

***CAN-CAN REGENERATION  
HARVEST PROJECT PLAN***

**ENVIRONMENTAL ASSESSMENT  
OR 105-99-05**

South River Field Office  
Roseburg District BLM

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Roseburg District Office  
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# Chapter 1

## PURPOSE AND NEED FOR ACTION

This chapter provides a brief description of the purpose and need for the proposed action being analyzed in this environmental assessment (EA).

### I. Background

The South River Field Office of the Roseburg District, Bureau of Land Management (BLM), proposes a watershed-level plan for regeneration timber harvest. Potential restoration opportunities would be limited to road renovation, improvements or decommissioning where implementation would be appropriate, feasible, and enabling to the timber sales being analyzed.

Regeneration harvest opportunities identified in the South Umpqua Watershed Analysis and Water Quality Restoration Plan (USDI, BLM 2001 pp. 90 and 92) were considered and management direction from the Roseburg District *Record of Decision/Resource Management Plan* (USDI, BLM 1995a (ROD/RMP)) used as guidance in developing the proposal. Potential units are primarily located in the O'Shea Creek and Canyon Creek subwatersheds of the South Umpqua River watershed. Approximately nine acres of one proposed unit extends into the Judd Creek subwatershed of the Middle South Umpqua watershed.

The Roseburg District timber management plan is based on a combination of regeneration harvest, commercial thinning and density management. Based on the analysis of the Roseburg District *Proposed Resource Management Plan/Environmental Impact Statement* (USDI, BLM 1994 (PRMP/EIS)), the ROD/RMP (p. 8) assumed 1,190 acres of regeneration harvest and 150 acres of commercial thinning and density management annually, on average, in the first decade following implementation of the ROD/RMP in 1995.

### II. Purpose

The ROD/RMP designated Matrix lands to "Produce a sustainable supply of timber and other forest commodities." Timber harvest would be conducted on suitable forest lands in accord with management actions/direction and Best Management Practices from the ROD/RMP (pp. 33-34).

The ROD/RMP (p. 61) also directs that regeneration harvest should be scheduled so that, over time, harvest will occur at or above the age of volume growth culmination, also referred to as culmination of mean annual increment (CMAI).

The ROD/RMP (pp. 8 and 60) declared an objective of an annual allowable sale quantity (ASQ) of 45 MMBF. The areas proposed for harvest would comprise three separate timber sales to be offered over a period of two years. Potential yield of the three sales is estimated at between 16 and 20 MMBF, which would contribute toward the ASQ for fiscal years 2004 and 2005.

The purpose of this EA is to analyze the potential effects of the proposed regeneration harvest of forest stands allocated by the ROD/RMP as General Forest Management Area and Connectivity/Diversity Block. The General Forest Management Area allocation is designated for a high level of sustained timber production (ROD/RMP, p. 150). The Connectivity/Diversity Block allocation is designated for to provide habitat connectivity for old-growth dependent and associated species within the General Forest Management Area, while providing a moderately high level of sustained timber production.

The EA will consider the environmental consequences of the proposed action and no action alternatives, and provide sufficient evidence and analysis for determining whether to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI).

### **III. Need**

There is a need for the proposed timber sales in order to meet management direction for sustained timber production from the Matrix allocations. This management direction includes regeneration timber harvest, as described in the ROD/RMP.

The sales are also needed to contribute toward the declared ASQ of 45 MMBF, to meet the requirement of Section 1 of the O&C Act which stipulate that suitable commercial forest lands revested by the government from the Oregon and California Railroad are to be managed for the sustained production of timber.

The timber sales are also needed to contribute toward the socioeconomic objectives of the PRMP/EIS, which estimated that BLM management programs (including timber sales) would support 544 jobs and provide \$9.333 million in personal income annually over the plan's tenure.

### **IV. Implementation**

The analysis in the PRMP/EIS is tiered to the analysis contained in the *Final Supplemental Environmental Impact Statement on Management of Habitat for Late-Successional and Old-Growth Related Species Within the Range of the Northern Spotted Owl* (USDA, USDI 1994a (FSEIS)). The ROD/RMP is tiered to both analyses and adopts, in the form of management direction, the standards and guidelines set forth in the *Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl* (UDSA, USDI 1994b (ROD)).

Any implementation of the actions described in this EA would conform to management direction provided in the ROD/RMP, as further amended by the *Record of Decision to Remove or Modify the Survey and Manage Mitigation Measure Standards and Guidelines in Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl* (USDA, USDI 2004b), the *Record of Decision to Clarify Provisions Relating to the Aquatic Conservation Strategy* (USDA, USDI 2004c), and the *Record of Decision and Resource Management Plan Amendment for Management of Port-Orford-Cedar in Southwest Oregon, Coos Bay, Medford, and Roseburg Districts* (USDI, BLM 2004).

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## **Chapter 2**

# **DISCUSSION OF THE ALTERNATIVES**

This chapter describes the basic features of the alternatives being analyzed in this environmental assessment.

### **I. Alternative One - No Action**

The stands proposed for regeneration harvest are allocated to the Matrix where the majority of timber harvest and silvicultural activities are authorized and scheduled to occur. Under this alternative, regeneration harvest of these stands would not occur at this time. Harvest of these stands would simply be deferred to a future date and other suitable forest stands in the Matrix would be identified and analyzed for regeneration harvest in order to meet the ASQ established in the ROD/RMP and contribute to the socioeconomic objectives identified in the PRMP/EIS.

There would be no road construction. Proposed road renovation and improvements to correct drainage problems and reduce sediment, and decommissioning of other roads to reduce road density in the watershed would not be undertaken. These actions would require implementation under separate authorizations.

### **II. Alternative Two - Proposed Action**

Under this alternative, regeneration harvest would be implemented on an estimated 520 acres of forest lands allocated as Connectivity/Diversity Blocks and General Forest Management Area. The acreage would be divided among fourteen proposed units which would comprise three separate timber sales to be authorized individually. These would be the Myrtle Morgan, Hi-Yo Silver and Screen Pass timber sales, as indicated in Appendix D.

#### **A. Timber Harvest**

Potential harvest units were identified through a detailed review of available lands within the watershed that considered the following factors:

- Maintenance of physical connectivity and dispersal pathways between the South Umpqua River/Galesville and South Coast-Northern Klamath Late-Successional Reserves (LSRs), until younger forest stands mature and develop into dispersal habitat for northern spotted owls
- Proximity to northern spotted owl activity centers and available suitable habitat on Federal lands within a 1.3-mile provincial radius of owl activity centers
- Currently available access for timber harvest and post-harvest management

Riparian Reserves would be established on all intermittent and perennial streams based on a site-potential tree height. The calculation of a site-potential tree height is based on the average site index computed from inventory plots located throughout the respective watersheds. Inventory plots are located on forest lands capable of supporting commercial timber stands. For the South Umpqua River watershed (USDI, BLM 2001 p. 67) and the Middle South Umpqua watershed (USDI, BLM 1999 p. 31), the site-potential tree height is calculated as 160 feet.

Riparian Reserve widths on intermittent and perennial streams that are not fish-bearing would be 160 feet, slope distance, measured from the top of the stream bank. Riparian Reserves on fish-bearing streams would be twice the width. Timber would be felled away from Riparian Reserves and no yarding would be authorized within or through them to protect and maintain the integrity of the Riparian Reserves.

Retention trees would be selected to proportionately reflect conifer species composition and the full range of diameter classes greater than 20 inches in diameter at breast height (DBH). Trees with characteristics suitable for cavity nesters would be selected, where practicable, to supplement current snag numbers. Worker safety, operational feasibility and potential tree mortality would be considered in selecting and locating retention trees, and reserving snags.

Six to eight green conifers per acre, on average, would be retained in General Forest Management Area stands (ROD/RMP, p. 150). In Connectivity/Diversity Blocks, 12 to 18 green conifers per acre would be retained, and up to two large hardwoods per acre where present (ROD/RMP, p. 152).

Decay Class 3, 4 and 5 down wood would be reserved under contract stipulations and count toward the objective of retaining 120 lineal feet of large down wood, per acre, following harvest.

## **B. Yarding Operations**

Ground-based harvest would be restricted to the dry season when soil moisture is low and soil structure is most resistant to compaction (ROD/RMP, p. 131). This is generally from mid-May until the onset of regular autumn rains in mid-to-late October.

Cable harvest would be accomplished with skyline systems capable of maintaining one-end log suspension. Cable yarding would not be subject to seasonal restriction unless access would be provided by temporary, natural surface roads, primary haul routes would not support wet weather trucking, or wildlife concerns required seasonal restrictions.

The proposed Myrtle Morgan timber sale is located in Section 5, T. 30 S., R. 4 W. and Sections 9, 10, 11 and 15, T. 30 S., R. 5 W. Table 1 illustrates unit acres, land use allocation, harvest method, and available seasons of operation.

**TABLE 1 – Myrtle Morgan Timber Sale**

Unit	Acres	Land Use Allocation	Yarding Method		Season of Operations	
			Ground-Based	Skyline	Dry Season Only	Any Season
A	6	GFMA		X	X	
B	9	GFMA	~1/2	~1/2	X	
C						
D	36	GFMA		X		X
E	30	GFMA		X		X
F	84	GFMA		X		X
G	25	C/D Block		X		X
H	47	C/D Block		X		X

The proposed Hi-Yo Silver timber sale is located in Sections 13 and 25, T. 31 S., R. 6 W. Table 2 illustrates unit acres, land use allocation, harvest method, and available seasons of operation.

**TABLE 2 – Hi-Yo Silver Timber Sale**

Unit	Acres	Land Use Allocation	Yarding Method		Season of Operations	
			Ground-Based	Skyline	Dry Season Only	Any Season
I	95	C/D Block		X		X
J						
K	35	GFMA		X	X	
L	32	GFMA		X		X

The proposed Screen Pass timber sale is located in Sections 23 and 26, T. 31 S., R. 5 W. Table 3 illustrates unit acres, land use allocation, harvest method, and available seasons of operation.

**TABLE 3 – Screen Pass Timber Sale**

Unit	Acres	Land Use Allocation	Yarding Method		Season of Operations	
			Ground-Based	Skyline	Dry Season Only	Any Season
M	71	GFMA		X	X	
N	10	GFMA		X	X	
O	28	GFMA		X	X	
P	12	GFMA		X	X	

**C. Site Preparation and Reforestation**

Site preparation for reforestation would be accomplished by broadcast burning (BCB) or hand piling and burning (HPB) slash concentrations.

Broadcast burning would be conducted in the spring when moderate temperatures and high moisture content in soils, duff and large woody debris would minimize fire intensity and duration in order to limit loss of or damage to snags and retention trees, as well as the consumption of duff, surface litter and large woody debris.

For units designated for hand piling and burning, slash would be piled and covered immediately following harvest. Piles would be burned during fall or winter months during periods of rain, and when soil and duff moisture content is high. This would minimize loss of duff and litter, and prevent broadcast burning of the units(s). Table 4 summarizes proposed site preparation by acres and type of treatment.

**TABLE 4 – Summary of Proposed Site Preparation**

Timber Sale	Units	Acres	Site Treatment
Myrtle Morgan	A, B, E, (East ½) F, G & H	186	HPB
	D & E (West ½)	51	BCB
Hi-Yo Silver	I & L	127	BCB
	K	35	HPB
Screen Pass	M, N, O & P	121	HPB

All units would be planted within a year of completion of site preparation. Genetically improved Douglas-fir would be planted on units within the GFMA, if available, in conjunction with approximately 10 percent minor conifer species. Replanting of units in Connectivity/Diversity Blocks would include 15 percent minor conifer species.

Competition from grass and forbs would be expected on southerly aspects of units A, B, D, F, G, H and the east half of M. To reduce competition and increase the odds of survival, seedlings would be mulched.

No animal damage is anticipated that would be severe enough to warrant tubing or the application of big game repellent. Within five years of planting, manual brushing would be necessary in portions of units F, G, H and M to control shrubs and hardwood sprouts.

**D. Access**

Access would be provided by existing roads in combination with construction of 2.35 miles of new permanent road to be retained, 0.5 miles of semi-permanent road, and 1.09 miles of temporary road. All new construction would be located on stable ridge-top or side slope locations outside of Riparian Reserves. Best Management Practices for road construction described in the ROD/RMP (pp. 134-136) would be employed.

For temporary roads the intent would be to construct, use and decommission the roads within the same operating season. If temporary roads were constructed but could not be utilized and decommissioned in a timely manner because of events such as extended fire closure, they would be winterized, at the discretion of the BLM, and held over for use the following year. Winterizing would involve mulching or other erosion control measures, in conjunction with blocking the road(s) to vehicular use during the wet season. In either event, the roads would be decommissioned after use, rather than be retained as part of the permanent transportation system.

Semi-permanent roads would be surfaced for winter operations. If not in use, they would be blocked to vehicle traffic during the wet season. Decommissioning would be done in the first dry season following the completion of site preparation and reforestation.

Approximately 12 miles of existing roads would be renovated and/or upgraded. This could include realignment, initial or supplemental surfacing, reshaping of road crowns and ditches, culvert replacements, and installation of additional drainage. Renovation may also include the removal of individual trees alongside existing roads for widening, and for improvement of line-of-sight. The primary objectives for renovation would be reduction or elimination of road-derived sediment, and restoration to a condition providing for safe use by contractors and the general public.

Appendix A summarizes proposed road construction, renovation and decommissioning.

### **III. Actions/Alternatives Considered But Eliminated From Detailed Analysis**

#### **A. Units Dropped from Consideration**

Unit C of the Myrtle Morgan timber sale was eliminated from consideration because the size and number of merchantable conifers would not warrant regeneration harvest.

