

Pre-Operations Report

Operation Name: Tyee's Purdyfoll

County: Douglas

Management Basin: 18

Table 1. Operation Areas, Types and Acres

Area	Type of Operation	Gross Acres	Net Acres
1	Clearcut	26	24
2	Clearcut	103	93
3	Clearcut	32	29
4	Clearcut	30	27
Total	Clearcut	191	173

I. PHYSICAL DESCRIPTION OF OPERATION AREA:

This operation is a 4 unit timber sale totaling 173 net acres of clearcut. The timber sale is located on the western slope of the Coast Range in the Umpqua River, Big Tom Folley Creek, and Burchard Creek watersheds predominately within Elliott State Forest Management Basin 18. This timber sale area is in close proximity to the Pacific Ocean, which has a dominant influence on the climate. The average annual rainfall between the three units is between 40 and 68 inches in the Umpqua Watershed. Temperatures range from 26-90 degrees Fahrenheit throughout the year. This timber sale has elevations from 200 to 1180 feet above sea level with slopes ranging from 5 percent to over 90 percent. Area 1 has an easterly and westerly aspect. Areas 2 and 4 have a southerly aspect and Area 3 has a westerly aspect. The soils are categorized as; Area 1 is Digger-Bohannon-Umpcoos Complex, Digger-Umpcoos-Rock Outcrop Complex and Absaquil-Honeygrove-McDuff Complex; Area 2 and 3 is Honeygrove Gravelly Clay Loam, Fernhaven Gravelly Loam, and Digger-Bohannon-Umpcoos Complex; and Area 4 is Atring-Larmine Complex, Rosehaven-Atring Complex and Atring-Larmine-Rock Outcrop Complex Associations.

II. CURRENT STAND CONDITION:

The timber sale is second and third growth Douglas-fir. They are composed of 38 to 102 year-old Douglas-fir with scattered volunteer western red cedar and hemlock, and scattered clumps and stringers of red alder trees. Throughout the timber sale areas, there is a scattered remnant older cohort of Douglas-fir trees. Table 2 contains stocking, size and age information for all the areas in this timber sale. Area 1 stand level inventory information is based on measurements taken 20 years ago or longer and may not reflect actual stand level conditions.

Table 2. Stand Inventory Information

Area	Prescription	Stand ID ¹	Species	Inventory Year	Age in 2007	DBH	BA	TPA	RD	Acres ²
1	CC	5	DFWH	1984	87	16	200	143	50	13
	CC	6	DFWH	1980	40	10	76	139	23	11
	Target	5 & 6	DFWH			11	3	3	1	24
2	CC	2	DF	2003	97	16	214	137	52	65
	CC	3	DF	2004	67	12	217	252	60	14
	CC	4	DFCX	2004	57	11	215	300	62	14
	Target	2, 3, & 4	DF			11	3	3	1	93
3	CC	1	DFCX	2002	57	11	188	254	54	25
	CC	4	DFCX	2004	50	12	217	252	60	4
	Target	1 & 4	DF			11	3	3	1	29
4	CC	1996	DFGF	2004	102	12	238	274	66	27
	Target	1996	DFGF			11	3	3	1	27

1. The source of stand inventory information is SLIP from 2007 grown forward records.

2. The acres are based on GIS, and exclude interior roads, streams buffers, reserve areas, etc.

3. The Target identifies expected stand characteristics (DBH, BA, TPA and RDI) after harvesting has been completed.

III. DESIRED FUTURE CONDITION:

Table 3. Stand Structure Information

Area	Stand ID	Current	Post Harvest	Desired Future	Net Acres
1	5	Intermediate	Early	Intermediate	13
	6	Intermediate	Early	Intermediate	11
2	2	Advanced	Early	Intermediate	65
	3	Advanced	Early	Intermediate	14
	4	Intermediate	Early	Intermediate	14
3	1	Intermediate	Early	Intermediate	25
	4	Intermediate	Early	Intermediate	4
4	1996	Intermediate	Early	Intermediate	27

Areas 1, 2, 3 & 4: The desired future condition for the clearcut units is an intermediate stand structure in accordance with the principles of the draft 2006 Elliott Forest Management Plan and the draft Coos District Implementation Plan. These proposed units are not included in the current Elliott HCP, nor in the proposed HCP. The Scattered Tracts basin is under a long-range plan approved in 1987. However, ODF believes that managing these tracts using the strategies

and standards contained in the draft 2006 FMP will provide the best overall results for all forest resources on the scattered tracts. The stands will be composed of mainly Douglas-fir and may have a smaller component of other conifer species including hemlock, grand fir, incense cedar and/or red cedar. Red alder will also naturally regenerate in the stands. Green trees retained from this operation will provide for multi-story stand structures valuable for wildlife.

IV. PROPOSED MANAGEMENT PRESCRIPTION:

Areas 1, 2, 3 & 4: The prescription for the clearcut units is to harvest most of the overstory, leaving standing trees within buffer areas and scattered in selected locations in or along the edge of the sale unit.

Site Preparation and Planting - Site preparation on the clearcut units will be achieved by yarding disturbance and treating residual brush with herbicide prior to planting. The sites will be planted with conifer seedlings at approximately 400-500 trees per acre.

Green Tree Retention - Two to four live trees per acre will be retained. Individual trees will not be left unless localized soil conditions provide for wind firmness and logging conditions are suitable. The location of retained trees will be determined during the sale prep process. Emphasis may be given to widening riparian management areas.

Snag Retention and Creation - The snag retention strategy for each area will be determined after more accurate stand statistics have been obtained. If fewer than three hard snags per acre exist after harvest, create one snag per two acres, using live trees larger than 20 inches in DBH. When the average DBH of the trees to be harvested is less than 20 inches, snag creation is not required.

Down Log Retention – The down wood strategy for each area will be determined after more accurate stand statistics have been obtained. For areas with an average DBH of greater than 20 inches, an average of 300-600 cubic feet per acre of hard logs (decay class 1 or 2) with a minimum volume of 20 cubic feet for any individual piece will be retained. For areas with an average DBH of less than 20 inches, an average of three to six logs per acre will be retained with a minimum volume of 20 cubic feet per piece. Down logs shall be left in stable locations to minimize safety concerns to tree planters and other forest workers.

V. ESTIMATED TIMBER AND REVENUE OUTPUTS:

Table 4. Timber and Revenue

Ownership		Sale Type	
BOF	CSL	Cash	Recovery
	100%		X
Planned Quarter:		4	

	Conifer	Hardwood	Total
Net Volume (MBF)	3,500	5	3,505
Stumpage Value (\$/MBF)	250	300	
Estimated Gross Value	\$875,000	\$1,500	\$876,500
		Project Costs:	\$19,000
		Estimated Net Value:	\$857,500

VI. HARVESTING AND ACCESS CONSIDERATONS:

Access to the sale areas will require easements across Roseburg Resource Company, Seneca Jones Timber Company, and a license permit with the Bureau of Land Management (BLM). A reciprocal permanent easement will be sought from Seneca Jones Timber Company for hauling on Tom Folley Creek road and for spur roads to be built across their lands for accessing areas 2 and 3. All property lines will need to be reviewed by the District Engineering Team and any necessary survey work completed prior to sale layout. A dirt spur has recently been constructed through Area 1, to access Roseburg Resource land directly south of the unit. This spur will facilitate logging of Area 1. Two short spurs will be constructed to access Area 2; a portion of the new construction will fall on Seneca's ownership. A short spur will need to be designed to access Area 4 for a landing. Due to a historical co-operative right-of-way agreement between BLM and the State of Oregon, BLM is obligated to process both access requests and new spur construction requests in a timely manner. Final location of the new spurs will be determined during the sale preparation process. New spurs constructed to the minimum standard of 14 feet with no ditch, unless winter work is planned, in which case a ditch line, culverts and rock will be added. After log hauling each year, the spurs into the sale area will be water barred and blocked off. Winter harvesting will require purchaser supplied rock. Existing roads and landings in some locations will be improved to allow operations and will be evaluated to determine if pullback of side cast is necessary. Additional landings and short access spurs may be constructed.

The majority of the sale areas will be cable yarded uphill using large sized yarders. Full suspension will be required over stream channels and single end suspension on the rest of the sale area. Trees will be felled parallel or away from the residual trees and Riparian Management Areas.

Table 5. Transportation Management Summary (Miles).

