal operating restrictions will be required for some operations on the sale areas.

T & E Fish species: See Sections VII, and IX for listed fish protection measures.

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). No listed plants were identified within or adjacent to the sale areas.

IX. SLOPE STABILITY AND GEOTECHNICAL ISSUES:

There are only a few bands of steep slopes in Areas 1, 2, 3, and 5. The initial hazard and risk assessment for these areas is low. Areas 4 and 6 have more significant amounts of steep slope, but limited risk. The initial hazard and risk assessment from the geotechnical specialist is low for Area 4 and moderate for Area 6. Vaughn Creek Road has a deep seated landslide feature towards the east end of Area 1 which may restrict hauling. The geotechnical specialist will be consulted during field work to determine if a field visit is needed to any of the sale areas.

X. RECREATION RESOURCES:

Area 1 and 2 are in the Motorized Off-Road Use Zone and the remaining areas are in the Non-Motorized Off-Road Use Zone as designated in the *Tillamook State Forest Comprehensive Recreation Plan* (1993). This sale has been reviewed by the District Recreation Coordinator.

No designated OHV trails were identified within or adjacent to the sale areas. Any non-designated trails identified during sale layout will be blocked. Unofficial target shooting areas in the vicinity of the sales will be used for waste areas where possible. Bayview Road will be gated to restrict access and discourage illegal dumping and shooting.

Recreational use common to this area is primarily hunting and OHV use.

XI. CULTURAL RESOURCES:

The *Tillamook State Cultural Assessment* does not list any cultural sites within or adjacent to boundaries of the proposed sales except for a triangulation point. The cultural resource classification for this site is Class III- No protection required. The Public Use Coordinator will be consulted for appropriate protection measures if additional cultural resource sites are identified.

XII. SCENIC RESOURCES:

Portions of all the sale areas have a visual classification of Level 1, high sensitivity. The sale areas can be seen from Highway 101 and Highway 6. Some portions will have a visual classification of Level 2, moderate sensitivity and will be visible from the Kilchis County Road and high public use forest roads. The sale will be reviewed by the Public Use Coordinator to determine methods to minimize visual impact. Visual impact will be minimized by sale layout, stream buffers and a mix of prescriptions. There will be visual impact until green up occurs.

XIII. OTHER RESOURCE CONSIDERATIONS:

None known.