Unit J of the Hi-Yo Silver timber sale was deferred because northern spotted owls are nesting on the east side of the stand. The nest site was established after January 1, 1994, and did not receive a 100-acre core area designation (ROD, p. C-10).

#### **B. Road Renovation and Split Haul on the Hi-Yo Silver Timber Sale**

A system of private roads is a primary source of sediment problems in the West Fork Canyon Creek. These roads lack aggregate surfacing and sufficient drainage. There are also three washed out stream crossings. It was proposed that volume from Units J and K, of the Hi-Yo Silver timber sale, be hauled over Road Nos. 31-5-30.0 and 31-5-2.0 so that repairs to the roads could be affected under the timber sale. This proposal was eliminated from consideration for the following reasons:

- Proposed renovation would require expenditure of a large sum of public monies to upgrade private roads for a one-time use. No other federal timber would be hauled over the route during the expected lifetime of the road improvements, so there would be no opportunity to recoup a portion of the investment.
- Since Unit J of the Hi-Yo Silver proposal was deferred from harvest consideration, the volume from Unit K would not be sufficient to bear renovation costs.

#### **IV. Additions and/or Modifications to the Proposal as Initiated**

The northern third of proposed Unit N, classified as VRM II (ROD/RMP, p. 53), was dropped because of its visibility from Interstate Highway 5. Unit P was added to replace acres removed from Unit N and to avoid isolating a small parcel of timber that would not be economically feasible to return for at a later time.

#### **V. Resources That Would Remain Unaffected By Either Alternative**

The following resources would not be affected by either of the alternatives, because they are absent from the area: Areas of Critical Environmental Concern (ACEC); prime or unique farmlands; floodplains; wilderness; waste, solid or hazardous; and Wild and Scenic Rivers.

The proposed action is consistent with Executive Order 12898 which addresses Environmental Justice in minority and low-income populations. The BLM has not identified any potential impacts to low-income or minority populations, either internally or through the public involvement process.

No Native American religious concerns were identified by the team or through correspondence with local tribal governments.

As discussed in the Chapter 3, cultural resources would not be affected and no measurable increase or decrease on the introduction or rate of spread of noxious weeds is anticipated.

There are no energy transmission or transport facilities and/or rights-of-way in the immediate project areas. No commercially usable energy sources are known to exist. As a consequence, no adverse effect on energy resources would be anticipated.

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## Chapter 3

# THE AFFECTED ENVIRONMENT

This chapter summarizes the specific resources that are present or potentially present, and which could be affected by the proposed action.

### I. Timber/Vegetation

The Myrtle Morgan project area (Units A, B, D, E, F, G and H) is located in the Interior Valleys and Foothill vegetation zone (Hickman 1994), characterized by low elevation forest dominated by Douglas-fir. Conifer species comprising lesser stand components are Ponderosa pine and incense-cedar. Common hardwood species are Pacific madrone, big-leaf maple and oaks.

Stands range in age from 110 to 240 years, the eldest being Units G and H estimated at 240 years of age and located in a Connectivity/Diversity Block. With the exception of Unit A, which has two distinct canopy layers with a scattered to closed overstory above advanced regeneration, stands are primarily single-story with little understory development. In Units F, G and H there are scattered canopy openings occupied by small madrone and advanced conifer regeneration.

The Hi-Yo Silver project area (Units I, K and L) is located in the Cool Douglas-fir/hemlock vegetation zone at moderate to high elevations and dominated by Douglas-fir. Other conifers include western hemlock and grand fir. Red alder, big-leaf maple and chinquapin are the primary hardwood associates.

These are predominantly single-story stands. Units K and L are approximately 110 to 120 years of age. Unit I, located in a Connectivity/Diversity Block, is predominantly 220 years old. Substantial areas of dense salal groundcover are present in Units I and L.

The Screen Pass project area (Units M, N, O, and P) is in the Douglas-fir/Chinquapin vegetation zone, at about 2000 to 3000 feet in elevation and dominated by Douglas-fir. Other conifer species include Ponderosa pine, incense-cedar and sugar pine. Pacific madrone, canyon live oak and other oaks are the primary hardwood associates.

Units N, O and P are primarily single-storied stands between 80 and 140 years of age, with minor hardwood and shrub understory components. Unit M is a 140 year old stand with remnant overstory trees greater than 200 years of age. Stand structure in the west half of Unit M is more or less consistent with that in Units N, O and P. The east half, though, has been influenced by partial harvest and underburning in 1987. This has resulted in a more open canopy and greater understory development that includes growth of hardwoods, shrubs and conifer regeneration.

None of the proposed timber sale units are within the range of Port-Orford-cedar. The haul route for the proposed Hi-Yo Silver timber sale passes through the Lower Cow Creek Watershed which is in the range of Port-Orford-cedar but none have been documented along the route.

There are Douglas-fir, Ponderosa pine and sugar pine parent trees which are part of the district tree improvement program located in or near Units A, B, D, E, G, K, M and N.

## II. Wildlife

Over 335 vertebrate species are known or suspected on the Roseburg District, along with hundreds of invertebrate species. There are 33 special status species suspected or documented in the South River Resource Area. As indicated in Appendix B, 29 species are eliminated from further discussion because the project area is outside of the species' range, suitable habitat is absent, or the species is associated with riparian/stream habitat that would be adequately protected by Riparian Reserves. The four species that could be affected are discussed below.

### A. Threatened or Endangered Species

These are species listed as threatened or endangered under the Endangered Species Act (ESA) of 1973, as amended, candidate species, or species proposed for listing under the ESA.

#### Northern Spotted Owl (*Strix occidentalis caurina*)

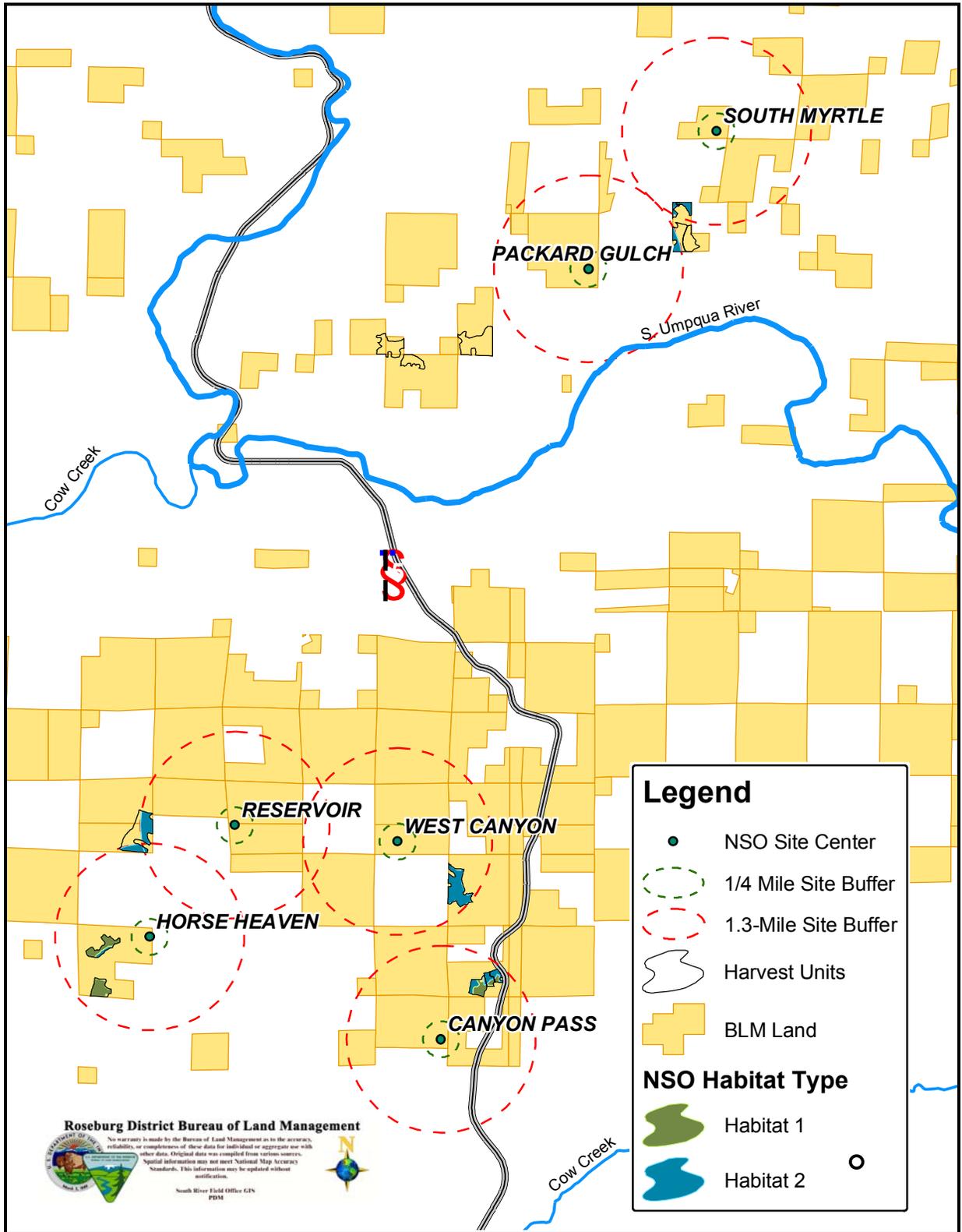
Forest stands utilized for nesting, commonly referred to as Habitat 1, are characterized by late-successional forest with large conifers. These trees have large diameter limbs, crown deformities, large broken tops, or cavities that provide nest sites (Forsman et al. 1984). Forest habitat that provides roosting and foraging, but no nesting opportunities, is referred to as Habitat 2.

Portions of the proposed timber sale units are overlapped by six provincial home ranges. This does not include the owl pair in Unit J, for reasons previously described. A home range in the Klamath Province is typically represented as a 1.3-mile radius circle around the owl activity center (USDI 1991). Table 5 summarizes acres of Habitat 1 and 2 available on BLM-managed lands within each 1.3-mile radius home range. These figures do not reflect habitat that may be provided by privately-managed lands.

**Table 5 – Available Suitable Owl Habitat**

Owl Pair Site	Habitat 1/Habitat 2 Acres	Total Acres
Canyon Pass	554/722	1,276
Horse Heaven	171/101	272
Packard Gulch	29/324	353
Reservoir	418/767	1,185
South Myrtle	241/206	447
West Canyon	0/542	542

Figure 1 - Owl Ranges Overlapping the Project Areas



The Screen Pass project area is located within Critical Habitat Unit (CHU) OR-32. Unit I of the Hi-Yo Silver project area is located within CHU OR-63. These CHUs were designated by the U.S. Fish and Wildlife Service to provide nesting habitat and dispersal pathways between the Klamath and Coastal Provinces. Based on 1998 data, there are 34,414 acres of suitable habitat on Federally-managed lands within CHU OR-32. There are 5,705 acres of suitable habitat on BLM-managed lands in CHU OR-63, following authorization of the harvest of 54 acres associated with the Cow Catcher timber sale.

## **B. Bureau Sensitive Species**

### *Bureau Sensitive*

Bureau Sensitive species are designated under national BLM 6840 policy and are considered eligible for federal or state listing or candidate status under the ESA.

#### Oregon shoulderband and Chace sideband snails

The Oregon Shoulderband (*Helminthoglypta hertleini*) has been found throughout the Roseburg District. The species is not considered to be a late-successional and old-growth forest obligate, as more than fifty percent of known sites have been documented in forest stands less than 80 years of age (USDA, USDI 2003), but the species may still be present in the proposed sale areas because scattered areas and patches of talus and cobble habitat are present throughout many of the proposed units.

The Chace sideband snail (*Monadenia chaceana*) is known from a limited number of sites (85 spatially referenced sites in the Interagency Species Management System on 4 April 2004). Its full range is unknown (Weasma 1999; N. Duncan pers. comm.), with known sites in Shasta, Siskiyou, and Trinity counties in northern California and Douglas, Jackson, and Josephine counties in southern Oregon. It utilizes rocky talus and cobble habitat in association with late-successional forest.

Surveys were conducted in the Screen Pass project area utilizing an opportunistic search of habitat features along a defined transect in conjunction with a complete search of large patches of habitat. Four dead Chace Sideband snails were found at two sites in Unit M. In each case the specimens were located in hollows at the base of bigleaf maples, on northwest aspects with a dominant conifer overstory. No surveys have been conducted, to date, in the Hi-Yo Silver and Myrtle Morgan project areas.

#### Northern goshawk

The northern goshawk (*Accipiter gentilis*) is a large forest-dwelling hawk, present in the Klamath and Cascade mountains. Goshawks forage below the forest canopy where they prey on a variety of birds and small mammals. Stands used for foraging and nesting are generally mature stands with large trees, a high degree of canopy closure and a relatively open understory (Reynolds et al. 1982, Daw et al. 1998, Daw and DeStefano 2001).

When surrounding forest stands are taken into consideration, Units A, B, D, and E of the Myrtle Morgan project area, and Units K and L of the Hi-Yo Silver project area do not constitute suitable goshawk habitat. These areas are less than 60 acres in size and do not provide enough mature, closed-canopy forest to support nesting goshawks (Reynolds et al. 1982, Daw and DeStefano 2001). Units F, G in the Myrtle Morgan project area, Unit I in the Hi-Yo Silver project area, and Units M, N, O and P in the Screen Pass project area all contain sufficient suitable habitat to support goshawks and make their presence a reasonable possibility.

### III. Fisheries and Aquatic Resources

#### A. Aquatic Habitat Conditions

The description of aquatic habitat conditions is based on aquatic habitat surveys conducted by the Oregon Department of Fish and Wildlife (ODFW) in conjunction with field evaluation and the professional judgment of the project biologist. Baseline conditions are described for West Fork Canyon Creek and Canyon Creek (ODFW 1995) downstream of the Hi-Yo Silver and Screen Pass project areas, and Packard Gulch (ODFW 2001) which drains a portion of the Myrtle Morgan project area.