Activity	Mainline	Collector	Rocked Spur	Dirt Spur
Construct	0.0	0.0	0.0	0.6
Improve	0.0	0.0	0.0	1.0
Maintain	0.3	0.0	0.0	1.5
Close/Block	0.0	0.0	0.0	0.8
Vacate	0.0	0.0	0.0	0.0

VII. AQUATIC RESOURCES AND WATER QUALITY:

Riparian areas along streams will be managed to support properly functioning aquatic habitats over time by applying that riparian management area (RMA) standards of the Northwest Oregon State Forests Management Plan. These standards are planned for adoption in the revised Elliott State Forest Management Plan.

The sale areas are located within the Umpqua watershed, including the Umpqua River and the sub watersheds of Burchard and Big Tom Folley Creeks. Opportunities for placement of large wood have been identified where cable layouts cross Big Tom Folley Creek. These placed log structures will create gravel beds and pools improving spawning and wintering habitat. Locations and quantities of large wood placement will be identified during the sale preparation process with the Area Biologist

Type F and Domestic Use Streams: Area 2 and 3 is bisected by the Big Tom Folley Creek which is a large Type F. The Umpqua River is a large type F that is in the vicinity of Area 4 to the south and north.

There are no known water rights within or downstream of the proposed operation.

Type N Streams: All drainages associated with the sale area will be field surveyed during the 2008 summer low flow period to determine the stream channel extent and whether stream flow is perennial or seasonal.

VIII. WILDLIFE AND T&E SPECIES CONSIDERATIONS:

This sale is planned under the standards of the draft 2006 Elliot Forest Management Plan and the draft Coos District Implementation Plan and Oregon Department of Forestry (ODF) policy. The specific measures are as follows:

NSO Habitat Retention: - The ODF Southern Oregon Area Biologist has determined that the sale areas contain suitable habitat for Northern Spotted Owls. These sale areas are outside the coverage area for the current ESF Habitat Conservation Plan and associated Incidental Take Permit for Northern

Spotted Owls. A biological assessment will be conducted by the ODF Area Biologist to assure that the appropriate measures are taken to provide sufficient habitat on the landscape as required in the Department adopted Incidental Take Guidelines. Area 1 is not currently within a Northern Spotted Owl circle. Area 2 and 3 are currently within the Big Tom, Upper Tom Folley and the West Indian circles. Area 4 is currently within the Gold Beach, Hubbard Gold and Riverview circles. Preliminary habitat investigation suggests that circles associated with Areas 2, 3 and 4 will maintain sufficient habitat after operations.

Marbled Murrelet – Portions of the sale areas contain potentially suitable marbled murrelet habitat and/or have suitable habitat within 330 feet. First year protocol surveys were completed in 2007 and second year surveys will be completed again in 2008.

Bald Eagle, Other – There are no known active bald eagle nest sites within 0.5 miles of any sale areas.

Salmon and Steelhead – Areas 2 and 3 are within 100 feet of Big Tom Folley Creek, a large Type F stream.

Plants - The sale area will be checked against district knowledge for any listed plant location. The sale area will also be checked against the Oregon Natural Heritage Program (ONHP) database of known listed plant locations.

IX. SLOPE STABILITY AND GEOTECHNICAL ISSUES:

All Areas: To minimize yarding impacts on the slopes, single end suspension cable yarding will be required. Roads will be located on ridge-crests as much as possible and any steep sidehill portions will be constructed with full bench end-haul design and construction. Construction will be done during the dry season.

The sales have had a map review by an ODF geotechnical specialist. A closer examination will be made during the sale layout process to determine if additional geotechnical review is needed.

Area 1: Portions of the unit appear to meet criteria for classification as high landslide hazard locations (uniform slopes greater than 75% and/or planform concave slopes greater than 65%). The basin which drains the SW facing slope flows down into a semi-developed area and under state highway 38. The channel is non-fish bearing. The east facing slope is unchannelized and unlikely to be a source area for channelized debris flows to Burchard Creek.

Area 2: Portions of the unit appear to meet criteria for classification as high landslide hazard locations. They appear to be potential sources of channelized debris flows. It is unlikely that a small or medium sized debris flow would deliver

to Big Tom Folley creek. Big Tom Folley Creek road is located between the base of the slope and the creek and is likely to capture most debris flow material.

Area 3: Slopes in the lower 1/3rd of NW portion of the unit appear to meet criteria for classification as high landslide hazard locations. They appear to be potential sources of open-slope or channelized debris flows with delivery to Big Tom Folley creek.

Area 4: Portions of the unit appear to meet criteria for classification as high landslide hazard locations. The headwall area in the NE portion of the unit appears to be a potential source of channelized debris flows, however the 25-7-21 road and gentle topography below the road would likely capture material prior to delivery to the Umpqua River.

Vegetation retention practices for potential debris flow track reaches as prescribed in the Management Standards for Aquatic and Riparian Areas (Appendix J, Table J-2) will be applied.

X. RECREATION RESOURCES:

The most common recreation for these areas is hunting and dispersed undeveloped recreation. Harvesting of these units will provide forage area to help promote healthy deer and elk populations. In addition, areas of bare soil around road edges and landings will be grass seeded after logging to provide forage. Surrounding forest types provide escape cover. No conflict is seen with respect to the undeveloped, dispersed recreation usage of the forest.

XI. CULTURAL RESOURCES:

There are no cultural sites associated with this sale.

XII. SCENIC RESOURCES:

The units are not within any scenic management area.

XIII. OTHER RESOURCE CONSIDERATIONS:

There are no other known resource considerations associated with this sale.

XIV. LAND MANAGEMENT CLASSIFICATION SUMMARY:

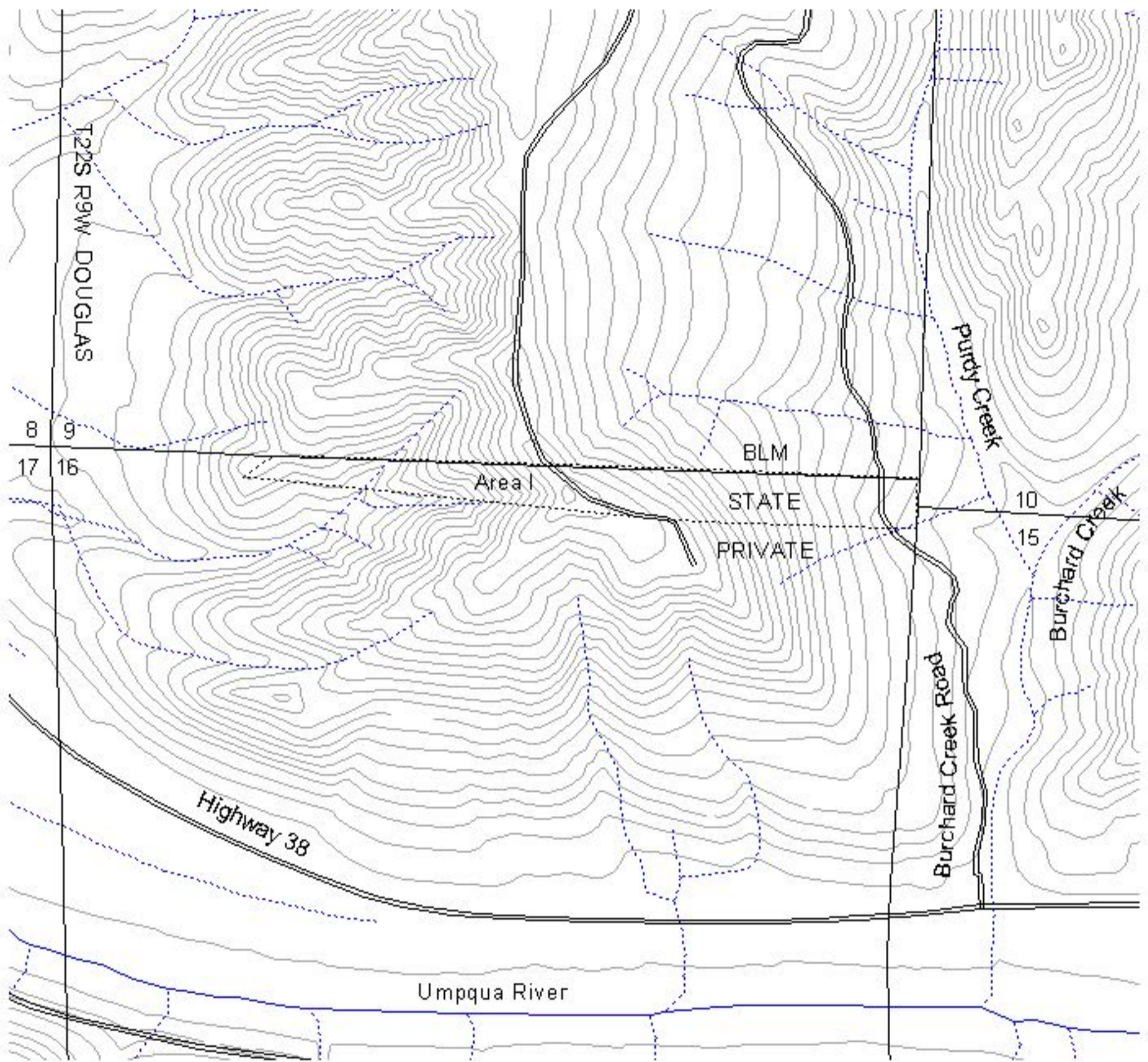
Table 6. Land Use Classification Summary