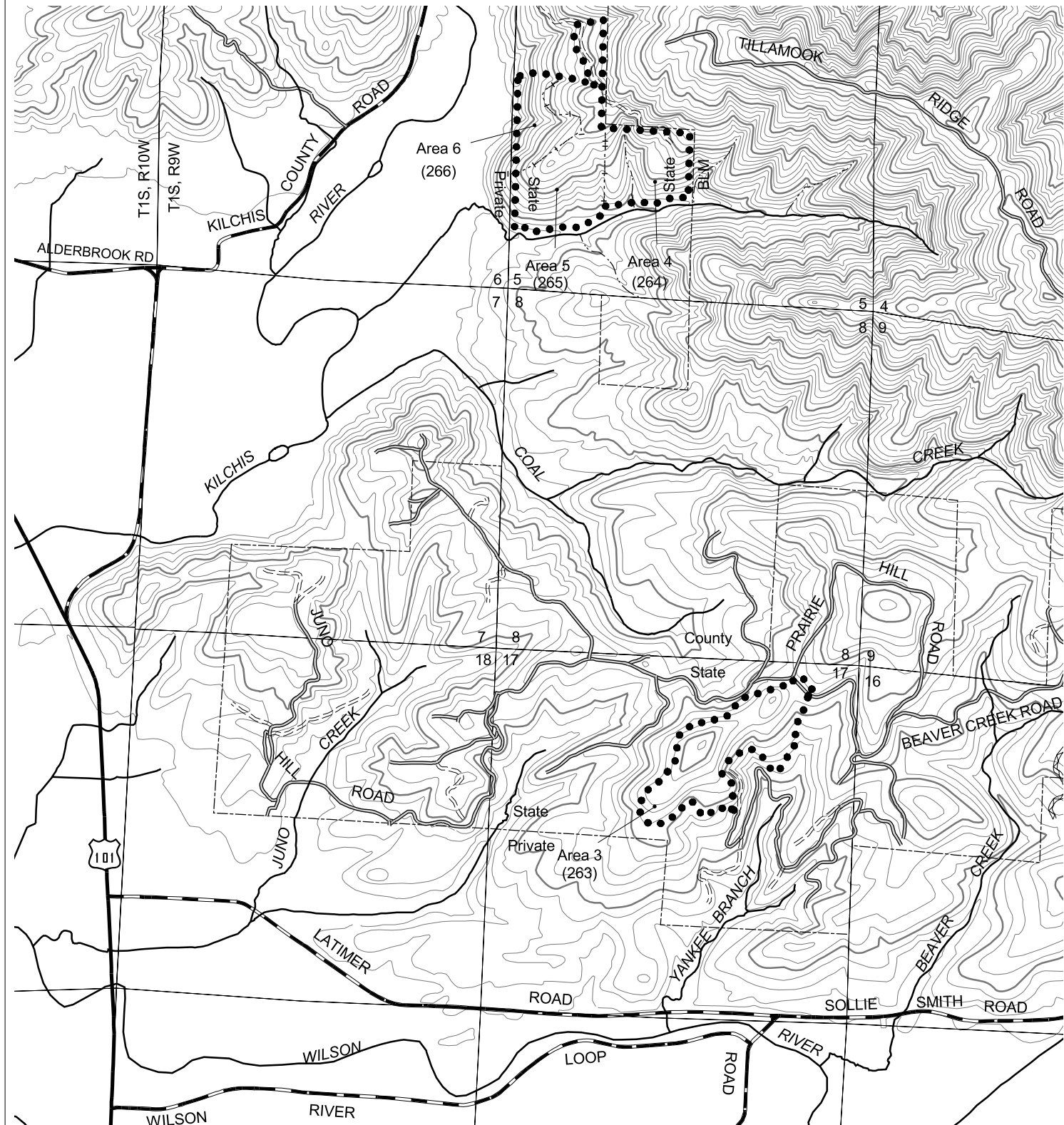
XIV. LAND MANAGEMENT CLASSIFICATION SUMMARY:

The sale areas contain Focused and Special Stewardship, Aquatic and Riparian Habitat. Area 6 also has Focused Stewardship, Domestic Water. See Section VII, Aquatic Resources and Water Quality, for the management guidelines to be utilized.

Areas 1 and 2 contain Focused Stewardship, Visual. See Section XII, Scenic Resources.

Areas 4, 5, and 6 contain Special Stewardship, Wildlife. See Section VIII, T&E Species Considerations.

LMCS boundary lines depicted on Attachment C are approximate; exact locations and site specific management activities will be determined during the sale preparation process.



- Area boundary
- Sale boundary
- Contour Interval 40'
- Ownership boundary
- Perennial Type-F stream *
- - - Perennial Type-N stream *
- === Unsurfaced road
- ==== Surfaced road
- State/Federal highway
- ▨ Legacy road
- - Road construction
- County road