##### *Substrate*

Substrate quality reflects the natural range for a managed watershed. Streams have an average of 42 percent gravel and 3 percent fines in riffle units, considered *desirable* levels by ODFW habitat benchmarks (Foster et al. 2001). The lowest value for gravel was 35 percent in Canyon Creek, where it has been channelized alongside Interstate Highway 5. The highest value for fines was in Packard Gulch, at 12 percent.

Substrate in West Fork Canyon Creek is predominately cobble. A moderate to high stream gradient allows little deposition of gravel and fine sediment. Spawning habitat below Units N, O and P is considered *poor* because of the channelization of Canyon Creek discussed above.

Most streams draining the Myrtle Morgan project area lack habitat for anadromous fish. Packard Gulch, below Units F and G, is low gradient with mostly fines and gravel. The quality of spawning and rearing habitat conditions are considered *moderate*.

##### *Large woody debris*

Large woody debris (LWD) provides complex habitat structure that retains and stores substrate, and helps create deep pool and off-channel rearing habitat. Most streams in the South Umpqua watershed are deficient in LWD (USDI, BLM 2001). Streams in close proximity to the project areas had 1 to 23 pieces of LWD per 100 meters (m). The ODFW aquatic habitat benchmark is 20 pieces per 100 m. LWD volume ranges from 0.4 to 42.47 m<sup>3</sup> per 100 m with a minimum of 30 considered *desirable*.

### *Pools*

Pool frequency and quality is *fair*, largely due to insufficient LWD. The ODFW benchmark for pool habitat is 35 percent. Streams with greater than 35 percent pool habitat provide adequate deep pool habitat for salmonid rearing and holding water for migrating adults. Streams in close proximity to units average 26 percent with 38 percent in Canyon Creek.

West Fork Canyon Creek, below unit K exceeds a gradient of 5 percent in some places and is comprised mostly of step pools with little off-channel habitat. The quality and abundance of rearing habitat is considered *moderate*.

### *Habitat access*

In the South Umpqua watershed, access to habitat for anadromous salmonids was rated as low (USDI, BLM 2001). Access below units I, K, and L of the Hi-Yo Silver project area is restricted by the Win Walker dam and reservoir. Steelhead trout are present in West Fork Canyon Creek immediately below the dam. Coho salmon are found 3.5 miles below the dam. Access to tributaries of Canyon Creek above the West Fork is blocked by the interstate highway.

## **B. Special Status Species**

Salmonid species found in watersheds in the South Umpqua River include winter-run Oregon Coast steelhead trout and resident rainbow trout (*Oncorhynchus mykiss*), resident and sea-run Coastal cutthroat trout (*O. clarki clarki*), fall and spring Oregon Coast Chinook salmon (*O. tshawytscha*), and the Oregon Coast coho salmon (*O. kisutch*).

### *Threatened species*

At present, there are no fish species in the South River Resource Area designated as threatened. The National Marine Fisheries Service listed the Oregon Coast coho salmon Evolutionary Significant Unit (ESU) as threatened, in 1998 (Federal Register 1998b Vol. 63/No. 153). In February, 2004, the 9<sup>th</sup> Circuit Court of Appeals upheld a September 2001, ruling by District Judge Michael Hogan which set aside the listing of Oregon Coast coho salmon. NOAA Fisheries has since proposed the Oregon Coast coho ESU for relisting as a threatened species.

### *Candidate-threatened Species*

The OC steelhead trout ESU was proposed as a candidate for threatened species designation in 1998 (Federal Register 1998a Vol. 63/No. 53). To date, there has been no change in the status of the steelhead trout.

*Bureau Sensitive and Bureau Assessment Species*

The Umpqua chub (*Oregonichthys kalawatseti*) is a Bureau Sensitive Species. Umpqua chub are restricted to the mainstem of the Umpqua River and are not present in any of the immediate project areas.

The Pacific lamprey (*Lampetra tridentate*) is a Bureau Assessment Species that can be found in small 3<sup>rd</sup> order or larger tributaries of the South Umpqua River. Although its distribution is largely unknown, its presence is suspected in streams inhabited by coho salmon.

*Bureau Tracking*

The Umpqua River cutthroat trout, once considered a unique ESU, was later merged with the broader Coastal cutthroat trout ESU and delisted as endangered (Federal Register 2000 Vol. 65/No. 81). It is a Bureau Tracking species with both anadromous and resident individuals found in 3<sup>rd</sup> order and larger tributaries of the Umpqua River, and resident fish in streams above anadromous barriers.

**C. Fish Distribution**

The distances for the distribution limits for steelhead trout and coho salmon displayed in Table 6 are based on Geographic Information System (GIS) coverage, ODFW survey information, and available site-specific information.

**Table 6 – Limits of Fish Distribution**

Timber Sale	Unit	Distance to limits for steelhead trout (miles)	Distance to limits for coho salmon (miles)
Myrtle Morgan	A	1.2	2.3
	B	1.0	1.0
	D	0.9	2.0
	E	0.5	0.5
	F	0.6	0.6
	G	1.8	1.8
	H	2.0	2.0
	Hi-Yo Silver	I	2.1*
K		2.6*	6.1
L		3.0*	6.5
Screen Pass	M	0.4	1.2
	N	Adjacent	2.5
	O	Adjacent	3.0
	P	0.2	2.5

\* distances measured from Win Walker dam, a permanent fish barrier

#### **D. Essential Fish Habitat**

Streams and habitat that are currently or were historically accessible to Chinook and coho salmon are considered Essential Fish Habitat (EFH), which is designated for fish species of commercial importance by the Magnuson-Stevens Fishery Conservation and Management Act of 1996 (Federal Register 2002 Vol. 67/No. 12).

Limits of EFH are the same as the distribution limits for coho salmon indicated above.

### **IV. Water Quality/Resources**

#### **A. Stream Flow**

Climate is characterized by cool, wet winters and warm, dry summers. The majority of precipitation is in the form of rain, though some snow is likely at higher elevations in a normal year. Stream flow volume closely parallels the precipitation pattern with peak flows occurring from November to March, and low flows from July to October. Small 1<sup>st</sup> and 2<sup>nd</sup> order headwater streams are intermittent with no surface flow in the dry season.

Most streams in the project areas are intermittent in nature, but a few of the proposed units are adjacent to perennial streams. Unit K in the Hi-Yo Silver project area fronts approximately 400 feet of the upper reaches of West Fork Canyon Creek, a 4<sup>th</sup> order perennial stream. Unit O in the Screen Pass project area is adjacent to approximately 1,000 feet of a perennial, unnamed tributary to Canyon Creek. Unit N, also in the Screen Pass project area, is adjacent approximately 1,000 feet of Canyon Creek, which is a small 3<sup>rd</sup> order stream where it runs beside or beneath Interstate Highway 5.

#### *Peak Flows and the Transient Snow Zone (TSZ)*

The South Umpqua Watershed Analysis (2001) defines the TSZ, based on anecdotal evidence, as lands situated between 2,000 and 5,000 feet in elevation. A study by Greenberg and Welch (1998) of stream flow, climate, snow course, and SNOWTEL stations has identified the TSZ as occurring above about 3,000 feet in Southwestern Oregon, however. This study is referenced in the Oregon Watershed Assessment Manual (Watershed Professionals Network (WPN) 1999) and is recommended for identification of peak-flow-generating processes in Western Oregon. As a conservative value, elevations of 2,500 to 5,000 feet are used in this analysis. Approximately 25 percent of the Canyon Creek subwatershed is located in the TSZ.

Higher than normal peak flows can result from timber harvest in the TSZ (Harr and Coffin 1992). The creation of canopy openings can result in greater accumulation of snow, which if subjected to warm rain-on-snow events can melt rapidly and create higher than normal flows. Only proposed units I, K, L in the Hi-Yo Silver project area and M in the Screen Pass project area are located in or near the TSZ. All of the remaining units are at elevations below the TSZ.

### *Peak Flows and Roads*

Potential increases in peak flows have also been identified in association with roads. Roads have the capacity to intercept surface and subsurface water and divert it rapidly into streams via the road drainage network (Beschta 1978, Wemple et al. 1996), effectively extending the channel network, reducing storage time in the watershed, and increasing peak flows. There are roads in the project areas, including portions of the proposed haul routes, where ditch line and surface runoff are drained directly into streams at stream crossings, which contribute some minor and unquantifiable level of increase to peak flows.

### **B. Water Quality**

The water quality parameters considered most likely to be affected by activities associated with timber harvest are sedimentation and stream temperature.

There is no sediment data for streams located in the project areas, and no listings by the Oregon Department of Environmental Quality for impairment by excess fine sediment (ODEQ 2002). According to MacDonald (1991, p. 98), however, increased sediment load is often the most important adverse effect from past forest management activities. It can reduce water quality for domestic use and can cause detrimental changes to streams and stream inhabitants (Castro and Reckendorf 1995). As noted above, there are roads in the project area, including portions of the proposed haul routes, that are not adequately drained and which exhibit surface erosion. Portions of these roads drain water and fine sediment directly into streams at stream crossings.

Harvest of timber and removal of forest canopy directly adjacent to streams reduces shade and increases solar heating of the channel, resulting in increased stream temperatures. The Forest Ecosystem Management Assessment Team noted (FEMAT 1993 p. V-28) that, “. . . riparian buffers of 100 feet or more have been reported to provide as much shade as undisturbed late successional/old-growth forests...”. Riparian Reserves of at least 160 feet in width would be established on all stream sides. As a consequence, proposed timber harvest would have no anticipated effect on stream shading or temperatures.

### **C. Water Rights**

There are domestic surface water rights within one mile downstream of proposed Unit D in the Myrtle Morgan project area. With the establishment of Riparian Reserves, there is no vehicle by which sediment would enter streams in the vicinity of the unit and be transported downstream. As a consequence, no effect to downstream users would be expected as a result of proposed harvest, and water rights will not be discussed further in this analysis.

## V. Botany

There are presently 34 botanical species designated as special status species that are suspected or documented in the South River Resource Area. As indicated in Appendix C, 33 of these species are eliminated from further discussion because suitable habitat is absent, the species is associated with riparian/stream habitat that would be adequately protected by Riparian Reserves, or site surveys have failed to locate any populations or individuals.

The single species that has been documented in the project areas is wayside aster (*Eucephalus vialis*), a Bureau Sensitive species.

Wayside aster occurs in Lane, Douglas and Linn Counties in the State of Oregon. Considered a Willamette Valley endemic (Gamon 1986), it is primarily found in the Willamette Valley Physiographic Province, in conjunction with a few known sites along valley margins of the eastern Coast Range Physiographic Province (Franklin and Dyrness 1973).

Wayside aster typically inhabits coniferous forest at elevations between approximately 500 and 3200 feet in elevation. It is generally found on dry upland sites dominated by Douglas-fir in association with hardwood species adapted to drier sites. The aster appears to favor more open forest conditions such as those that were historically sustained by frequent fire return intervals. It may also occupy forest fringes and meadows.

Within the South River Resource Area, wayside aster has been found on sites representative of all stages of forest succession, ranging from areas recently harvested to those occupied by mature forest. In surveys conducted for this analysis, it was located beside BLM Road No. 30-5-15.0 in the SE $\frac{1}{4}$ SE $\frac{1}{4}$ , Section 10, T. 30 S., R. 5 W.

## VI. Soils

Soils in the area of the Myrtle Morgan project area are moderately deep to deep over soft granitic bedrock, except for those in Unit H. Slopes in these units range from near zero percent to as high as 65 percent. With the exception of Unit D and the west half of Unit E, these are considered Category 1 soils because they have low levels of litter and organic matter and would be highly sensitive to the effects of broadcast burning. Soils in Unit H are shallow to moderately deep over hard sedimentary and metamorphic bedrock.

Soils in the Hi-Yo Silver project area are shallow to deep over hard metamorphic bedrock, with slopes ranging from 30 to 75 percent. These are Category 2 soils because of slope steepness. They would be moderately sensitive to broadcast burning.

Soils on Units M, N and O of the Screen Pass project area are shallow to deep over soft sedimentary bedrock with slopes up to 90 percent. Soils in Unit P are shallow to deep over soft sedimentary and hard metamorphic bedrock with slopes up to 85 percent. These are considered Category 1 soils, and would be highly sensitive to the effects of broadcast burning.

## VII. Air Quality/Rural Interface

The Oregon Smoke Management Plan has identified areas where concerns exist over air quality. Designated Areas (DAs) have been established where smoke intrusion should be avoided. DAs in proximity to the sales proposed in this analysis include the cities of Roseburg, Grants Pass and Medford. The approximate distance and direction from proposed sale units to each of these DAs are summarized below.

### *From Roseburg*

Myrtle Morgan	Units A, B, D and E: approximately 14 miles at S 26° E
Myrtle Morgan	Units F, G and H: approximately 14 miles at S 12° E
Hi-Yo Silver	Unit I, K and L: approximately 22 miles at S 1° W
Screen Pass	Units M, N, O and P: approximately 22 miles at S 10° E

### *From Grants Pass*

Myrtle Morgan	Units A, B, D and E: approximately 36 miles at N 10° E
Myrtle Morgan	Units F, G and H: approximately 35 miles at N 25° W
Hi-Yo Silver	Unit I, K and L: approximately 26 miles at N 7° E
Screen Pass	Units M, N, O and P: approximately 27 miles at N 7° E

### *From Medford*

Myrtle Morgan	Units A, B, D and E: approximately 46 miles at N 20° W
Myrtle Morgan	Units F, G and H: approximately 44 miles at N 40° W
Hi-Yo Silver	Unit I, K and L: approximately 42 miles at N 32° W
Screen Pass	Units M, N, O and P: approximately 39 miles at N 27° W

There are no units proposed within ¼-mile of lands zoned R-5 by Douglas County, for 1-5 acre residential lots. As a consequence, there would be no management restrictions on timber harvest and site preparation activities in these areas. As a consequence, the Rural Interface will not be discussed further in this analysis.