Area 4 contains 10 acres classified as a protective conservancy damageable.

The mapped location of the protective conservancy damageable will be verified on the ground during sale preparation, so that areas suitable for clearcut harvest are not excluded unnecessarily.

Area	Production	Conservancy Lands
1	24	
2	93	
3	29	
4	27	10

This table summarizes the acres in each land use class within the operation.



TYEE'S PURDYFOLL TIMBER SALE

Area 1

**-- Topography --
FY 09 SALE PLAN
COOS DISTRICT**

Portions of Section 16, T22S, R9W
Douglas County, Oregon

- Timber Sale Boundary
- Existing Roads
- Type F Streams
- Type N Streams
- Unclassified
- Section Lines
- 40 Foot Contours

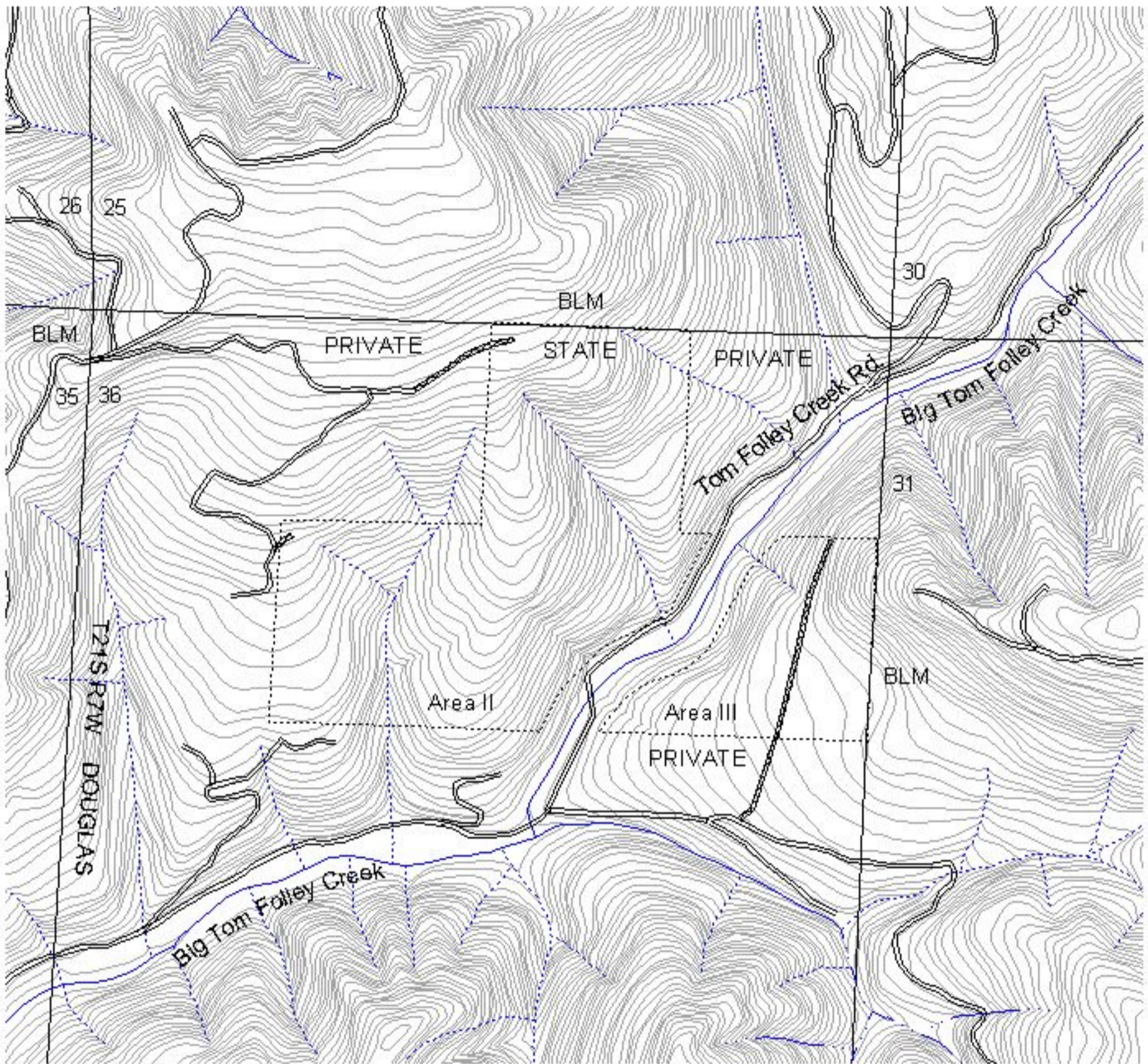


1" = 1000'

Sale Area	Harvest Type	Net Acres
1	Clearcut	24
2	Clearcut	93
3	Clearcut	29
4	Clearcut	27
Total		173

Coos District GIS
1/11/08

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TYEE'S PURDYFOLL TIMBER SALE

**Area 2 and 3
-- Topography --
FY 09 SALE PLAN
COOS DISTRICT**

Portions of Section 36, T21S, R7W
Douglas County, Oregon

- Timber Sale Boundary
- Existing Roads
- Road Construction
- Type F Streams
- Type N Streams
- Unclassified
- Section Lines
- 20 Foot Contours