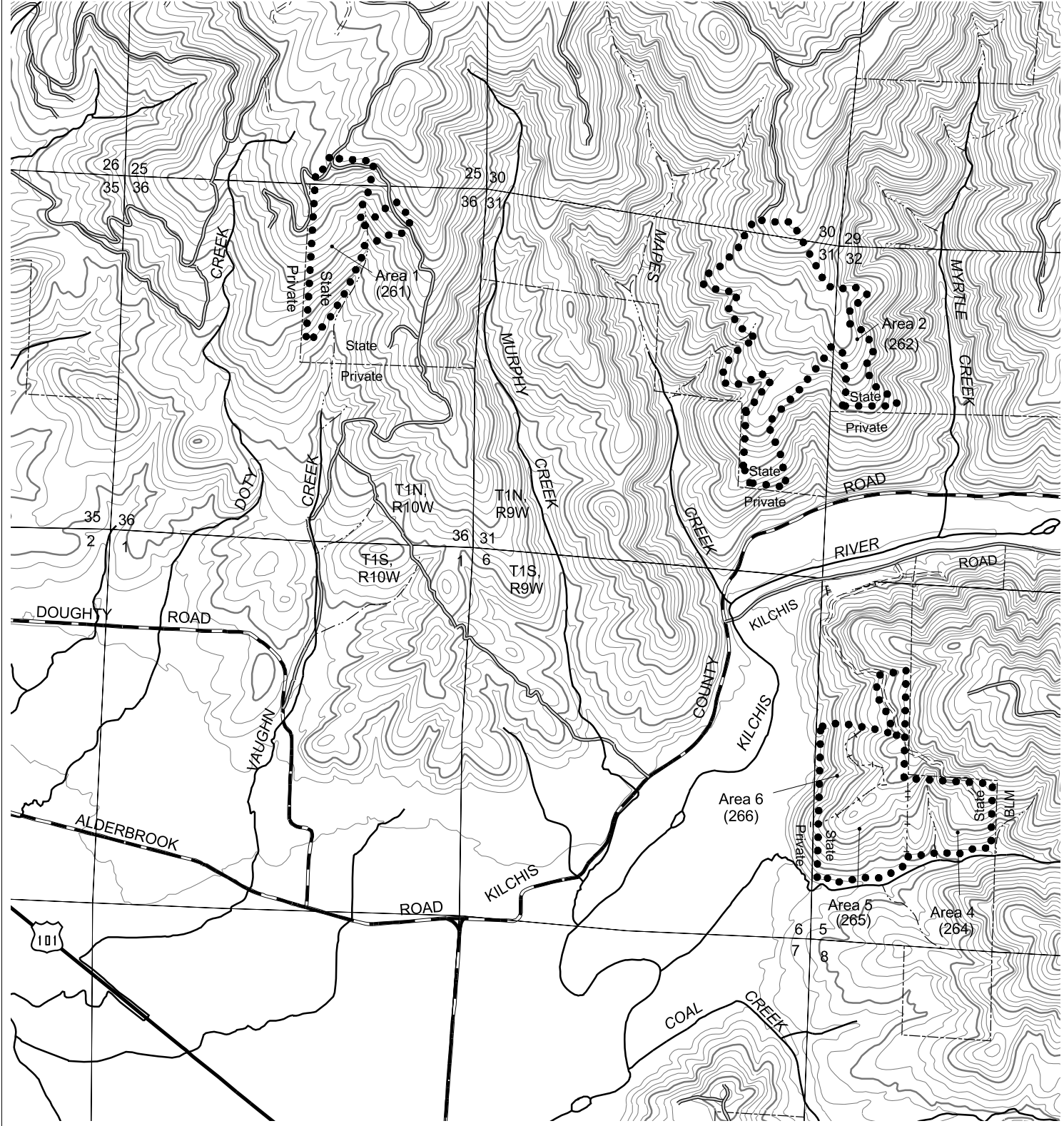
JUNO BAY TIMBER SALE
-- Topography --
2007 SALE PLAN
TILLAMOOK DISTRICT
 Portions of Sections 30, 31 and 32, T1N, R9W and Sections 25 and 36, T1N, R10W and Sections 5 and 17, T1S, R9W, W. M. Tillamook County, Oregon
 1000 0 1000 Feet

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



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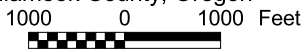
* Streams of unknown fish presence are not shown but will be surveyed prior to the sale