## VIII. Cultural/Historical Resources

No sites of cultural or historical value are documented in any of the proposed project areas. Pedestrian surveys conducted on all of the proposed timber sale units were negative. These findings were submitted to the Oregon State Historical Preservation Office which concurred with the BLM. In the absence of any such resources, there would be no effect from the proposed action and no further discussion is necessary in this analysis.

## **IX. Recreation/Visual Resources**

The proposed action would not affect present or future recreational opportunities because there are no developed recreation facilities or unique opportunities in the project areas. Much is inaccessible because of gated roads and lack of legal public access. Recreation is of a dispersed nature that includes activities such as hunting, wildlife viewing, horseback riding and hiking.

No units in the Myrtle Morgan and Hi-Yo Silver project areas are a visual resource management (VRM) concern. These lands are classified VRM IV and have no management constraints. A portion of Unit N in the Screen Pass project area, as originally proposed, was designated as VRM II because of location directly above the southbound lanes of Interstate Highway 5. Management direction (ROD/RMP, p. 53) allows only minor modification to the visual landscape and specifies that activities should not attract the attention of the casual observer. As noted in Chapter 2 (p. 8), under **Additions and Modifications to the Proposal as Initiated**, the unit was modified to exclude the northern half, and Unit P was substituted. With this modification, visual resource objectives would be met and no further discussion is necessary in this analysis.

## **X. Noxious Weeds**

Implementation of the *Roseburg District Integrated Weed Control Plan and Environmental Assessment* (USDI, BLM 1995b) is an ongoing effort to prevent or reduce the spread of weeds, and control or contain existing infestations. This includes inventorying, assessing risk for spread, and controlling target species where management activities are planned.

An inventory of noxious weed species is ongoing on the Roseburg District. Twenty-two species have been positively identified on BLM-managed lands in the South River Resource Area, with approximately forty other species suspected based on their presence on adjacent lands. A comprehensive roadside weed inventory has been completed in 7 of the 9 sections where the proposed timber sale units are located. Himalayan blackberry and Scotch broom and rush skeletonweed are most common. Active treatment of Scotch broom is ongoing.

Actions aimed at reducing potential spread or preventing creation of conditions favorable for weed germination would be implemented. Surveys and risk assessments would be conducted to determine the need for treatment to prevent further weed introduction into the project areas. Control measures would include required steam cleaning or pressure washing of heavy equipment used in logging and road construction, in order to remove soil and other materials that could transport weed seed or root fragments. Work would be scheduled in uninfested areas prior to work in infested areas. Other measures could include seeding and mulching soil with native seed or revegetating with indigenous plant species in areas where natural regeneration is unlikely to prevent weed establishment.

As a consequence, negligible changes in noxious weed populations are anticipated regardless of the alternative selected, and no further discussion of noxious weeds is necessary in this analysis.

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## **Chapter 4**

# **ENVIRONMENTAL CONSEQUENCES**

This chapter discusses how the specific resources would or would not be affected in the short term and long term, by implementation of the alternatives contained in this analysis. The discussion also identifies the potential impacts or consequences that would be expected. An alternative of “no action” is analyzed in comparison to the proposed action as a basis for determining if there would be any effects beyond the scope of those already considered and addressed by the Roseburg District PRMP/EIS.

### **I. Alternative One - No Action**

This alternative would not meet the purpose and need for action described in Chapter 1 (pp.1-2) of this assessment. It would not meet the ROD/RMP objective of producing a sustained supply of timber and other forest commodities that would contribute to the local economy. It would also fail to meet the legislative requirement of the O&C Act to manage these lands for a sustainable supply of timber.

Under this alternative, no harvest would occur in the proposed project areas. Harvest of these stands would be deferred for the time being. Other forest stands allocated to the Matrix in the South River Resource Area would be analyzed for regeneration harvest to meet ASQ and O&C Act responsibilities.

#### **A. Timber/Vegetation**

As the present stands continue to mature and age, height growth and crown expansion of individual trees would gradually slow even though photosynthesis and diameter growth would continue.

Individual trees would decline in vigor becoming more susceptible to attack from insects and disease, and more prone to wind throw or damage. Small canopy gaps and openings would be created periodically as the result of mortality of individual or small groups of trees. Surrounding overstory and understory trees would soon reoccupy the newly available growing space (Oliver and Larson 1996).

Once growing space is again fully occupied, some trees would die or become suppressed as a consequence of increased competition. Forest fuels composed of branches, needles, and dead and suppressed trees would accumulate on the forest floor resulting in an increased risk of fire. If a fire occurred, coupled with conditions of drought and extreme weather conditions, a catastrophic stand replacement event could result.

## **B. Wildlife**

There would be no direct effects to wildlife species in the proposed project areas for the time being, as harvest would be deferred to a future point in time. Wildlife species and their habitats would be affected elsewhere in the Resource Area as other BLM-managed lands in the Matrix allocations are analyzed and selected for regeneration harvest.

Wildlife in the project areas would be indirectly affected by normal successional processes that include growth and decline of forest stands. Species dependent on late-successional forest for habitat would also be affected by the harvest of late seral forest on private lands. The PRMP/EIS assumed (Vol. I, p. 4-4) that “. . . most private forest lands would be intensively managed with final harvest on commercial economic rotations averaging 50 years.” This would result in a long-term reduction in the amount of available late-successional forest habitat available to wildlife, including special status species, as anticipated when the ROD/RMP was implemented ten years ago. At the same time, the timber harvest and management of these lands on a shorter rotation would create an abundance of habitat better suited to species dependent on early-successional forest conditions.

### **1. Threatened or Endangered Species**

#### Northern Spotted Owl

The forest stands identified in this analysis would continue to provide nesting, roosting and foraging habitat for owls whose home ranges overlap the project areas. Other forest stands within the Matrix allocations in the South River Resource Area would be selected and analyzed for potential timber harvest. Effects of timber harvest on northern spotted owls and suitable habitat would occur at those locations consistent with the assumptions contained in the FSEIS (Chapter 3&4) and PRMP/EIS (4-54 to 4-64).

#### Designated Critical Habitat for the Northern Spotted Owl

There would be no effect on the function of Federally-managed lands within CHUs OR-63 and OR-32 because there would be no removal or modification of existing suitable habitat from those lands. These lands would continue to function as they presently do, barring other disturbances. As younger stands in these CHUs grow and mature, the amount of available suitable habitat would be expected to gradually increase.

### **2. Bureau Sensitive Species**

Forest stands in the project areas with suitable habitat for Oregon shoulderband and Chace sideband snails would not be directly affected until a future harvest entry occurs.

Mature forest on Federally-managed lands constituting the proposed timber sale units would continue to provide suitable goshawk habitat until a future harvest entry. In the interim, younger stands would develop and mature, providing additional foraging and nesting habitat in the future.

## **C. Fisheries and Aquatic Resources**

### **1. Aquatic Habitat Conditions**

Absent timber harvest and associated road activities, there would be no direct effects on aquatic habitat in the project areas.

Stream substrates would be indirectly and cumulatively affected by sediment derived from natural erosional processes and from runoff and erosion on unsurfaced roads and agricultural lands in the watersheds. These sediments could become embedded resulting in degradation of spawning habitat.

Timber harvest in riparian areas on private lands would likely reduce the future availability of large wood for recruitment into streams, particularly in lower stream reaches. The quantity and quality of pool habitat would be reduced as a result of these present and future deficiencies in LWD.

### **2. Special Status Species**

Within the watershed, fish would be indirectly and cumulatively affected by sediment sources described above. These effects may include impaired respiration and feeding, reduction in spawning success, and reduction in embryo emergence and survival.

Limitations to pool habitat caused by insufficient LWD, or potential reductions in future LWD recruitment on private lands would reduce pool habitat and the amounts of available spawning and rearing habitat.

### **3. Essential Fish habitat**

Use of natural surface roads, particularly during periods of wet weather, would continue to generate sediments. Where these sediments are concentrated by improperly designed and/or functioning road drainage systems and delivered directly into streams there would be continued degradation of water quality, spawning substrates, and EFH in the watersheds.

## **D. Water Quality/Resources**

### **1. Stream Flow**

In the absence of timber harvest, there would be no potential for affecting annual water yield or stream flows, or for affecting peak flows in association with the removal of forest canopy in the TSZ.

Some of the midslope roads in the project areas would continue to contribute marginal increases to the magnitude of peak flows, by extending the drainage network and concentrating the delivery of runoff to the stream network.

In a study of eight small basins, Jones (2000) found that roads created a 13-36 percent increase to peak flows (>1-year return period) in seven of the eight basins. He concluded that the “. . . magnitude of increases was related to the density of mid-slope roads.” Whether or not road segments drain directly into stream channels also affects flow magnitude. Roads with adequate drainage that efficiently direct surface flow to the forest floor where it can re-infiltrate would have a negligible effect on flow magnitude and timing.

### **2. Water Quality**

Forest roads in the project areas would continue to deliver some level of fine sediment to stream channels. The magnitude of sediment delivery would depend on road surfacing, location, slope, the amount and season of traffic, and other factors (Reid and Dunne 1984). Improvements and/or decommissioning of forest roads in the affected watersheds would continue over time as funding becomes available.

## **E. Botany**

In the absence of any timber cutting and road construction, there would be no direct effects to the population of wayside aster discussed on page 18 of this document.

## **F. Soils**

In the absence of road construction and timber harvest, there would be no displacement of the duff and organic layers, or other forms of soil disturbance. As a consequence, there would be no compaction or erosion commonly associated with these activities. These potential effects would occur elsewhere in the Matrix as other forest stands are selected, analyzed and authorized for harvest to meet the Roseburg ASQ.

Absent prescribed burning for site-preparation, there would be no consumption of surface litter and organic matter. These effects would occur elsewhere in association with the harvest of other Matrix stands.

### **G. Air Quality**

Under this alternative, there would be no timber harvest in the project areas at this time. Absent a need for site preparation there would be no prescribed burning and no localized effects to air quality. These activities and potential effects to air quality would occur elsewhere in the Resource Area as other forest stands are harvested and site preparation is conducted prior to replanting.

## **II. Alternative Two - Proposed Action**

This alternative would meet the need for action described in Chapter 1 (p.1) of this assessment. It would contribute toward the Roseburg District's stated objective of an annual allowable sale quantity. This would be consistent with ROD/RMP objectives for producing a sustainable supply of timber and other forest commodities that would contribute to the local economy, and meet the requirement of the O&C Act to manage these lands for a sustainable supply of timber.

### **A. Timber/Vegetation**

Proposed units located on lands allocated to the General Forest Management Area are between 80 and 140 years of age and are at or beyond the age of volume growth culmination. Harvest of the 353 acres would be consistent with management direction from the ROD/RMP (p. 61) to harvest at the culmination of mean annual increment which typically occurs between 80 and 110 years of age.

Units G and H of the proposed Myrtle Morgan timber sale are 240 years old. Unit I of the proposed Hi-Yo Silver timber sale is 220 years old. These three units are allocated to Connectivity/Diversity Blocks. Regeneration harvest in this land use allocation is subject to three management directives to meet the objectives of providing ecotypic richness and diversity, and habitat connectivity for old-growth dependent and associated species within the General Forest Management Area, in addition to providing a moderately high level of sustained timber production (ROD/RMP, p. 151). These management directives are:

- Maintenance of 25 to 30 percent of individual Blocks in late-successional forest at any point in time. Inclusions of Riparian Reserves and other allocations with late-successional forest within the gross mapped Connectivity/Diversity Blocks count toward this percentage. Blocks may be comprised of contiguous or noncontiguous BLM-administered land. The size and arrangement of habitat within a block will provide effective habitat to the extent possible. (ROD/RMP, p. 34)

- Management of available forest land within each block on a 150 year control rotation. (ROD/RMP, p. 34)
- Regeneration harvest will be at the rate of 1/15 of available acres in the entire Connectivity/Diversity Block land use allocation per decade. (ROD/RMP, pp. 153)

Forest stands in Units G and H are 240 years old and 220 years old in Unit I. Harvest would be consistent with the requirement that regeneration harvest occur on a rotation of 150 years.

Units G and H are located in Connectivity/Diversity Block # 8. Out of approximately 718 acres in the Block, 560 acres are late-successional forest representing 78 percent of the entire Block area. Following proposed harvest of 72 acres, 488 acres or 68 percent of the Block would remain in late-successional forest condition.

Unit I is located in Connectivity/Diversity Block # 52 which is 656 acres in size. Approximately 346 acres or 53 percent of the Block is presently late-successional forest. Proposed harvest of 95 acres would leave 251 acres or 38 percent of the Block in late-successional forest condition.

The ROD/RMP (p. 8) allocated 26,900 acres to Connectivity/Diversity Blocks for the entire Roseburg District. At a harvest rate of 1/15 per decade, approximately 1,790 acres would be potentially available for regeneration harvest per decade. The ROD/RMP was approved and implemented in 1995, establishing the baseline against which all activities and accomplishments are measured. For this reason, 1995 is considered the beginning of the “decade”, for the purpose of measuring compliance with decadal harvest limitations.