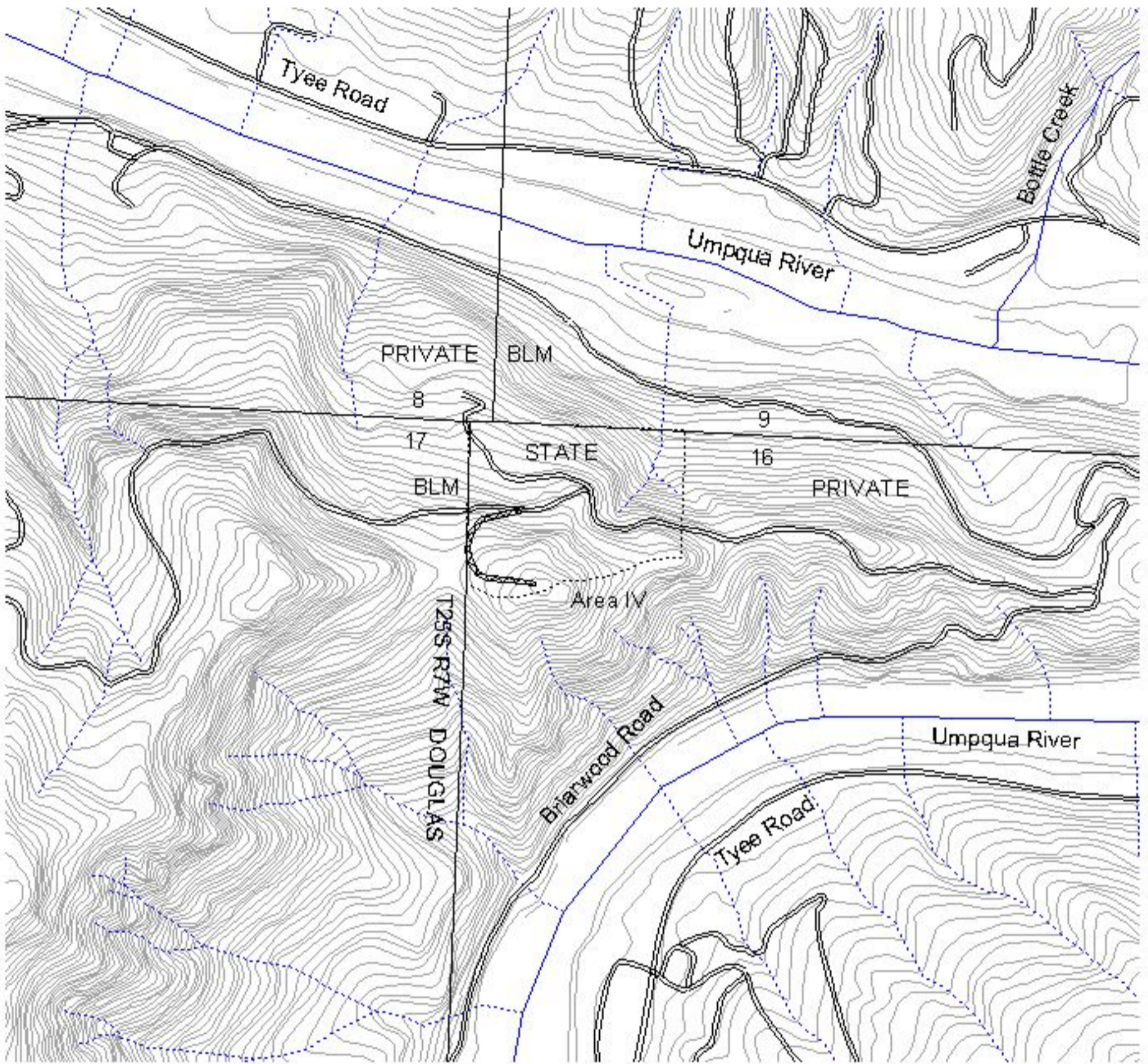


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4	Clearcut	27
Total		173

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TYEE'S PURDYFOLL TIMBER SALE

Area 4

**-- Topography --
FY 09 SALE PLAN
COOS DISTRICT**

Portions of Section 16, T25S, R7W
Douglas County, Oregon

- Timber Sale Boundary
- Existing Roads
- Road Construction
- Type F Streams
- Type N Streams
- Unclassified
- Section Lines
- 20 Foot Contours

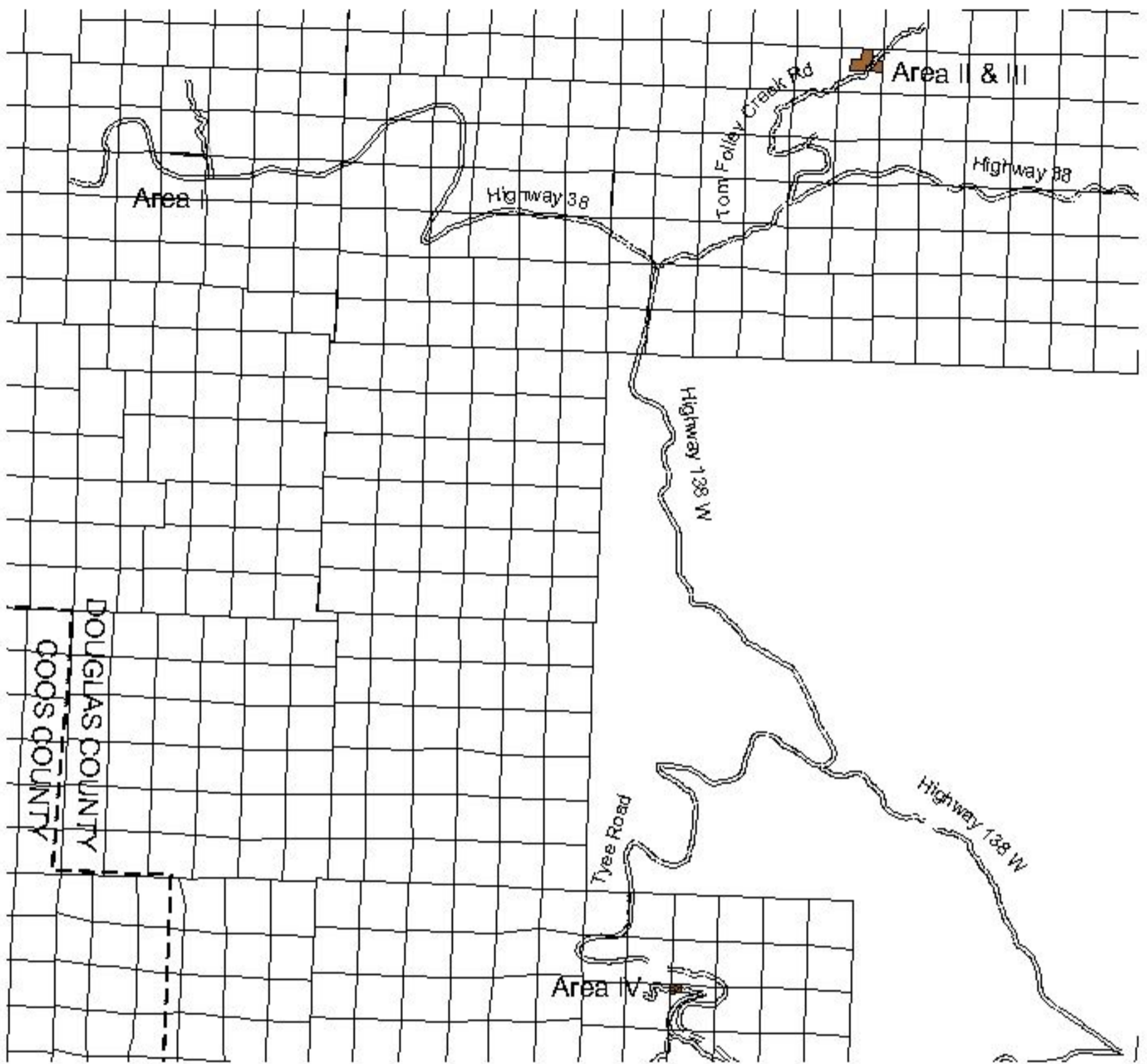


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


Sale Area	Harvest Type	Net Acres
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3	Clearcut	29
4	Clearcut	27
Total		173

Coos District GIS
1/11/08

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TYEE'S PURDYFOLL TIMBER SALE
-- Vicinity --
FY 09 SALE PLAN
COOS DISTRICT