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JUNO BAY TIMBER SALE

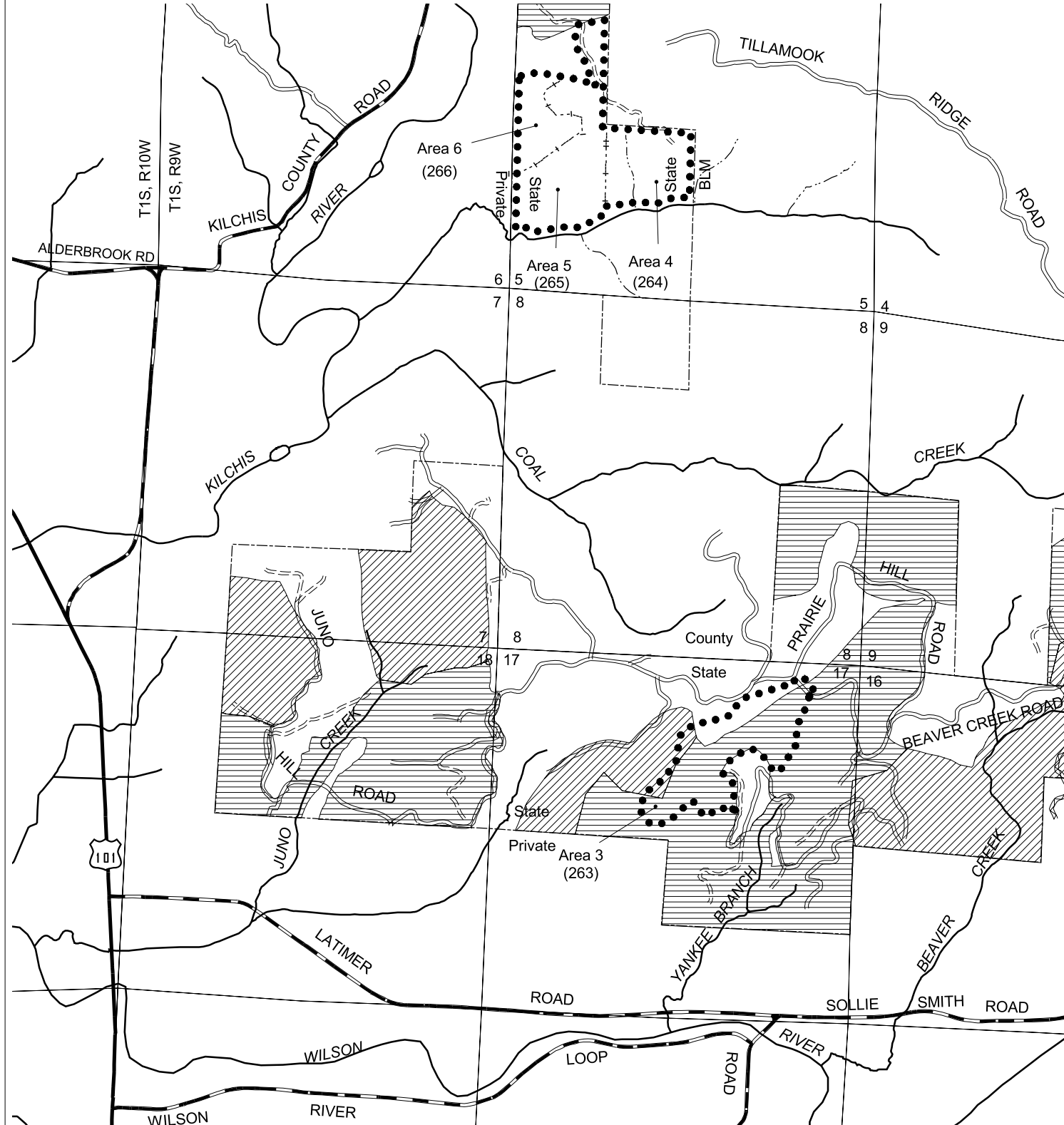
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JUNO BAY TIMBER SALE