Accomplishments implemented under the Roseburg District ROD/RMP are reported annually in the *Roseburg District Annual Program Summary (APS) and Monitoring Report* including those related to the Roseburg District timber sale program. As illustrated in the 2003 APS (Table 18, p. 33) and summarized in Table 2 below, for the period of FY 1995 through FY 2003, 490 acres of regeneration harvest have been authorized in the entire Connectivity/Diversity Block land use allocation.

**Table 6 - Regeneration Harvest Authorized in Connectivity/Diversity Block by Fiscal Year**

	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03
Acres	32	40	123	151	63 <sup>1</sup>	0	0	0	81
Σ	32	72	195	346	409	409	409	409	490 <sup>2</sup>

<sup>1</sup> Misreported in the 2003 APS as 36 acres.

<sup>2</sup> Reported in 2003 APS as 463 acres because of error noted above.

Of the 490 acres sold, only 222 acres have been harvested. Two hundred fourteen acres are unawarded pending the resolution of administrative appeals or other legal challenges and 54 acres are presently enjoined from harvest (See Appendix E).

No regeneration harvest timber sales are planned or scheduled for offering in FY 2004 containing lands allocated to Connectivity/Diversity Blocks. In FY 2005, the Swiftwater and South River Field Offices of the Roseburg District collectively plan on offering an estimated 421 acres of regeneration harvest in the Connectivity/Diversity Block land use allocation. The 167 acres under analysis in this EA constitute a portion of the 421 acres.

When added to the acreage that has already been authorized, planned regeneration harvest for the entire land use allocation totals 911 acres or 50.8 percent of the decadal allowance authorized by the ROD/RMP. In this respect, the proposed regeneration harvest of Units G, H and I would be consistent with management direction from the ROD/RMP.

The risk of spreading Port-Orford-cedar root disease was evaluated using the risk key contained in the *Record of Decision and Resource Management Plan Amendment for Management of Port-Orford-Cedar in Southwest Oregon, Coos Bay, Medford, and Roseburg Districts* (p. 33). There is no Port-Orford-cedar within, near, or downstream of any of the proposed timber sales, or the proposed haul route for the Hi-Yo Silver timber sale. None of the 7<sup>th</sup> field watersheds (drainages) in which the timber sales are located are within the range of Port-Orford-cedar. As a consequence, no Port-Orford-cedar management practices are required.

**B. Wildlife**

**1. Threatened or Endangered Species**

Northern Spotted Owl

There would be no risk for disturbance because none of the proposed timber sale units are located within 65 yards of owl nest sites. No proposed harvest would occur within ¼-mile of any activity center, so there would be no direct effect from habitat modification. Impacts would be associated with the removal of 520 acres of suitable habitat, not all of it is located within home ranges of owl pairs, though. Table 7 depicts the loss of suitable habitat specific to the individual home ranges.

**Table 7 – Reduction in Available Suitable Owl Habitat**

Owl Pair Site	Pre-Harvest Acres of Suitable Habitat	Acres of Suitable Habitat Removed	Post-Harvest Acres of Suitable Habitat	Reduction in Suitable Habitat
Canyon Pass	1,276	53	1223	4%
Horse Heaven	272	82	190	30%
Packard Gulch	353	13	340	4%
Reservoir	1185	38	1147	3%
South Myrtle	447	14	433	3%
West Canyon	542	65	477	12%

## Designated Critical Habitat for the Northern Spotted Owl

Harvest of Unit I in the proposed Hi-Yo Silver timber sale would remove 95 acres of suitable habitat in CHU OR-63. This would represent a reduction from 5,705 acres to 5,610 acres, or roughly 1.66 percent of the suitable habitat provided by Federally-managed lands in the CHU. The impact to the function of the CHU would be negligible, as suitable habitat is well-distributed throughout it (USDI, U.S. Fish and Wildlife Service 2003 pp. 25 and 45).

Harvest of the proposed Screen Pass timber sale would remove 121 acres of suitable habitat in CHU OR-32. This would represent a reduction from 34,414 acres to 34,293 acres, or roughly 0.35 percent of the total amount of suitable habitat provided by Federally-managed lands within this CHU. This would also constitute a negligible effect and would not preclude the intended function of this CHU.

## **2. Bureau Sensitive Species**

### Chace sideband and Oregon shoulderband snails

There are three primary consequences that regeneration timber harvest could have on the Chace sideband snail. Removal of forest canopy would modify temperature and humidity with a resultant loss of vegetation and fungi that provide cover and forage. Removal of canopy would also expose soils to temperature extremes and drying, impairing the function of substrates as a refugia during periods of extremes of heat and cold. Compaction or other disturbance of substrates would impair their function as areas for foraging, egg-laying, and hibernation.

Although the Oregon shoulderband is not a late-successional and old-growth obligate, it occupies habitat similar to that used by the sideband, and effects to either of the species would be comparable.

Effective mitigation for terrestrial mollusks includes providing conditions necessary to maintain cool, moist temperatures in spring and fall, refugia in summer and winter, and a food supply that including leaf litter and fungi (Weasma 1999). Where these Specific measures would include establishment of retention patches designed to:

- Retain overstory conifers and hardwoods to provide shade to sites, thereby maintaining cooler temperatures and higher soil moisture
- Avoid ground disturbance in occupied areas, thereby maintaining substrate interstices for foraging and hibernation
- Maintain present levels of solar radiation to preserve plant and fungal communities that provide food

The size and shape of these retention patches would be based primarily on site aspect and prevailing wind direction. The configuration would be tailored to maintain specific vegetative characteristics, provide shading and minimize wind infiltration (Chen et al. 1992, Chen et al. 1995). The use of retention patches would also assure that substrates would not be disturbed or compacted. These Measures would maintain suitable microclimates and reasonably ensure that the mollusks would not be extirpated from the sites.

The 2004 *Final Supplemental Environmental Impact statement to Remove or Modify the Survey and Manage Mitigation Measure Standards and Guidelines* (USDA, USDI 2004a p. 190) found that for the Chace sideband snail, although some known sites may be lost as site management requirements and management strategies are evaluated at a local scale, there is sufficient habitat (including known sites) to support stable populations range-wide in the Northwest Forest Plan area.

With the application of the measures described above, suitable microclimate and substrate conditions would be maintained. This would reasonably ensure that suitable habitat would be provided, that the mollusks would not be extirpated from the sites, and that the proposed action would not contribute to a future need for listing of these species.

#### Northern goshawk

Surveys would be conducted, according to accepted protocol (Woodbridge et al.), to establish the presence or absence of goshawks in those units determined to represent suitable habitat. In the event that nesting goshawks are located, nest sites would be protected by the retention of a 30-acre buffer of undisturbed habitat around active and alternate nest sites, and by a restriction of human activity and disturbance within ¼-mile of active sites between March and August, or until such time as young have dispersed (ROD/RMP, p. 49).

### **C. Fisheries and Aquatic Resources**

Activities that could affect aquatic habitat conditions, fish species and EFH would arise from timber harvest, road related activities, and the hauling of timber over forest roads. All timber harvest would occur outside of Riparian Reserves which would be established on all intermittent and perennial streams within or adjacent to proposed timber sale units, as described on page 4 of this document. All proposed new road construction, renovation of existing roads, and decommissioning would occur outside of Riparian Reserves. Some portions of haul routes cross or parallel streams.

## 1. Aquatic Habitat Conditions

### *Substrate*

It is considered improbable that stream substrates would be affected by timber harvest because Riparian Reserves would filter out any sediment from harvested upslope areas (FEMAT, p. V-28). Riparian Reserves would also preserve the integrity and stability of stream banks and channels, precluding them from becoming abnormal sources of sediment, as no yarding operations would be authorized within the Riparian Reserves.

Potential effects on substrate would primarily arise from sediment generated by activities associated with road construction, renovation, decommissioning and timber hauling.

As noted above, all road construction would be located on ridge-top or stable sideslope locations outside of Riparian Reserves. In consideration of the following measures, the risk for any increase sediment in association with road construction, renovation and decommissioning would be negligible.

- All activities associated with road construction, renovation and decommissioning would be restricted to the dry season between May and October.
- Since none of these roads would cross perennial or intermittent streams, drainage would remain disconnected from any stream channels.
- Permanent roads would be surfaced to prevent erosion. Semi-permanent roads would be surfaced for winter use, closed to traffic if not in use, and decommissioned after site preparation and reforestation.
- Temporary roads would be built, used and decommissioned in the same operating season.
- Roads that are subsoiled in association with decommissioning would be mulched and seeded to prevent surface erosion.

Dependent on the particular sale and haul routes, timber hauling could occur at any time of the year or be specifically restricted to the dry season.

Harvest and hauling operations for the Screen Pass timber sale would be entirely restricted to the dry season. The haul route from Screen Pass parallels Fortune Branch (BLM Medford District) and crosses a single perennial stream at two locations. Haul during the dry season has little potential to create or deliver road-derived sediment to streams because in the absence of precipitation there would be no mechanism for mobilization of fine sediment from road surfaces that could be transported to streams.

Hauling during the wet season, which normally occurs between October and May, does have the potential to contribute fine sediment to streams, especially at stream crossings. The haul routes for the proposed Myrtle Morgan and Hi-Yo Silver timber sales are nearly free of stream crossings, though.

Units D through H of the proposed Myrtle Morgan timber sale would be authorized for harvest in any season. There are no stream crossings on BLM roads but there are two crossings on Douglas County Highway 42, an aggregate-surfaced road that would be used to haul timber from Units D and E. These crossings are on headwater streams in excess of ½-mile above anadromous streams and it is considered unlikely that sufficient sediment would be delivered to affect substrate conditions downstream.

Units I and L of the proposed Hi-Yo Silver timber sale would also be available for winter operations. The only stream crossings situated along the haul route drain into West Fork Canyon Creek about three miles above the Win Walker dam and reservoir. This dam is a permanent barrier to steelhead trout, with the distribution limits for coho salmon and the limits of EFH another 3.5 miles downstream from there. Any sediment that might be generated during timber haul would not pass the reservoir to anadromous fish-bearing reaches.

Application of the following project design criteria for road renovation would further reduce the potential for sediment and affects to aquatic habitat:

- Installation of splash pads at cross drain culvert outlets would prevent erosion at the outlet by reducing the energy generated by ditch drainage.
- Maintenance of ditch lines would prevent erosion of the ditch line and delivery of sediment to stream channels. Ditch lines, when possible, would be left well-vegetated so that sediment would be intercepted and captured prior to discharge at cross drains and stream crossings. Well contoured ditch lines would prevent runoff from overflowing onto roads and eroding surfacing.
- Adding water bars to sections of the road where surface runoff is expected would intercept and direct runoff off of the road prism and onto slopes where it would infiltrate.

#### *Large woody debris*

There would be no timber harvest or road construction within Riparian Reserves. All existing LWD would remain intact and on site. Timber in the Riparian Reserves would continue to provide future LWD for recruitment into stream channels where it would help to store and retain gravel substrate and create pool and off channel rearing habitat.

### *Pools*

The availability of pool habitat would remain unchanged. There would be no timber harvest or road construction within Riparian Reserves which would remove any pool-forming debris jams and log concentrations from streams. Future recruitment of LWD from Riparian Reserves would provide a continuum of additional material for the creation for pools and off-channel rearing habitat.

### *Habitat access*

Current access to spawning and rearing habitat would be unaffected because there would be no installation or replacement of any stream crossings on fish-bearing streams.

## **2. Special Status Species**

No direct effects would be expected to fish in streams below the project areas. As described above, Riparian Reserves would maintain the integrity of streams and pool habitat, and prevent any sediment that may be generated by upslope harvest activities from reaching streams. All proposed road construction would be implemented outside of Riparian Reserves and would have no effects to fish.

Potential indirect effects from road renovation and timber hauling would be associated with fine sediment. Fine sediments can reduce spawning success and egg and alevin survival in gravels that are embedded with accumulated fine sediment. For reasons described above, including the proposed project design features, these effects would be expected to be negligible.

## **3. Essential Fish Habitat**

For reasons described above, effects to aquatic habitat would be unlikely. Riparian Reserves on all streams would filter out any sediment transported overland, protect existing LWD and pool habitat, and provide for the future recruitment of LWD into stream reaches in the project areas.

With the application of project design features previously described, potential for sediment in association with road construction, renovation and decommissioning, as well as timber hauling would be negligible.

In consideration of these factors, and given that EFH is at a minimum of ½-mile and generally more than one mile from any proposed timber sale units, the proposed actions would have a negligible effect on EFH.

## D. Water Quality/Resources

### 1. Stream Flows

Temporary increases in annual water yield and low summer flows are possible as a consequence of regeneration harvest (Harr 1979), resulting from reductions in levels of evapotranspiration associated with removal of vegetation. Such increases are usually only detectable when a substantial portion of a watershed has been harvested.

Harr (1979), and Keppeler and Ziemer (1990) found that the regrowth of shrubs and small trees commonly returns rates of evapotranspiration to pre-harvest levels within 4-to-8 years. As illustrated in Table 8, in all the project drainages there is a high percentage of forested acres in all ownerships, greater than ten years old. Ten years was selected as an appropriate age because it most closely corresponds to the 4-to-8 years cited above.

The 520 acres of harvest proposed in this analysis represents less than 0.4 percent of the 141,455 acres in the South Umpqua Watershed (WA, p. xi) and less than 0.02 percent of the 59,397 acres in the Middle South Umpqua Watershed (WA, p. viii), so any effects would be negligible.