-  Mainline Roads
-  County Line
-  Harvest Units
-  Section Lines



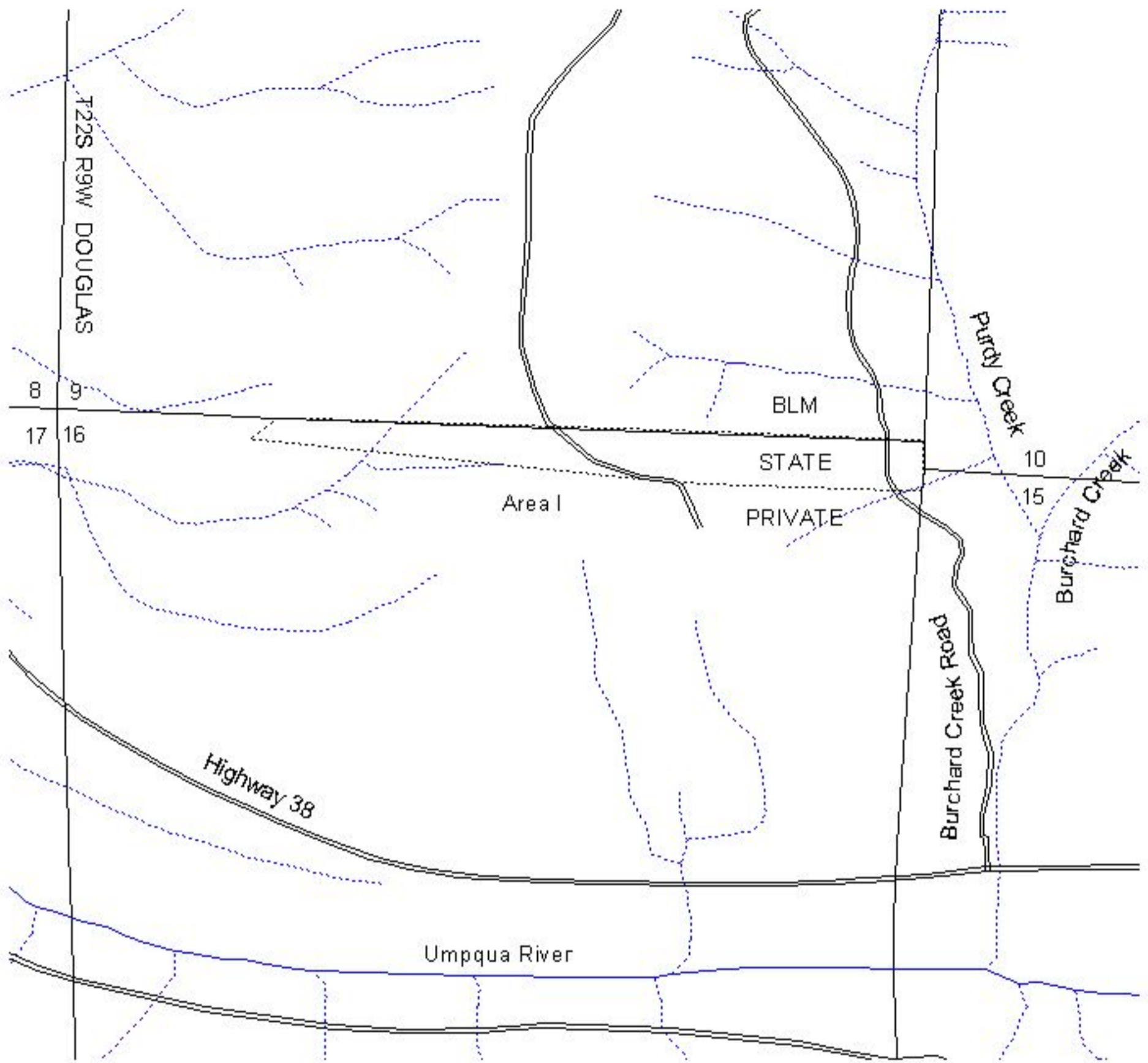
Portions of Section 16, T22S, R9W
 Portions of Section 36, T21S, R7W
 Portions of Section 16, T25S, R7W
 Douglas County, Oregon



Sale Area	Harvest Type	Net Acres
1	Clearcut	24
2	Clearcut	93
3	Clearcut	29
4	Clearcut	27
Total		173

Coos District GIS
 1/11/08

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TYEE'S PURDYFOLL TIMBER SALE

Area 1

**-- Key Resources --
FY 09 SALE PLAN
COOS DISTRICT**

Portions of Section 16, T22S, R9W
Douglas County, Oregon

- Timber Sale Boundary
- Existing Roads
- Type F Streams
- Type N Streams
- Unclassified
- Section Lines



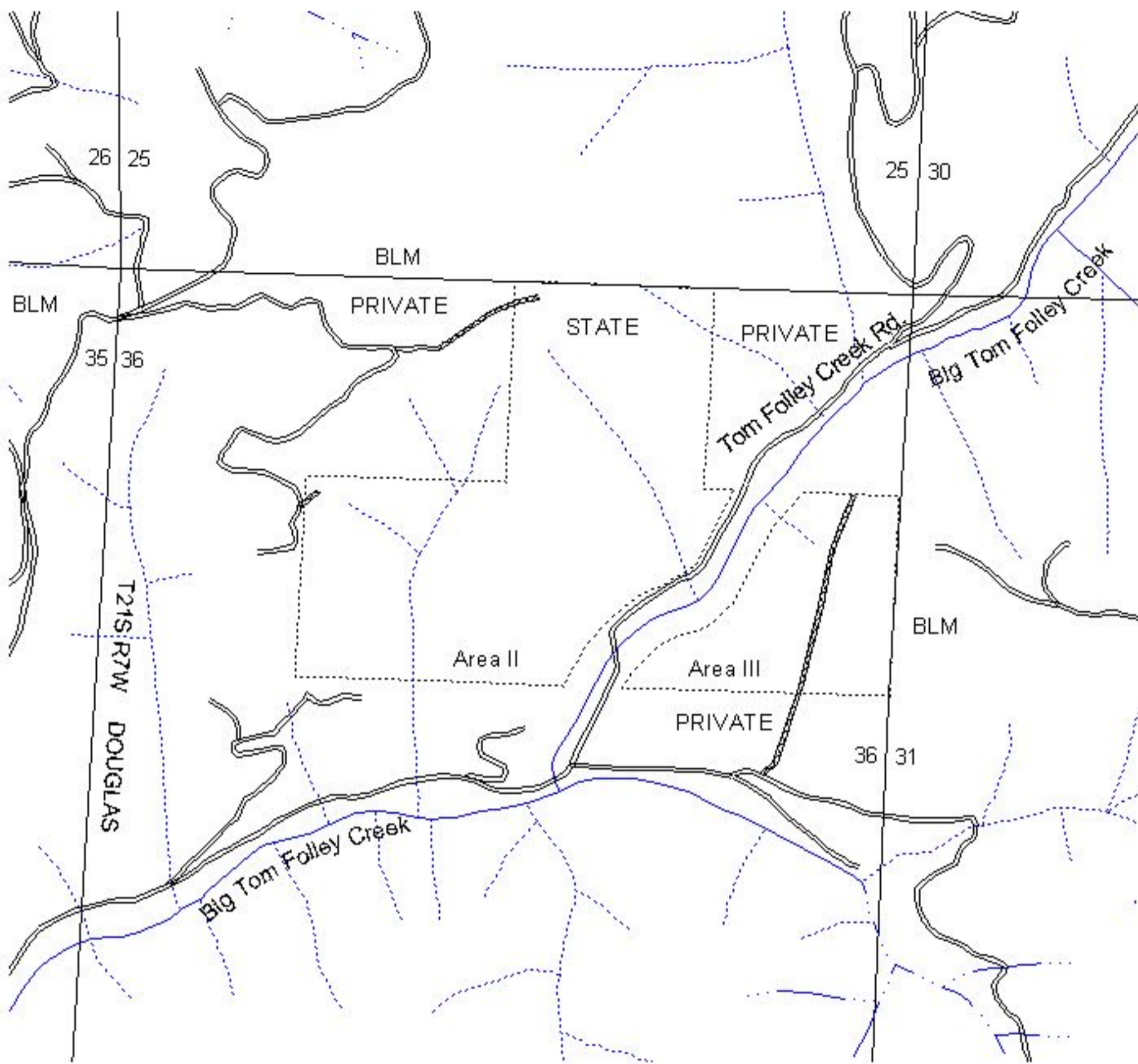
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1" = 1000'

Sale Area	Harvest Type	Net Acres
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3	Clearcut	29
4	Clearcut	27
Total		173

Coos District GIS
1/11/08

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TYEE'S PURDYFOLL TIMBER SALE

**Area 2 and 3
-- Key Resources --
FY 09 SALE PLAN
COOS DISTRICT**

Portions of Section 36, T21S, R7W
Douglas County, Oregon

- Timber Sale Boundary
- Existing Roads
- Road Construction
- Type F Streams
- Type N Streams
- Unclassified
- Section Lines