-- Current and Future Condition --

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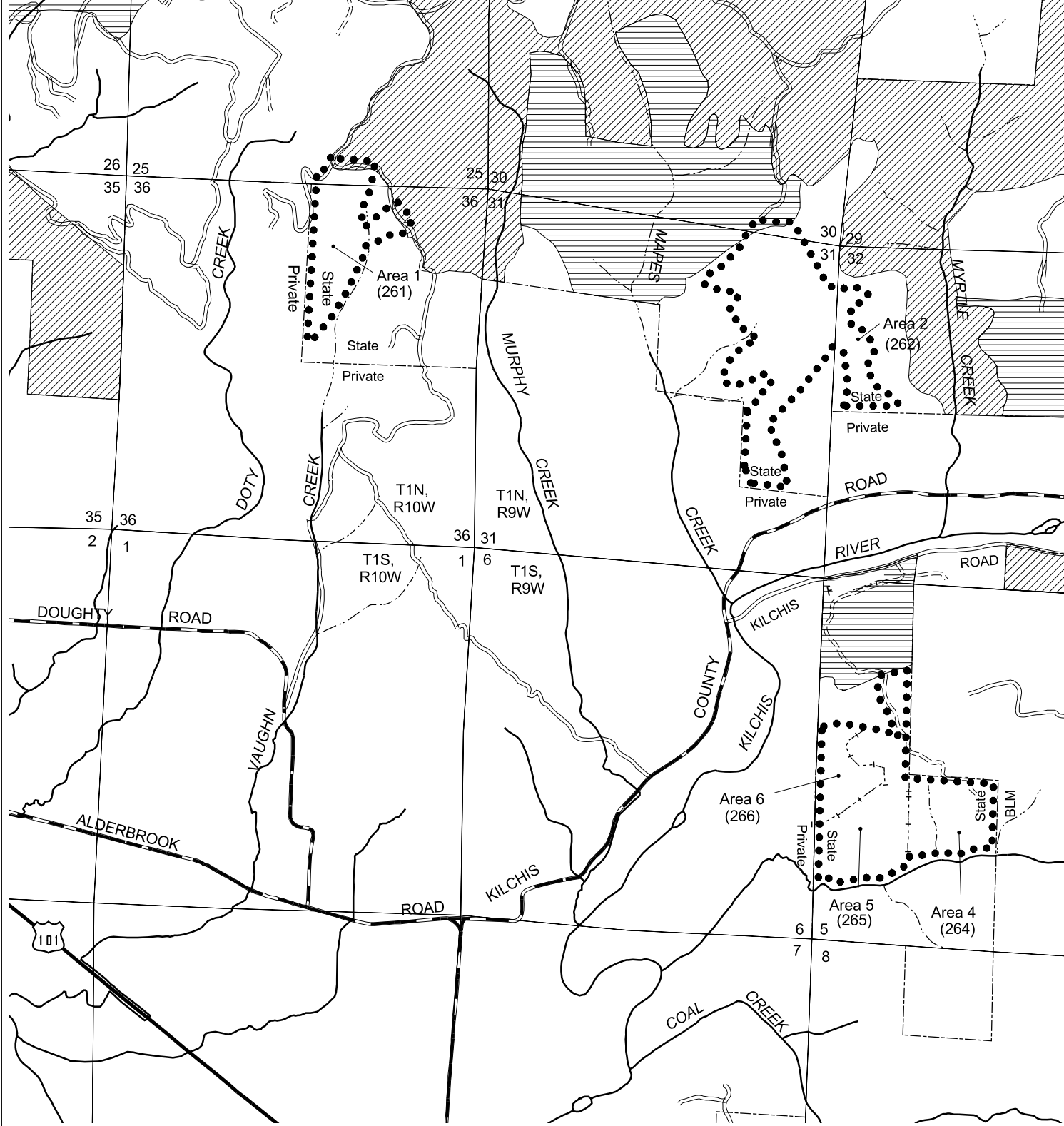
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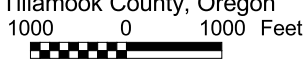
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- Desired future condition
- Layered