**Table 8 – Drainage Area/ Percent in Forest at Least 10 Years Old**

Drainage Name	Forested Acres	Acres/Percent > 10 Years of Age	Approximate Acres Proposed for Harvest	Acres/Percent > 10 Years of Age Post-Harvest
Bear Gulch	4,467	4,291 / 96	36	4,255 / 95
Upper West Fork	5,040	4,951 / 98	35	4,916 / 97
South West Fork	4,417	4,231 / 96	162	4,069 / 92
Canyon Pass	2,867	2,717 / 95	50	2,667 / 93
South Umpqua Morgan	1,497	1,464 / 98	7	1,457 / 97
Small Creek	1,361	1,354 / 99	141	1,207 / 89
Packard Gulch	663	663	42	621 / 94
Stinger Gulch	2,237	2,152 / 96	39	2,113 / 94

#### *Peak Flows and the Transient Snow Zone (TSZ)*

The risk of peak flow enhancement from the proposed timber harvest, combined with past harvest in the Canyon Creek subwatershed, was evaluated using a model developed for the Oregon Watershed Assessment Manual (WPN 1999 p. IV-11). The model predicts peak flow enhancement is proportional to the percent of historically forested land located in the TSZ and the percent of this area with less than 30 percent crown closure. Analysis indicates a low risk of peak flow enhancement from the proposed harvest, as indicated in Table 9.

**Table 9 – Risk of Increased Peak Flows from Proposed Harvest in the Canyon Creek Subwatershed**

*Percent Area in the TSZ	*Present Percentage of Area in the TSZ with < 30% crown closure	*Percent Area in the TSZ with < 30% crown closure Post-Harvest	Risk of peak flow Enhancement
24	21	24	Low

\* Approximate values from GIS and 1999 aerial photos

*Peak Flows and Roads*

Proposed renovation of portions of the haul routes would reduce their potential to alter stream flow. Installation of additional cross-drains, water bars, or similar structures would disperse surface flow and captured subsurface flow to the forest floor where it would infiltrate. This would effectively reduce channel network density and the potential to affect flow magnitude and timing. Although surface flow on the roads is apparent on site, reductions in peak flow (~ 10 percent) from renovation of these roads may not be measurable at the drainage scale.

In contrast to mid-slope roads, ridge top roads have little potential to capture subsurface flow or increase drainage density. The road construction proposed would be located on or near ridge tops and would have a negligible potential for altering the magnitude and timing of streamflow.

**2. Water Quality**

According to Reid (1981) and Reid and Dunne (1984), forest roads can be a major contributor of fine sediment to streams. Sediment delivery to streams is caused by down cutting of ditch lines and by erosion of unprotected road surfaces from overland flow. Landslides can occur when road drainage is concentrated on unstable or erosive slopes. Road segments need to be connected directly to stream channels in order to deliver sediment-laden water. Forest roads with adequate drainage that divert sediment-laden water to the forest floor where it can re-infiltrate have a negligible effect on delivery of fine sediment to stream channels.

Renovation and drainage improvements to portions of the proposed haul routes would divert sediment-laden flow from intercepted groundwater and road surfaces to the forest floor where it could re-infiltrate, rather than concentrate the flow and deliver it into streams. This would result in long-term improvements to water quality in streams along the haul routes, to the project watersheds as a whole, and would minimize any risk of water quality degradation in Win Walker Reservoir.

Road construction would have a negligible effect on water quality for reasons previously addressed. Road renovation would also reduce the potential for sediment from winter hauling to levels that would be negligible and short-term.

Addition measures that could be employed, subject to determination by the contract administrator and prior to log hauling, would include the installation of sediment-control devices such as silt fences and hay bales. These would be placed in ditch lines and at cross-drain outlets to trap sediment locally and prevent migration into any streams.

Decommissioning of temporary roads and other roads not designated for retention would aid in the restoration of “natural hydrologic flow” (USDI, BLM 2001b). This may include sub-soiling or tilling of road surfaces, removal of cross drains, construction of water bars, and construction of suitable barriers to block vehicle access. Project design criteria, already described, would be implemented to reduce potential for sediments to negligible levels.

#### **E. Botany**

The two primary concerns for the population of wayside aster documented near BLM Road 30-5-15.0 would be maintenance of canopy gaps that allow sufficient sunlight to stimulate the plant to flower (Alverson and Kuykendall 1989), and protection of the actual site from any direct physical disturbance.

Felling of timber in association with the clearing of a road right-of-way would not directly affect the population of wayside aster because the timber would be directionally felled away from the site. By relocating the road to the north of the site, current canopy and light conditions would be maintained at a level suitable for flowering conditions. The boundary of the site would be tagged for identification purposes, and any surface occupancy and disturbance of the site by personnel or equipment would be prohibited within the boundary.

With the implementation of these measures the site conditions essential to the species would be maintained, and the population would be protected.

#### **F. Soils**

Compaction and soil displacement could be expected as a consequence of both cable and ground-based yarding.

Project design features and the application of Best Management Practices specific to ground-based operations would limit the percentage of the area subjected to compaction. Primary skid trails and landings would affect less than 10 percent of the area. Existing trails would be used to the degree practical and count toward the 10 percent affected area, when combined with new trails and landings. After harvest the main skid trails, those in which mineral soil is exposed on 50 percent or more of the trail’s surface area, and landings would be subsoiled to reduce compaction and improve soil productivity. Portions of secondary skid trails would also be treated where warranted. Tilling of skid trails would reduce anticipated increases in soil bulk density by approximately 80 percent.

Maintaining a minimum one-end suspension of logs during cable yarding would reduce soil displacement. Yarding roads would be water barred where necessary to reduce the potential for channeling of run-off and possible surface erosion. As a result, the effects to soils would be consistent with those identified and considered in the PRMP/EIS.

On Category 1 soils, site preparation would consist of hand piling and burning during wet weather to minimize the consumption of surface litter and organic matter. Broadcast burning would be planned to minimize the duration and intensity of the fire. When conducted under conditions of high soil moisture, consumption of litter and organic material would be minimized. Exposure of bare soil would not be expected to exceed 30 percent, and the risk of large-scale surface erosion would be eliminated.

## **G. Air Quality**

Prescribed burning treatments would have a slight potential for affecting air quality in the Roseburg DA. Potential effects to the Grants Pass and Medford DAs would be negligible because of the greater distances from the proposed units.

Avoiding or minimizing smoke intrusions would be accomplished by burning under conditions where prevailing winds are blowing away from DAs. Dilution of smoke and particulates would be accomplished by burning units slowly, avoiding multiple ignitions in proximity to one another, and by burning under atmospheric conditions that favor good vertical mixing so that smoke is carried aloft and dispersed by upper elevation winds.

State smoke management restrictions also limit or prohibit burning during periods of stable atmospheric conditions when residual smoke from previously burned units may become trapped below a surface inversion. Under these conditions aggressive mop-up would be used to minimize the potential for residual smoke.

On units D, I, L, and the portion of E planned for broadcast burning, short-term effects to air quality within  $\frac{1}{4}$  -to-1 mile of the units would be expected to persist for 3 to 5 days, with potential short term impacts to the Roseburg, Grants Pass and Medford DAs on the ignition days. The risk of a smoke intrusion into DAs would be minimized but not eliminated by the strategies of smoke management. Should a smoke intrusion occur, air quality in Roseburg could be impacted for a period of up to 24 hours.

All remaining units are designated for hand piling. Piles would be burned in the autumn or winter months. Short term impacts to air quality within  $\frac{1}{4}$  -to-1 mile of units would persist for 1-to-3 days, but potential effects to the Roseburg DA would be negligible because ignition would be accomplished during unstable fall and winter weather conditions when winds and atmospheric instability favor rapid smoke dispersion, and precipitation washes particulates from the air.

As a consequence, there would be no long-term impacts to air quality, and short term impacts would be comparable to those described in the PRMP/EIS (Chapter 4-9 to 4-12).

### **III. Other Federal Timber Harvest and Restoration Activities Planned in the South Umpqua River and Middle South Umpqua River Watersheds**

The following discussion summarizes timber harvest, road related actions and restoration projects undertaken or proposed by the South River Field Office in the project watersheds.

#### *Timber Management – South Umpqua River*

##### Commercial Thinning/Density Management

In the past three years, five commercial thinning and/or density management projects have been authorized in the South Umpqua River watershed. These projects represent 642 acres out of approximately 9,150 acres, or roughly seven percent of the mid-seral stands (30-80 years old) in the watershed. Thinning may reduce the suitability of these stands for foraging and dispersal for the Federally-threatened northern spotted owl for a period of 10-15 years.

Shively Creek Density Management (DM) proposes commercial and pre-commercial treatments to an additional 220 acres, with 0.9 miles of temporary road construction and 1.73 miles of renovation to provide access. All temporary roads would be decommissioned after density management and roughly 90 percent of the renovated mileage would be storm-proofed and blocked to vehicular use.

The Hurricane Ruby Commercial Thinning (CT) timber sale treated 34 acres of General Forest Management Area in the Coffee Creek 6<sup>th</sup>-field subwatershed and was completed in 2002. There were no entries into Riparian Reserves, and no permanent road construction associated with the project. Approximately 0.2 miles of permanent road was renovated.

Bigfoot DM is located in the Saint John Creek 6<sup>th</sup>-field subwatershed. This project, implemented in 2004, will treat 68 acres allocated as Connectivity/Diversity Block and 13 acres allocated as Riparian Reserves. There is no permanent road construction associated with the project. Approximately 0.66 miles of permanent road will be improved and approximately 0.75 miles of natural surface road will be decommissioned and blocked to traffic on project completion.

The Bland Days and Wasted Days CT timber sales are located in the Days Creek 6<sup>th</sup>-field subwatershed. These two projects will treat 166 acres allocated as of General Forest Management Area and Connectivity/Diversity Block, and 23 acres allocated as Riparian Reserves. There is no permanent road construction associated with either project. Renovation and improvements will be made to approximately 6.3 miles of permanent roads.

Slimewater Creek DM was located in the Shively Creek 6<sup>th</sup>-field subwatershed. This project, completed in the summer of 2003, treated 118 acres allocated as Late-Successional Reserve. There was no permanent road construction and approximately two miles of natural surface roads were decommissioned and blocked upon project completion.

## Regeneration Harvest

Analyses for regeneration harvest in the watershed is being conducted for one proposed sale (Major Glasco) estimated at 152 acres, representing 0.9 percent of the 16,784 acres allocated to the Matrix, and constituting slightly less than one-half percent of the 32,663 acres of suitable nesting, roosting and foraging habitat for the Federally-threatened northern spotted owl that is available in the watershed.

In association with this project, approximately 3.5 miles of new permanent construction is proposed in conjunction with 31 miles of road renovation and 7.5 miles of decommissioning. The net reduction in miles of BLM-administered roads, if all decommissioning were implemented, would represent less than 0.4 percent of the total miles of road in the watershed.

### *Restoration Projects – South Umpqua River*

In the past two years, projects implemented in the watershed to improve aquatic habitat and water quality, and to restore access to aquatic habitat have included approximately three miles, renovation of approximately 9.5 miles of road, and replacement of two stream crossing culverts. The replacement of the culverts restored accessibility to approximately three miles of habitat for anadromous fish and 11 miles of habitat for resident fish.

An additional three culvert replacement projects are planned for implementation in the next one to two years. These projects on St. John Creek and East Fork Shively Creek would restore access to an additional four to five miles of habitat for anadromous and resident fish.

Future projects proposed over the next five to ten years include 2.25 miles of in-stream habitat enhancement on Lower Shively Creek, Woods Creek and Lower Stouts Creek. These would involve placement of large wood, and in the case of Woods Creek, spawning gravel would also be provided. Approximately 18 miles of road are proposed for improvements, and another 19 miles for decommissioning. Seven culverts have been proposed for replacement that would result in restoration of access to approximately 10 miles of aquatic habitat. These are located in Lavadoure Creek, East Fork Shively Creek, Beals Creek, and West Fork Canyon Creek.

### *Timber Management – Middle South Umpqua River*

#### Commercial Thinning/Density Management

The Rice Bowl CT timber sale will thin 123 acres in the General Forest Management Area, and apply density management in 35 acres of Riparian Reserve. The Boomerang CT timber sale will thin 112 acres of General Forest Management Area, and apply density management in 30 acres of Riparian Reserves. Together, these actions represent treatment of approximately 16 percent of the 2,074 acres of 30-to-80 year old stands in the watershed. In association with these sales, approximately 0.2 miles of new permanent road will be constructed and 0.33 miles of permanent road renovated. Roughly one-half mile of non-system roads will be renovated and decommissioned after use. Approximately one-half mile of temporary road will also be

constructed, and decommissioned after use. On the Rice Bowl CT timber sale, a log-fill stream crossing will be removed and 0.13 miles of BLM Road No. 29-7-25.2 decommissioned.

### Regeneration Harvest

Three regeneration harvest timber sales are under study. The proposal would harvest an estimated 550 acres of Matrix lands, or approximately 17 percent of late-successional and old-growth forest managed by the BLM in the watershed. No permanent road construction is currently proposed.

### *Restoration Projects – Middle South Umpqua River*

Restoration actions proposed in this watershed over the next five to ten years consist of the following:

Approximately two miles of in-stream habitat improvements are proposed, split equally between Kent Creek and Willis Creek. These projects would place additional large wood in the streams to provide pool habitat and cover for fish.

One-half mile of BLM Road No. 29-7-12.0 is proposed for improvements designed to reduce sediment input into Kent Creek.

Four stream-crossing culverts are proposed for replacement to remove barriers to fish passage and provide for public safety by removing the risk of failure of aging culverts. Three of the culverts are located on Rice Creek, and the fourth on Willis Creek. These projects would improve or restore access to 2.4 miles of aquatic habitat. A fifth culvert, located on Judd Creek, would be removed and restore access to 0.2 miles of habitat.

## **IV. Monitoring**

Monitoring would be done in accordance with the ROD/RMP, Appendix I (pg. 84, 190-191, & 193-199). Specific Resources to be monitored would include: Riparian Reserves; Matrix; Air Quality; Water and Soils; Wildlife Habitat; Fish Habitat; and Special Status Species Habitat.