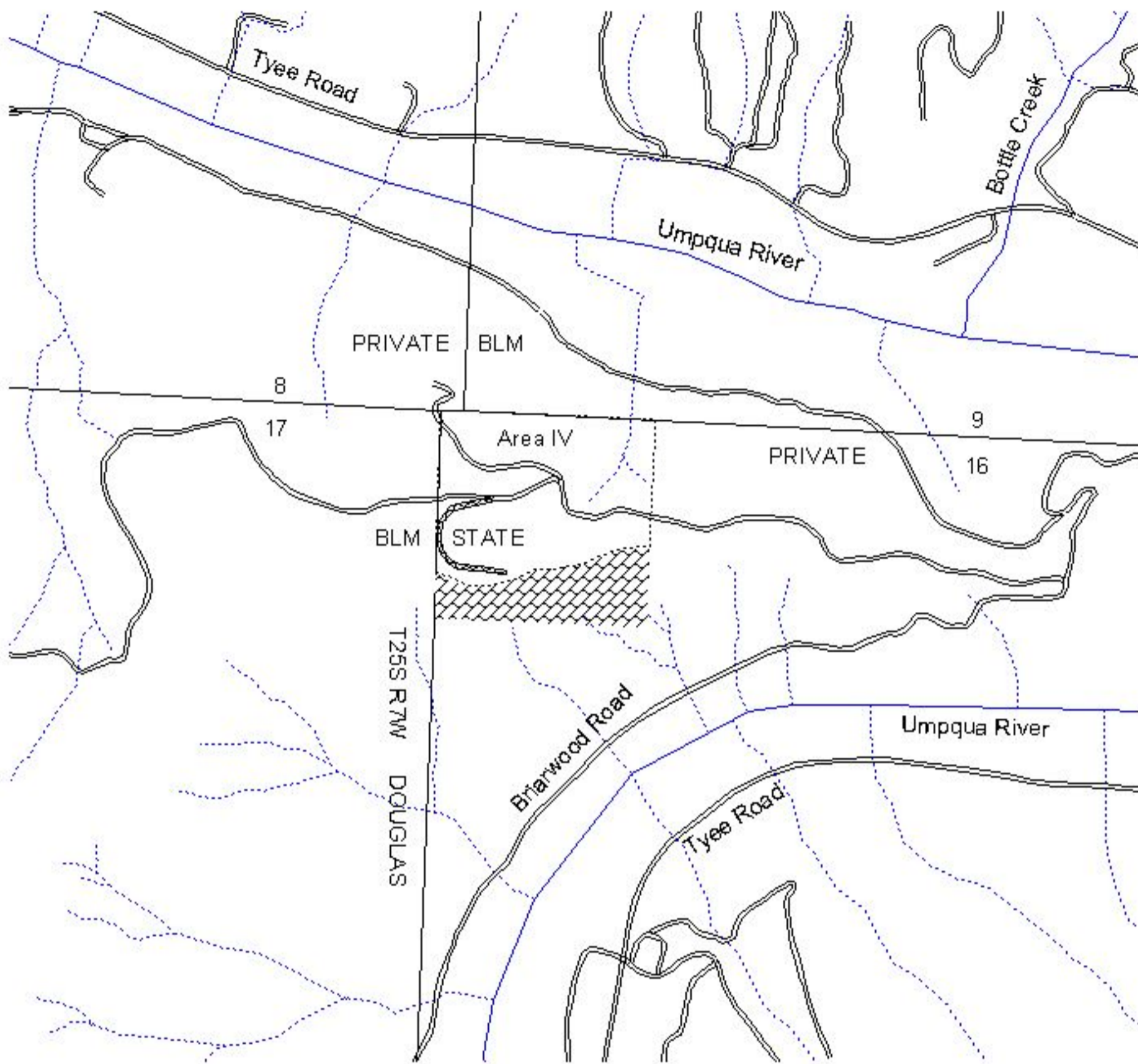


1" = 1000'

Sale Area	Harvest Type	Net Acres
1	Clearcut	24
2	Clearcut	93
3	Clearcut	29
4	Clearcut	27
Total		173

Coos District GIS
1/11/08

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TYEE'S PURDYFOLL TIMBER SALE

Area 4

**-- Key Resources --
FY 09 SALE PLAN
COOS DISTRICT**

Portions of Section 16, T25S, R7W
Douglas County, Oregon

- Timber Sale Boundary
- Existing Roads
- Road Construction
- Type F Streams
- Type N Streams
- Unclassified
- Section Lines
- Land Use**
- Protective Conservancy Area



1000 0 1000 Feet

1" = 1000'

Sale Area	Harvest Type	Net Acres
1	Clearcut	24
2	Clearcut	93
3	Clearcut	29
4	Clearcut	27
Total		173

Coos District GIS
1/11/08

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MEMORANDUM

TO: Norma Kline
FROM: Randy Smith
SUBJECT: Preliminary Biological Assessment for the **Tyee's Purdyfoll** Timber Sale
DATE: January 18, 2008

Executive Summary

Tyee's Purdyfoll is a proposed sale in the 2009 Annual Operations Plan of the Coos District. This timber sale is located on several scattered tracts managed by the Coos District outside the Elliott State Forest and as such are not covered by the current HCP and associated Incidental Take Permit for spotted owls.

Portions of the sale are located within the home ranges of the Big Tom, Upper Tom Folley, Riverview, Gold Beach and Hubbard Gold northern spotted owl sites.

After harvest of the sale, 50%, 46%, 70%, 72% and 69% suitable habitat will remain post harvest within the 1.5 mile circles for the Big Tom, Upper Tom Folley, Riverview, Gold Beach and Hubbard Gold respective activity centers. After harvest of the sale, 73% suitable habitat will remain post harvest within the 0.7 mile circle for the Gold Beach activity center. Suitable habitat within all circles will exceed the Incidental Take Guidelines (ITG).

No spotted owls have been observed within the sale areas during protocol surveys.

No marbled murrelets have been observed within this sale during first year protocol surveys in 2007. Second year surveys will be conducted in 2008.

As currently proposed, the Tyee's Purdyfoll timber sale is expected to have a low risk of negatively affecting the occupancy and productivity of the Big Tom, Upper Tom Folley, Riverview, Gold Beach and Hubbard Gold northern spotted owl sites.

Introduction

Purpose

The Coos District is proposing the Tyee's Purdyfoll timber sale in their 2009 Annual Operations Plan. All sale areas contain potentially suitable habitat for northern spotted owls. Portions of the sale are within the 1.5 mile circles for Big Tom, Upper Tom Folley, Riverview, Gold Beach and Hubbard Gold northern spotted owl activity centers. In addition, Area 4 is within the 0.7 mile circle for the Gold Beach activity center. This memo presents the relevant biological information needed to assess the potential effects of the Tyee's Purdyfoll timber sale on northern spotted owls.

Policy Direction

Northern Spotted Owls

In the Coos District, the main block of the Elliott State Forest currently operates under the 1995 Habitat Conservation Plan (HCP) and associated Incidental Take Permit (ITP) for spotted owls. The Coos District also manages several scattered tracts in adjoining counties. These tracts are not covered by the HCP or ITP and according to ODF policy (Holloway 2002), the standard for protection of northern spotted owls, is to apply the U.S. Fish and Wildlife Service rescinded Incidental Take Guidelines (ITG) as outlined in "Procedures leading to Endangered Species Act compliance for the northern spotted owl" (U.S. Fish and Wildlife Service 1990). According to the ITG, the best available habitat is identified for a 70 acre core area; at least 500 acres of suitable habitat should be maintained within a 0.7 mile radius, and within the home range circle (in this case 1.5 miles), approximately 40% suitable habitat (1,906 acres) should be maintained. Additional factors to be considered and documented in this biological assessment include proximity of the operation to a site,

the prescription proposed, the size of the operation, the history of activity near the site, and other relevant factors.

Marbled Murrelets

All sale areas are within the known inland range of the marbled murrelet. The sale areas range from approximately 21 to 37 miles from the Pacific Ocean. There are patches of apparent suitable habitat within and surrounding the sale areas. These areas are being surveyed for murrelets according to Pacific Seabird Group protocol (Evans et al., 2003). Surveys for murrelets were conducted in 2007 with no detections observed. Second year surveys will be conducted in 2008.

Background

Survey History and Site Information

Potential spotted owl habitat surrounding the timber sale was surveyed according to protocol endorsed by the USFWS (Anonymous, 1991). Surveys were conducted by an ODF contractor or PNW Research Station crew.

Big Tom

This site is currently being monitored by PNW. In 2001, the pair nested and reportedly fledged three young. The pair was present but not nesting in 2002 and 2003. In 2004 and 2005 the pair nested and fledged 2 young each year. The pair was non nesting in 2006. The pair nested at the current AC in 2007 and fledged one young. This activity center (AC) is approximately 0.9 miles from Tyee's Purdyfoll timber sale.

Upper Tom Folley

This site is currently being monitored by PNW. From 2001-2004 the pair nested in 4 different nest trees and fledged one juvenile each year. In 2005, 2006 and 2007 the pair was non-nesting. This AC is approximately 1.3 miles from Tyee's Purdyfoll timber sale.

Riverview

This site is currently being monitored by PNW. In 2004, the pair nested and fledged 2 young. The site was not surveyed in 2005. In 2006 and 2007 the pair was non-nesting. This AC is approximately 1.4 miles from Tyee's Purdyfoll timber sale.