 - Older forest
 - Area boundary
 - Sale boundary
 - Ownership boundary
 - Perennial Type-F stream *
 - Perennial Type-N stream *
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-- Current and Future Condition --
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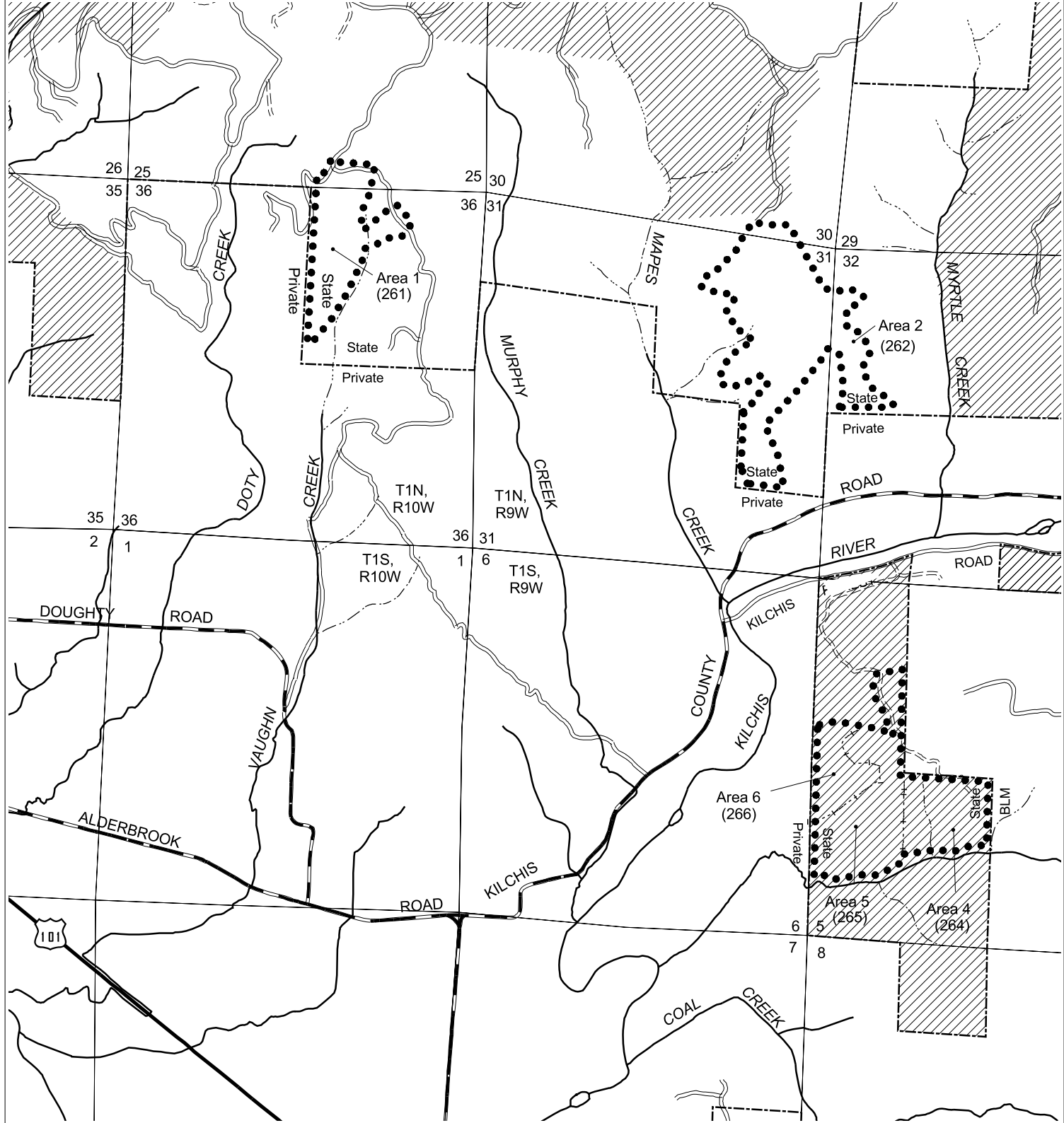