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## Chapter 5

# LIST OF AGENCIES/PERSONS CONTACTED AND PREPARERS

This project was included in the Roseburg BLM Project Planning Update (Fall 1998). The notice of decision in the form of a timber sale notice would be published in *The News-Review*, Roseburg, Oregon, if the decision is made to implement any of the sales.

### A. Agencies & Persons Contacted:

Adjacent Landowners & Down-stream Water Users  
City of Canyonville  
Cow Creek Band of Umpqua Tribe of Indians  
National Marine Fisheries Service  
Oregon State Highway Commission  
Roseburg Resources Company  
Seneca Jones Timber Company  
Silver Butte Timber Company  
State Historic Preservation Office  
US Fish and Wildlife Service

### B. Agencies, organizations, and individuals to be notified of completion of the EA:

City of Canyonville  
Douglas Timber Operators, Bob Ragon - Executive Director  
Oregon Department of Environmental Quality  
Oregon Department of Fish and Wildlife  
Oregon Department of Forestry  
Oregon Natural Resources Council  
NOAA-Fisheries  
U.S. Fish and Wildlife Service  
Umpqua Watersheds  
Ronald S. Yockim, Attorney-at-Law

**C. List of Preparers:**

Dave Fehringer	Presale Forester	Project Leader
Kevin Carson	Forester	Management Representative
Bill Adams	Fuels Mgmt. Specialist	Air Quality and Rural Interface
Paul Ausbeck	Environmental Coordinator	EA Writer
Gary Basham	Botanist	Special Status Plants/Noxious Weeds
Dave Harman	Engineer	Transportation
Ed Horn	Soil Scientist	Soils
Craig Kintop	Forester	Silviculture
Helmut Kreidler	Engineer	Transportation
Chris Langdon	Wildlife Biologist	IDT Leader/Wildlife
Dave Mathweg	Outdoor Rec. Planner	Recreation and Visual Resources
Don Scheleen	Archaeologist	Cultural Resources

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# **APPENDIX A**

## **Summary of Proposed Road Construction, Renovation and Decommissioning**

## **Hi-Yo Silver**

### **Road Renovation**

Renovation of Road No. 30-6-35.0 would be limited to some additional aggregate surfacing at four intermittent stream crossings in the southeast corner of Section 23, T. 31 S., R. 6 W.

Renovation of Road No. 31-6-26.0 would be similarly limited to additional aggregate surfacing at three intermittent stream crossings.

### **Permanent Road Construction**

RI-1	0.50 miles	RI-2	0.05 miles
RL-1	0.30 miles	RL-2	0.05 miles

## **Myrtle Morgan**

### **Road Renovation**

Renovation to the following roads would include surface blading and shaping; relocation or realignment of road segments as dictated by the need for user safety; clean-out, repair, or replacement of drainage structures; installation of additional drainage structures; roadside brushing; and aggregate surfacing.

<u>Road No.</u>	<u>Length (approx.)</u>
29-4-32.0	1.20 miles
30-5-14.0	2.45 miles
30-5-15.0	0.40 miles

### **Permanent Road Construction**

Construction would include aggregate surfacing and installation of drainage structures.

30-5-10.2	0.50 miles
30-5-15.0	0.95 miles

### **Semi-Permanent Road Construction**

RD-1	0.15 miles	RF-1	0.15 miles
RG-1	0.10 miles	RH-1	0.10 miles

### **Temporary Road Construction**

RA-1	0.10 miles	RB-1	0.11 miles
------	------------	------	------------

## **Screen Pass**

### **Road Renovation**

Renovation to the following roads would include surface blading and shaping; relocation or realignment of road segments as dictated by the need for user safety; clean-out, repair, or replacement of drainage structures; installation of additional drainage structures; roadside brushing; and surfacing with crushed aggregate.

<u>Road No.</u>	<u>Length</u>
31-5-15.0	4.47 miles
31-5-34.0	1.90 miles
32-5-3.0	1.36 miles
32-5-3.0	0.40 miles
32-5-17.0	0.05 miles

### **Temporary Road Construction**

Spur 1	0.12 miles
Spur 2	0.59 miles
Spur 3	0.08 miles
Spur 4	0.09 miles

# **Appendix B**

## **Special Status Wildlife Species Eliminated From Further Discussion**

# Appendix B

## Special status wildlife species eliminated from further discussion

Common Name	Status	Habitat Features Used	Reason Eliminated
Bald Eagle	Federal Threatened	Large trees near large bodies of water (Buehler 2000, Isaacs and Anthony 2003)	No habitat
Marbled Murrelet	Federal Threatened	Mature trees with large branches or platforms (Nelson 1997)	Out of range
Rotund Lanx	Bureau Sensitive	Umpqua River and major tributaries (USDA/USDI 1994)	No habitat
Green Sideband	Bureau Sensitive	Deciduous trees and brush in wet forest, low elevation; strong riparian associate (USDA/USDI 1994, Frest and Johannes 2000)	Protected by Riparian Reserves if present
Traveling Sideband	Bureau Sensitive	Dry, open, undisturbed forest; strong riparian associate (USDA/USDI 1994, Frest and Johannes 2000)	Protected by Riparian Reserves if present
Oregon Giant Earthworm	Bureau Sensitive	Riparian forest with deep soil, only known in Willamette Valley	No habitat
Insular Blue Butterfly	Bureau Sensitive	Moist meadows and riparian areas (Scott 1986)	No meadow habitat, protected by Riparian Reserves if present
Western Pond Turtle	Bureau Sensitive	Marshes, ponds, lakes, rivers with emergent structure; and adjacent forest (Storm and Leonard 1995)	No habitat
American Peregrine Falcon	Bureau Sensitive	Cliffs or other sheer vertical structure, generally in open habitat near water (White et al. 2002)	No habitat
Arctic Peregrine Falcon	Bureau Sensitive	Cliffs or other sheer vertical structure, generally in open habitat near water (White et al. 2002)	No habitat
Burrowing Owl	Bureau Sensitive	Dry grassland/shrub habitat, or open suburban areas. Often associated with burrowing mammals (Haug et al. 1993)	No habitat
Common Nighthawk	Bureau Sensitive	Many open habitats used for nesting (Poulin et al. 1996)	No habitat
Lewis' Woodpecker	Bureau Sensitive	Open woodlands with ground cover and snags (Tobalske 1997)	No habitat
Oregon Vesper Sparrow	Bureau Sensitive	Grassland, farmland, sage. Dry, open habitat with moderate herb and shrub cover (Jones and Cornely 2002)	No habitat

<b>Common Name</b>	<b>Status</b>	<b>Habitat Features Used</b>	<b>Reason Eliminated</b>
Crater Lake Tightcoil	Bureau Sensitive	herbaceous growth, large woody debris, or rocky cover in or near perennially wet areas of mature forest	Protected by Riparian Reserves if snail is present
Purple Martin	Bureau Sensitive	Secondary cavity nester, usually in woodpecker holes. Can use burned or logged areas if snags present (Brown 1997)	Poor habitat
Columbian White-Tailed Deer	Bureau Sensitive	Oak woodland	No habitat
Fisher	Bureau Sensitive	Closed canopy forest with ground-level structure and den snags (USDA/USDI 1994)	No population at these elevations
Townsend's Big-Eared Bat	Bureau Sensitive	Mines, caves, human structures	No habitat
Cascade Torrent Salamander	Bureau Assessment	Very cold, clear streams, seeps or springs and adjacent moist forest or rocks (USDA/USDI 1994, Corkran and Thoms 1996)	Protected by Riparian Reserves if present
Cascades Frog	Bureau Assessment	Moist forest or brush, riparian (Corkran and Thoms 1996)	Protected by Riparian Reserves if present
Foothill Yellow-Legged Frog	Bureau Assessment	Low-gradient streams with bedrock or gravel substrate (Corkran and Thoms 1996)	Protected by Riparian Reserves if present
Northern Red-Legged Frog	Bureau Assessment	Margins of ponds or slow streams, forest interior when moist (Corkran and Thoms 1996)	Protected by Riparian Reserves if present
Tailed Frog	Bureau Assessment	Cold fast-flowing perennial streams and headwaters in forested areas (USDA/USDI 1994, Corkran and Thoms 1996)	Protected by Riparian Reserves if present
Common Kingsnake	Bureau Assessment	Moist, thick riparian vegetation; though can use many habitat types (Storm and Leonard 1995)	Protected by Riparian Reserves if present
Harlequin Duck	Bureau Assessment	Larger fast-flowing streams and riparian areas (Thompson et al. 1993, Robertson and Goudie 1999)	No habitat
Western Least Bittern	Bureau Assessment	Wetland, marsh with emergent vegetation (Gibbs et al. 1992)	No habitat
White-Tailed Kite	Bureau Assessment	Low-elevation grassland, farmland or savannah and nearby riparian areas (Dunk 1995)	No habitat
Brazilian Free-Tailed Bat	Bureau Assessment	Roosts in caves, mines, buildings	No habitat
Del Norte salamande	Bureau Assessment	Rocky substrate and talus often associated with riparian areas	No habitat

# **APPENDIX C**

## **Special Status Botanical Species Eliminated from further Discussion**

<b>Common Name</b>	<b>Taxon</b>	<b>Status</b>	<b>Habitat Features Used</b>	<b>Reason Eliminated</b>
Kincaid's Lupine	Vascular Plant	Federally Threatened	Open woods, meadows (USDI BLM 1991)	Surveyed Not Found
Shrubby Rock Cress	Vascular Plant	Bureau Sensitive	Dry, rocky serpentine slopes, ridges (Hickman 1993)	No Habitat
Bensoniella	Vascular Plant	Bureau Sensitive	Along the margins of bogs, meadows, and springs in mixed coniferous forests in partial and full sun (USDI BLM 1991)	No Habitat
Oregon Willow Herb	Vascular Plant	Bureau Sensitive	Bogs and marshes (USDI BLM 1991)	No Habitat
Slender Meadow Foam	Vascular Plant	Bureau Sensitive	Vernally moist to wet rocky slopes and meadows on various substrate including serpentine (USDI BLM 1991)	No Habitat
False Caraway	Vascular Plant	Bureau Sensitive	Meadows or along the edge of coniferous forest (USDI BLM 1991)	Surveyed Not Found
Umpqua Swertia	Vascular Plant	Bureau Sensitive	Moist meadows and moist coniferous forest. Mostly grows in shaded conditions but can also occur in full sun (USDI BLM 1991)	Surveyed Not Found
Umpqua Mariposa Lily	Vascular Plant	Bureau Sensitive	Grassland and forests on serpentine soils (USDOI BLM 1991)	No Habitat
Clustered Lady Slipper	Vascular Plant	Bureau Sensitive	Dry to moist conifer and mixed evergreen forest (USDI BLM 1991)	Surveyed Not Found
Crinite Mariposa Lily	Vascular Plant	Bureau Sensitive	Dry open slopes or under open canopies on serpentine soils (USDI BLM 1991)	No Habitat
Thompson's Mistmaiden	Vascular Plant	Bureau Sensitive	Seasonally wet rock outcrops on open slopes (USDI BLM 1991)	Surveyed Not Found
Tall Bugbane	Vascular Plant	Bureau Sensitive	Woods and thickets (USDI BLM 1991)	Surveyed Not Found
Dense-flowered Horkelia	Vascular Plant	Bureau Sensitive	Meadows and open woods (USDI BLM 1991)	Surveyed Not Found
Kalmiopsis	Vascular Plant	Bureau Sensitive	Dry, stony mountain slopes (USDI BLM 1991)	Surveyed Not Found
Hitchcock's Blue-eyed Grass	Vascular Plant	Bureau Sensitive	Valley grasslands and oak savannahs (USDI BLM 1991)	Surveyed Not Found
American Funaria Moss	Bryophyte	Bureau Assessment	Shaded forests on fine textured soil (Schofield 1992)	Surveyed Not Found
Pseudoleskeella	Bryophyte	Bureau Assessment	Serpentine endemic	No Habitat
Grass Fern	Vascular Plant	Bureau Assessment	Volcanic or granite rock crevices and ledges under a forest canopy (Hickman 1993, USDI BLM 1991)	Surveyed Not Found
Timwort	Vascular Plant	Bureau Assessment	unknown	Surveyed Not Found
Gold Poppy	Vascular Plant	Bureau Assessment	Fields and brushy slopes of the foothills and valleys (USDI BLM 1991)	Surveyed Not Found