Gold Beach

This site is currently being monitored by PNW. In 2001, the pair nested and fledged one juvenile. The pair was non-nesting in 2002-2004. The pair nested in 2005 but the one chick did not survive to fledging. A single male was located in 2006 and 2007 at this site. This AC is approximately 0.4 miles from Tyee's Purdyfoll timber sale.

Hubbard Gold

This site is on private ownership. Available survey information obtained showed the pair to have nested and fledged 2 juveniles in 2005 and was non-nesting in 2006. In 2007 a male was heard but the landowner denied PNW crews access to determine pair and reproductive status. This AC is approximately 1.3 miles from Tyee's Purdyfoll timber sale.

Sale Area Information

The Tyee's Purdyfoll timber sale consists of 186 net acres of predominantly 40-102 year-old second growth Douglas-fir with minor components of western redcedar, hemlock, grand fir and various hardwood species. These sale areas are scattered across a large geographic area in Douglas County with an average of 20 miles between sale areas. All sale areas are dominated by Douglas-fir stands and have DBH ranging from 12-16 inches with a range of 140-280 TPA. There are a few large, widely scattered, residual Douglas-fir trees within the sale areas. The riparian areas are primarily red alder, big-leaf maple and Douglas-fir with good amounts of red cedar and hemlock along Tom Folley Creek. The brush layer consists of vine maple, salal, evergreen huckleberry and sword fern. I have visited all sale areas and consider all sale areas suitable habitat for northern spotted owls.

Prescription

The Tyee's Purdyfoll timber sale is a 4 area clear cut sale totaling 186 net acres. Stands in the sale are currently classified as intermediate or advanced and have a desired future condition of providing intermediate structure. Sale area 1 is not associated with a NSO activity center or circle and will not be discussed further in this BA.

Areas 2-4 will receive a clearcut prescription removing a majority of the conifer and hardwood overstory leaving some large residual trees within buffer areas and scattered in selected locations in or along the edge of the sale unit. Approximately 2-4 live trees per acre will be retained as green tree retention. Existing snags that are not safety hazards will be retained. Detailed stand survey information acquired prior to harvest will determine the number of snags to be created. One snag per two acres will be created if the stand has fewer than 3 hard snags per acre after harvest. Down wood amounts will also be assessed during a detailed stand survey and if needed, additional down wood will be retained.

For all areas, snags, and down wood will be left in the sale area consistent or exceeding standards in the Elliott State Forest Management Plan and Coos District Implementation Plan.

Assumptions

Defining the Home Range

According to "Procedures leading to Endangered Species Act compliance for the northern spotted owl" (USFWS 1990), the median home range size (based on 95% minimum convex polygon) for spotted owl pairs in the Oregon Coast Range is 4,766 acres, or the approximate equivalent of the area encompassed by a circle with a radius of 1.5 miles. Although spotted owls generally do not have circular home ranges, in the absence of more specific information about the home ranges of this site, I will assume that a 1.5 mile radius circle around the nest or activity center approximates the home range of this site. All stands for this analysis were digitized and circle radii/acreages were calculated using ArcView 3.2 software.

Defining Suitable Habitat

Although spotted owl habitat has generally been described as old growth, spotted owls are known to use a variety of forest types in this part of the Oregon Coast Range. Spotted owls are known to nest in stands as young as 60-80-years-old on forest lands within the Coos District that have suitable nesting structures (Glenn and Anthony, 2000).

For the purposes of this discussion, suitable spotted owl habitat is considered to be stands at least 55 years old from inventory data, younger stands that have known owl use, or stands that appear to be suitable habitat from structural inventory data or an assessment of aerial photographs (taken in 2005) and/or ground verification in 2007.

Impact Assessment and Discussion

Landscape Analysis

The following discussion assesses the habitat situation within 1.5 miles of the Big Tom, Upper Tom Folley, Riverview, Gold Beach and Hubbard Gold spotted owl activity centers, as recommended by the ITG (Table 1, Figures 1 & 2).

Big Tom. The Tyee's Purdyfoll timber sale will clear cut 142 acres within the 1.5 mile circle for the Big Tom spotted owl site. This sale does not impact the 0.7 mile circle. A habitat analysis of the Big Tom spotted owl site indicates that there are approximately 2,390 acres of suitable habitat within 1.5 miles of the activity center. If the sale area is excluded from the suitable habitat, 2,248 acres (50%) of suitable habitat are available within 1.5 miles of the activity center. Based on this preliminary habitat analysis, this site will maintain enough unmodified suitable habitat within the 1.5 mile circle after harvest to be consistent with the ITG.

Upper Tom Folley. The Tyee's Purdyfoll timber sale will clear cut 22 acres within the 1.5 mile circle for the Upper Tom Folley spotted owl site. This sale does not impact the 0.7 mile circle. A habitat analysis of the Upper Tom Folley spotted owl site indicates that there are approximately 2,111 acres of suitable habitat within 1.5 miles of the activity center. If the sale area is excluded from the suitable habitat, 2,089 acres (46%) of suitable habitat are available within 1.5 miles of the activity center. Based on this preliminary habitat analysis, this site will maintain enough unmodified suitable habitat within the 1.5 mile circle after harvest to be consistent with the ITG.

Riverview. The Tyee's Purdyfoll timber sale will clear cut 17 acres within the 1.5 mile circle for the Riverview spotted owl site. This sale does not impact the 0.7 mile circle. A habitat analysis of the Riverview spotted owl site indicates that there are approximately 3,158 acres of suitable habitat within 1.5 miles of the activity center. If the sale area is excluded from the suitable habitat, 3,141 acres (70%) of suitable habitat are available within 1.5 miles of the activity center. Based on this preliminary habitat analysis, this site will maintain enough unmodified suitable habitat within the 1.5 mile circle after harvest to be consistent with the ITG.

Gold Beach. The Tyee's Purdyfoll timber sale will clear cut 26 acres within the 0.7 mile circle. A habitat analysis indicates that there are approximately 743 acres of suitable habitat within 0.7 miles of the activity center. If the sale area is excluded from the suitable habitat, 717 acres (73%) of suitable habitat are available within 0.7 miles of the activity center. Tyee's Purdyfoll timber sale will also clear cut 26 acres within the 1.5 mile circle for the Gold Beach spotted owl site. A habitat analysis of the Gold Beach spotted owl site indicates that there are approximately 3,280 acres of suitable habitat within 1.5 miles of the activity center. If the sale area is excluded from the suitable habitat, 3,254 acres (72%) of suitable habitat are available within 1.5 miles of the activity center. Based on this preliminary habitat analysis, this site will maintain enough unmodified suitable habitat within both the 0.7 and 1.5 mile circles after harvest to be consistent with the ITG.

Hubbard Gold. The Tyee's Purdyfoll timber sale will clear cut 16 acres within the 1.5 mile circle for the Hubbard Gold spotted owl site. This sale does not impact the 0.7 mile circle. A habitat analysis of the Hubbard Gold spotted owl site indicates that there are approximately 3,114 acres of suitable habitat within 1.5 miles of the activity center. If the sale area is excluded from the suitable habitat, 3,098 acres (69%) of suitable habitat are available within 1.5 miles of the activity center. Based on this preliminary habitat analysis, this site will maintain enough unmodified suitable habitat within the 1.5 mile circle after harvest to be consistent with the ITG.

Effects of the Prescription

Following completion of the clear cut operation, I do not anticipate the sale area will be suitable northern spotted owl habitat for many years. The green trees, snags and down wood left post harvest will provide valuable habitat components during the development of the next stand.