- | | |
|--------------------------|---------------------------------|
| Desired future condition | ----- Area boundary |
| Layered | Sale boundary |
| Older forest | ----- Ownership boundary |
| | ----- Perennial Type-F stream * |
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JUNO BAY TIMBER SALE

-- Key Resources/Wildlife Habitat --

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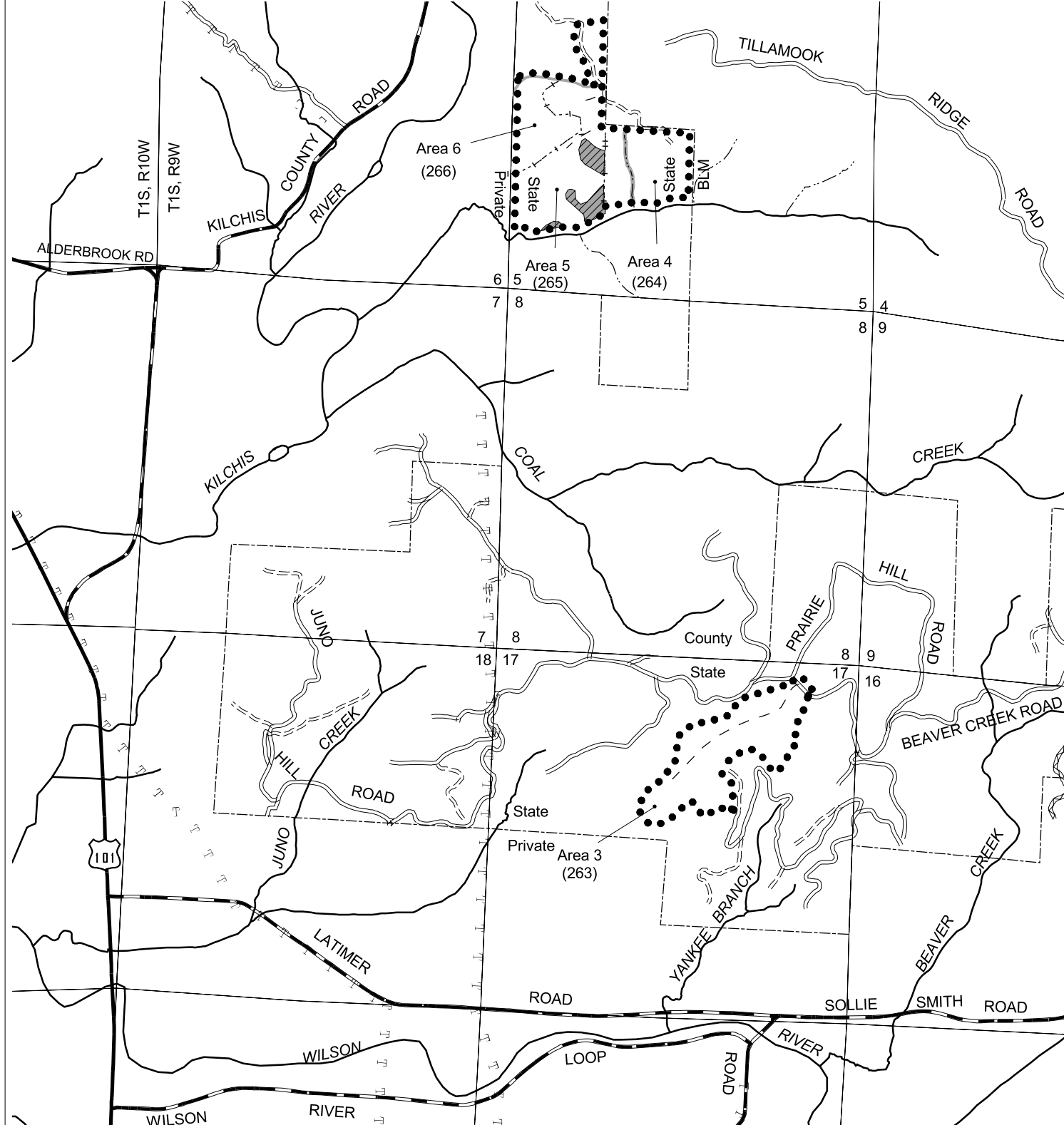
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- Stewardship
- Focused
- ▨ Special