Discussion

Sale Areas 2 & 3

No spotted owls have been observed within sale areas 2 & 3 during protocol surveys. The Big Tom and Upper Tom Folley spotted owl sites are 0.9 and 1.3 miles respectively from sale areas 2 & 3. Approximately 142 acres of sale areas 2 & 3 are within the 1.5 mile Big Tom circle and 22 acres are within the 1.5 mile Upper Tom Folley circle. These acres are located along the outer edge of the circle and will not appear to significantly fragment suitable habitat. Stands to the NE of sale area 3 are currently not yet suitable habitat but are very near so and may provide a dispersal corridor to adjacent blocks of suitable habitat and foraging edge habitat. These sale areas do not affect either of the 0.7 mile circles. Both activity centers are on BLM ownership with Big Tom in a Late Successional Reserve (LSR) and Upper Tom Folley in matrix lands. Habitat surrounding the Big Tom AC is of high quality and quantity and has little fragmentation within the 1.5 mile circle. Federally managed land makes up 50% of the area within 1.5 miles of the Big Tom spotted owl activity center,

3% is managed by ODF and 47% is managed by other landowners. There has been a moderate amount of recent harvest within the Upper Tom Folley circle almost exclusively on private ownership. Despite this, there remains a large section immediately south and west of the AC with high quality habitat and good connectivity to remaining habitat within the circle. Within 1.5 miles of the Upper Tom Folley activity center, federally managed land makes up 50% of the ownership, 1% is managed by ODF and 49% is managed by other landowners. The habitat analysis within 1.5 miles of these two activity centers indicate that the ITG will be met after harvest of the sale area.

Sale Area 4

No spotted owls have been observed within sale area 4 during protocol surveys. The Riverview, Gold Beach and Hubbard Gold spotted owl sites are 1.4, 0.4 and 1.3 miles respectively from the proposed Tyee's Purdyfoll timber sale. Approximately 17 acres of sale area 4 are within the 1.5 mile Riverview circle. These acres are located along the very outer perimeter of the circle. This sale does not affect the 0.7 mile circle. The Riverview spotted owl activity center is on BLM ownership and is currently located within a LSR. There has been limited timber harvest activity within the Riverview circle and all federal ownership appears to be in reserves and will likely not have harvest activities for some time. Habitat surrounding the Riverview AC is of high quality and quantity and has little fragmentation within the 1.5 mile circle. Federally managed land makes up 56% of the area within 1.5 miles of the Riverview spotted owl activity center, 1% is managed by ODF and 43% is managed by other landowners. The habitat analysis within 1.5 miles of this activity center indicates that the ITG will be met after harvest of the sale area.

Approximately 26 acres of the sale area 4 are within the 0.7 and 1.5 mile Gold Beach circles. These acres are located along the outer perimeter of the 0.7 mile circle. The Riverview spotted owl activity center is on BLM ownership and is currently located within a LSR. There has been very limited timber harvest activity within the Gold Beach circle and all federal ownership is in reserves. Habitat surrounding the Gold Beach AC is of high quality and quantity and has little fragmentation within either circle. Federally managed land makes up 53% of the area within 0.7 miles of the Gold Beach spotted owl activity center, 4% is managed by ODF and 43% is managed by other landowners. Within the 1.5 mile circle, federally managed lands comprise 37%, 1% is managed by ODF and 62% is managed by other landowners. Habitat analysis within both the 0.7 and 1.5 mile circles indicates that the ITG will be met after harvest of the sale area.

Approximately 16 acres of sale area 4 are within the 1.5 mile Hubbard Gold circle. These acres are located along the very outer perimeter of the circle. This sale does not affect the 0.7 mile circle. The Hubbard Gold spotted owl activity center is on private ownership. At present there has been limited timber harvest activity within the Hubbard Gold circle and all federal ownership appears to be in reserves and will likely not have harvest activities for some time. Habitat surrounding the Hubbard Gold AC is of high quality and quantity and has very little fragmentation within the 1.5 mile circle. Federally managed land makes up 49% of the area within 1.5 miles of the Hubbard Gold spotted owl activity center, 1% is managed by ODF and 50% is managed by other landowners. Habitat analysis within 1.5 miles of this activity center indicates that the ITG will be met after harvest of the sale area.

Conclusions and Risk Assessment

Biological Risk

As currently proposed, the Tyee's Purdyfoll sale is expected to have a low risk of negatively affecting the occupancy and productivity of the Big Tom, Upper Tom Folley, Riverview, Gold Beach and Hubbard Gold spotted owl sites. This assessment is based on the following factors:

Big Tom

- ◆ Portions of the sale are located 0.9 miles from the activity center, and extend out along the outer edge of the 1.5 mile circle;
- ◆ 142 sale acres will be clearcut within the 1.5 mile circle;
- ◆ Habitat quality and quantity immediately surrounding the activity center is high along with good connectivity to habitat elsewhere within the activity center;

- ◆ The activity center is on federal ownership and within a LSR.
- ◆ Approximately 50% of the 1.5 mile circle will remain as unmodified suitable habitat after harvest of the sale, exceeding the ITG.

Upper Tom Folley

- ◆ Portions of the sale are located 1.3 miles from the activity center, along the outer edge of the 1.5 mile circle;
- ◆ 22 sale acres will be clearcut within the 1.5 mile circle;
- ◆ Habitat quality and quantity immediately surrounding the activity center to the south is high along with good connectivity to habitat east and west of the activity center;
- ◆ Approximately 46% of the 1.5 mile circle will remain as unmodified suitable habitat after harvest of the sale, exceeding the ITG.

Riverview

- ◆ Portions of the sale are located 1.4 miles from the activity center, along the outer edge of the 1.5 mile circle;
- ◆ 17 sale acres will be clearcut within the 1.5 mile circle;
- ◆ Habitat quality and quantity immediately surrounding the activity center is high along with good connectivity to habitat elsewhere within the activity center;
- ◆ The activity center is on federal ownership and within a LSR.
- ◆ Approximately 70% of the 1.5 mile circle will remain as unmodified suitable habitat after harvest of the sale, exceeding the ITG.

Gold Beach

- ◆ Portions of the sale are located 0.4 miles from the activity center;
- ◆ 26 sale acres will be clearcut within the both the 0.7 and 1.5 mile circles;
- ◆ Sale area 4 is separated from the AC by prominent ridges;
- ◆ Habitat quality and quantity immediately surrounding the activity center is excellent along with good connectivity to habitat elsewhere within the activity center;
- ◆ 57% of the habitat within the 0.7 mile circle immediately surrounding the AC is in a federal LSR;
- ◆ Approximately 73% and 72% of the 0.7 and 1.5 mile circles will remain as unmodified suitable habitat after harvest of the sale, exceeding the ITG.

Hubbard Gold

- ◆ Portions of the sale are located 1.3 miles from the activity center, along the outer edge of the 1.5 mile circle;
- ◆ 16 sale acres will be clearcut within the 1.5 mile circle;
- ◆ Habitat quality and quantity immediately surrounding the activity center is good along with good connectivity to habitat northeast and southwest of the activity center;
- ◆ Approximately 69% of the 1.5 mile circle will remain as unmodified suitable habitat after harvest of the sale, exceeding the ITG.

Compliance with Policy

After completion of harvest operations associated with the Tyee's Purdyfoll timber sale, the remaining suitable habitat within the Big Tom, Upper Tom Folley, Riverview, Gold Beach and Hubbard Gold owl circles will exceed the standards identified in the U.S. Fish and Wildlife Service rescinded Incidental Take Guidelines. Assessment of other relevant factors indicates that the harvest activities are expected to have a low risk of negatively affecting the spotted owl sites.

Consultation

Tod Lum, District Wildlife Biologist with the Oregon Department of Fish and Wildlife in Roseburg provided the following comment: "I concur that biological risk is minimized to NSO's on the proposed sites due to a number of circumstances such as Federal land ownership in LSR's, quality/quantity

of habitat surrounding the AC, corridors providing good connectivity to suitable habitat and acreage remaining as unmodified suitable habitat after treatment resulting in USFWS ITG's being exceeded".

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Table 1. Acres of suitable habitat within the 0.7 and 1.5 mile circles of the Big Tom, Upper Tom Folley, Riverview, Gold Beach and Hubbard Gold northern spotted owl activity centers. Suitable habitat determined through 2005 air-photo analysis and 2007 field assessment.

	Acres	Big Tom	Upper Tom Folley	Riverview	Gold Beach		Hubbard Gold
		1.5 mi	1.5 mi	1.5 mi	0.7 mi	1.5 mi	1.5 mi
Suitable Habitat:							
Federal		1326	1223	1930	458	1308	1607
State		152	25	23	42	42	34
Private		912	863	1205	243	1930	1473
Total		2390	2111	3158	743	3280	3114
Sale area	186	142	22	17	26	26	16
Suitable habitat removed due to new road construction within circles		0	0	0	0	0	0
Unmodified suitable habitat remaining		2248	2089	3141	717	3254	3098
% suitable post harvest		50%	46%	70%	73%	72%	69%