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- Buffer
- Non-required thinning
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JUNO BAY TIMBER SALE
-- Key Resources --
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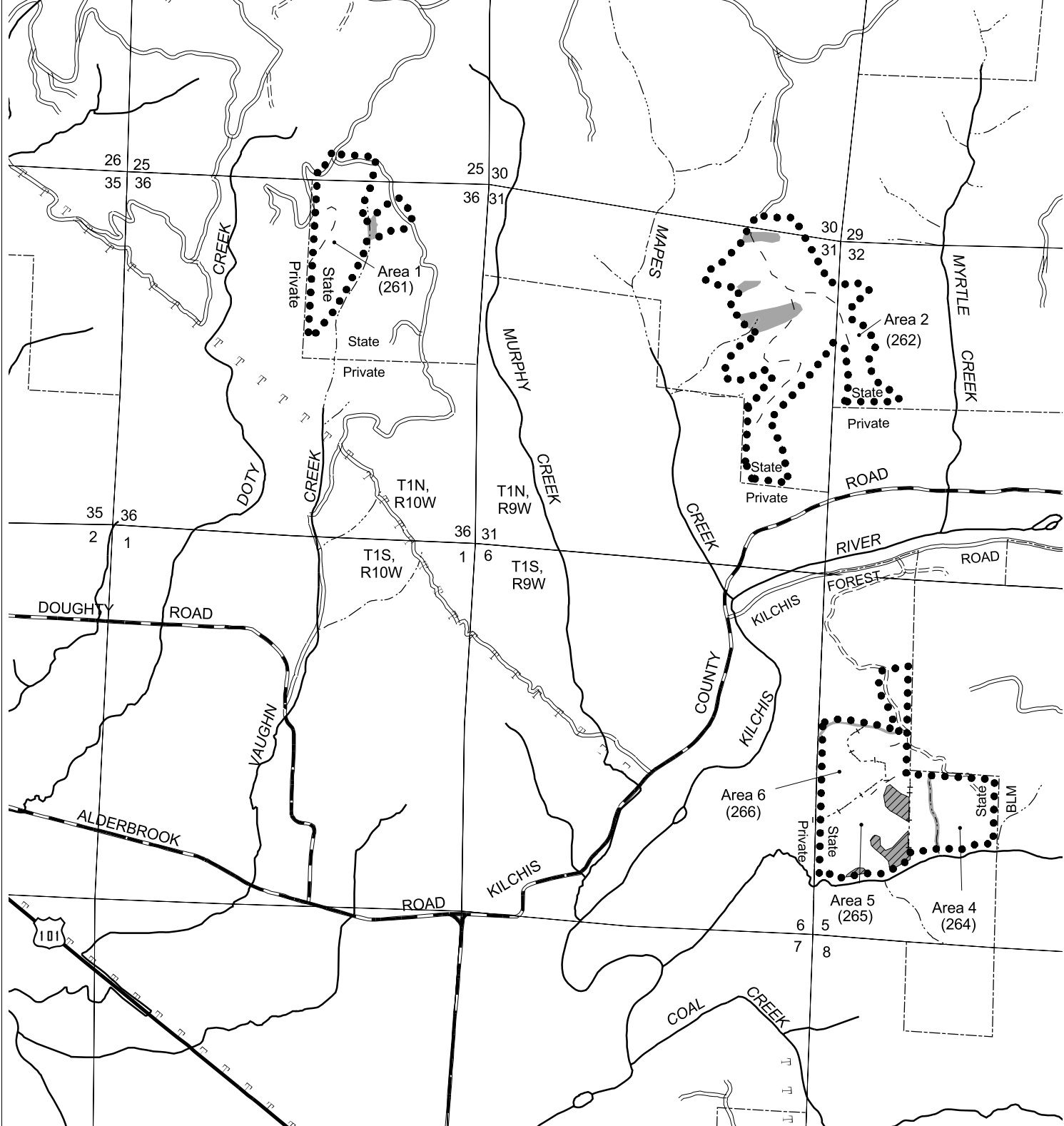
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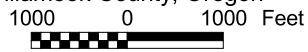
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JUNO BAY TIMBER SALE

-- Key Resources --

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