<b>Common Name</b>	<b>Taxon</b>	<b>Status</b>	<b>Habitat Features Used</b>	<b>Reason Eliminated</b>
Three Colored Monkey Flower	Vascular Plant	Bureau Assessment	Vernal pools and wet meadows (USDI BLM 1991)	No Habitat
Coffee Fern	Vascular Plant	Bureau Assessment	Dry rock outcrops mostly in the open sun but at times along shaded stream banks (USDI BLM 1991)	Surveyed Not Found
California Sword Fern	Vascular Plant	Bureau Assessment	Rock outcrops beneath forest canopies or on open slopes. Often inside rock overhangs or on shear bluffs and cliffs (USDI BLM 1991)	Surveyed Not Found
Heckner's Stonecrop	Vascular Plant	Bureau Assessment	Rock outcrops which are typically serpentine and occasionally gabbro (igneous) on moderately steep south to west exposed slopes (USDI BLM 1991)	Surveyed Not Found
Humped Bladderwort	Vascular Plant	Bureau Assessment	Shallow water in the valleys and mountains (USDI BLM 1991)	Protected by Riparian Reserves
Lesser Bladderwort	Vascular Plant	Bureau Assessment	Shallow standing or slow moving water (USDI BLM 1991)	Protected by Riparian Reserves
Water-meal	Vascular Plant	Bureau Assessment	Lakes, ponds, and pools of standing water (USDI BLM 1991)	Protected by Riparian Reserves
Dotted Water-meal	Vascular Plant	Bureau Assessment	Lakes, ponds, and pools of standing water (USDI BLM 1991)	Protected by Riparian Reserves
Hairy Sedge	Vascular Plant	Bureau Assessment	Moist meadows, open forests (University and Jepson Herbaria Website accessed 6/23/2004)	Surveyed Not Found
Saw-tooth Sedge	Vascular Plant	Bureau Assessment	unknown	
California Globe Mallow	Vascular Plant	Bureau Assessment	Streambanks and moist ground in the shade or open (USDI BLM)	Surveyed Not Found
Schistostega pennata	Non-vascular Bryophyte	Bureau Assessment	Rotten Stumps and logs in shaded and humid locations. It occurs on mineral soil in shaded pockets of overturned tree roots, often with standing water much of the year. (USDI BLM and USDA FS 1999)	Surveyed Not Found
Microcalicium arnarium	Non-vascular Lichen	Bureau Assessment		Surveyed Not Found
Pannaria rubiginosa	Non-vascular Lichen	Bureau Assessment	Found in association with mature Douglas-fir/western hemlock forest. (Leshner, et al. 2000)	Surveyed Not Found

# **APPENDIX D**

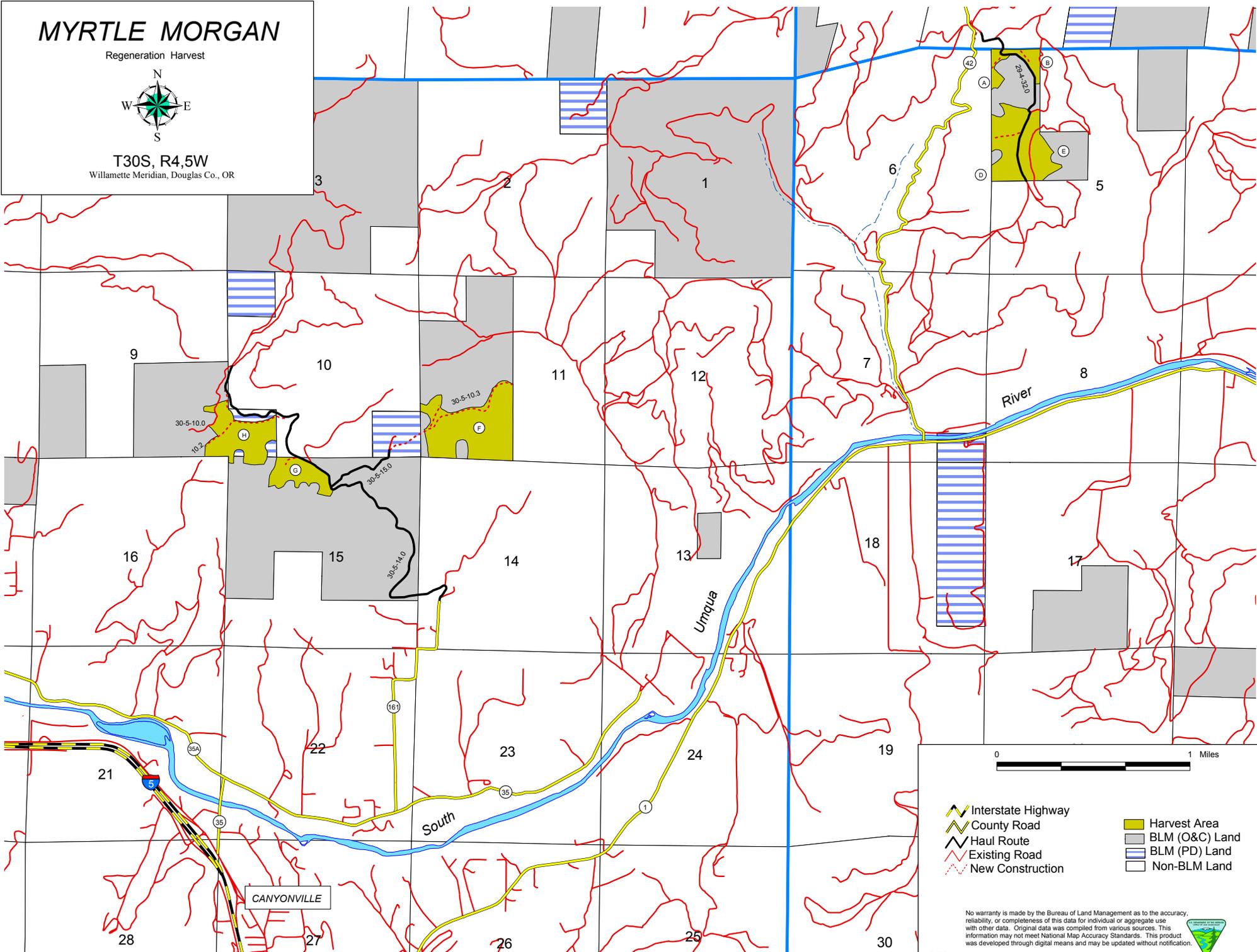
## **Maps of the Proposed Units and Haul Routes**

# MYRTLE MORGAN

Regeneration Harvest



T30S, R4,5W  
Willamette Meridian, Douglas Co., OR



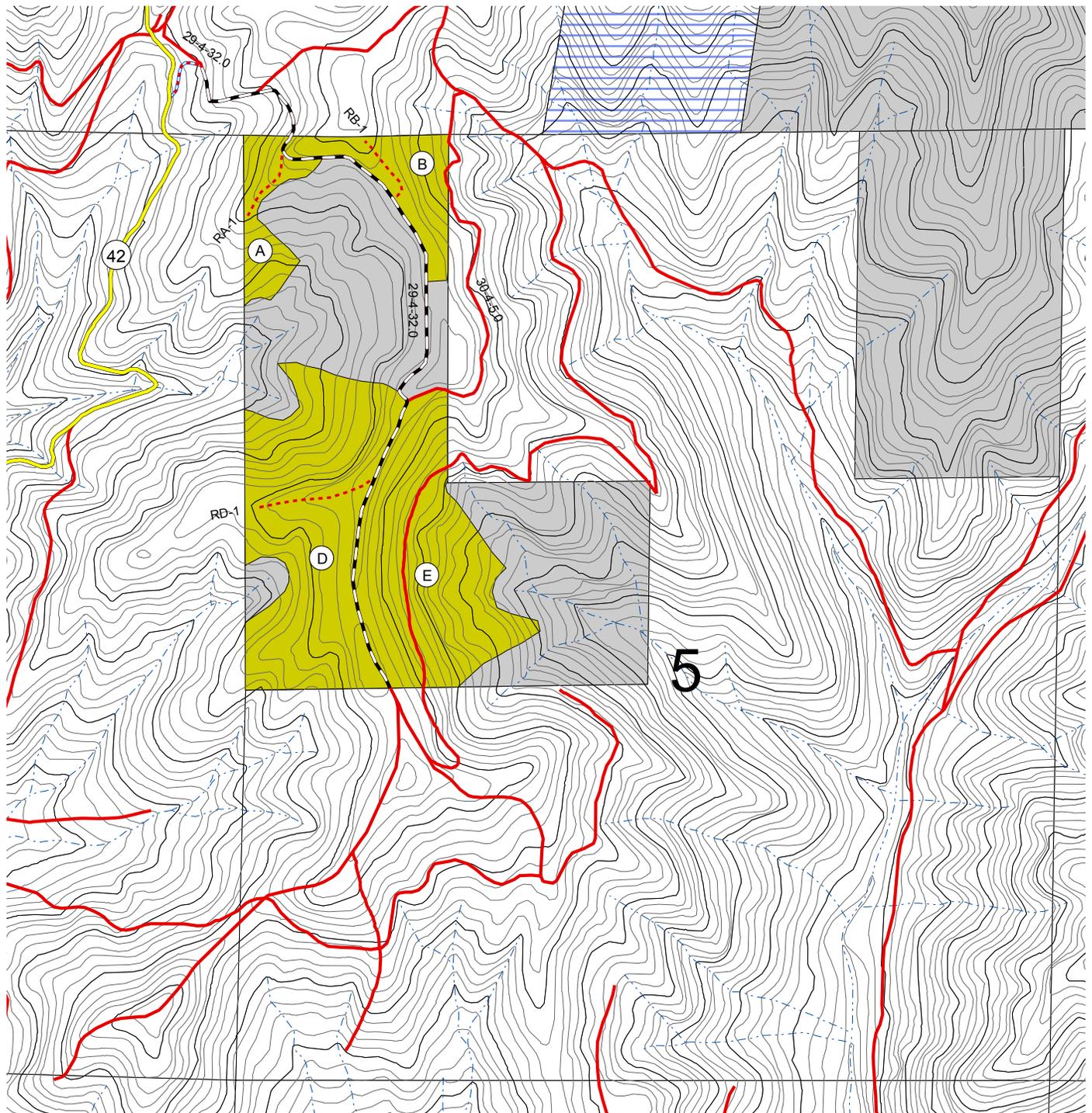
- Interstate Highway
- County Road
- Haul Route
- Existing Road
- New Construction
- Harvest Area
- BLM (O&C) Land
- BLM (PD) Land
- Non-BLM Land

No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of this data for individual or aggregate use with other data. Original data was compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.



# MYRTLE MORGAN

Regeneration Harvest



T30S R4W  
Willamette Meridian, Douglas Co., OR.



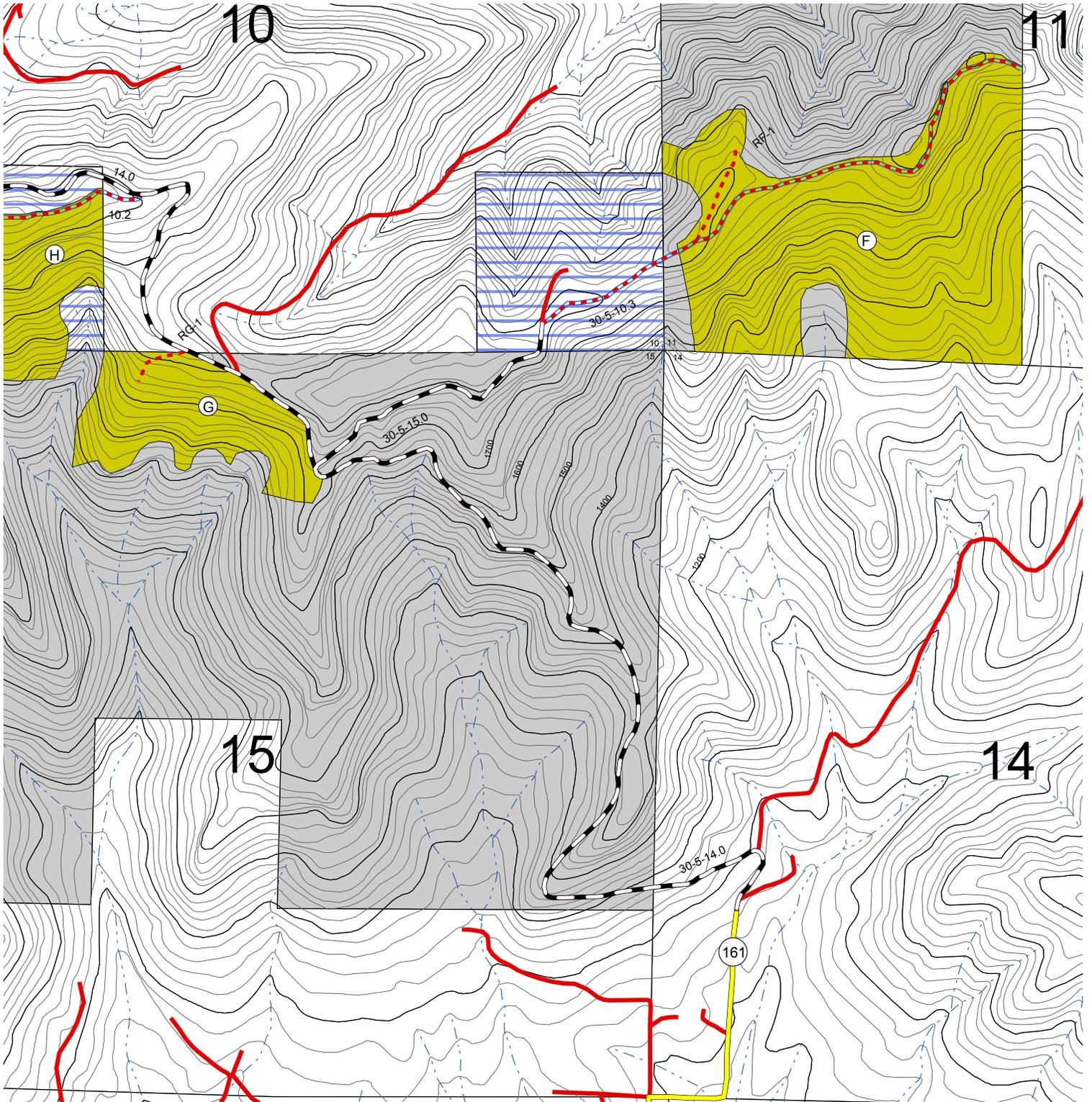
- County Road
- Existing Road
- Construct, Permanent Rock
- Construct, Decommission
- Renovate, Permanent Rock
- Stream
- 100' Contour
- 20' Contour
- Harvest Area
- BLM (PD) Land
- BLM (O&C) Land
- Non-BLM Land

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# MYRTLE MORGAN

Regeneration Harvest



T30S R5W  
Willamette Meridian, Douglas Co., OR.



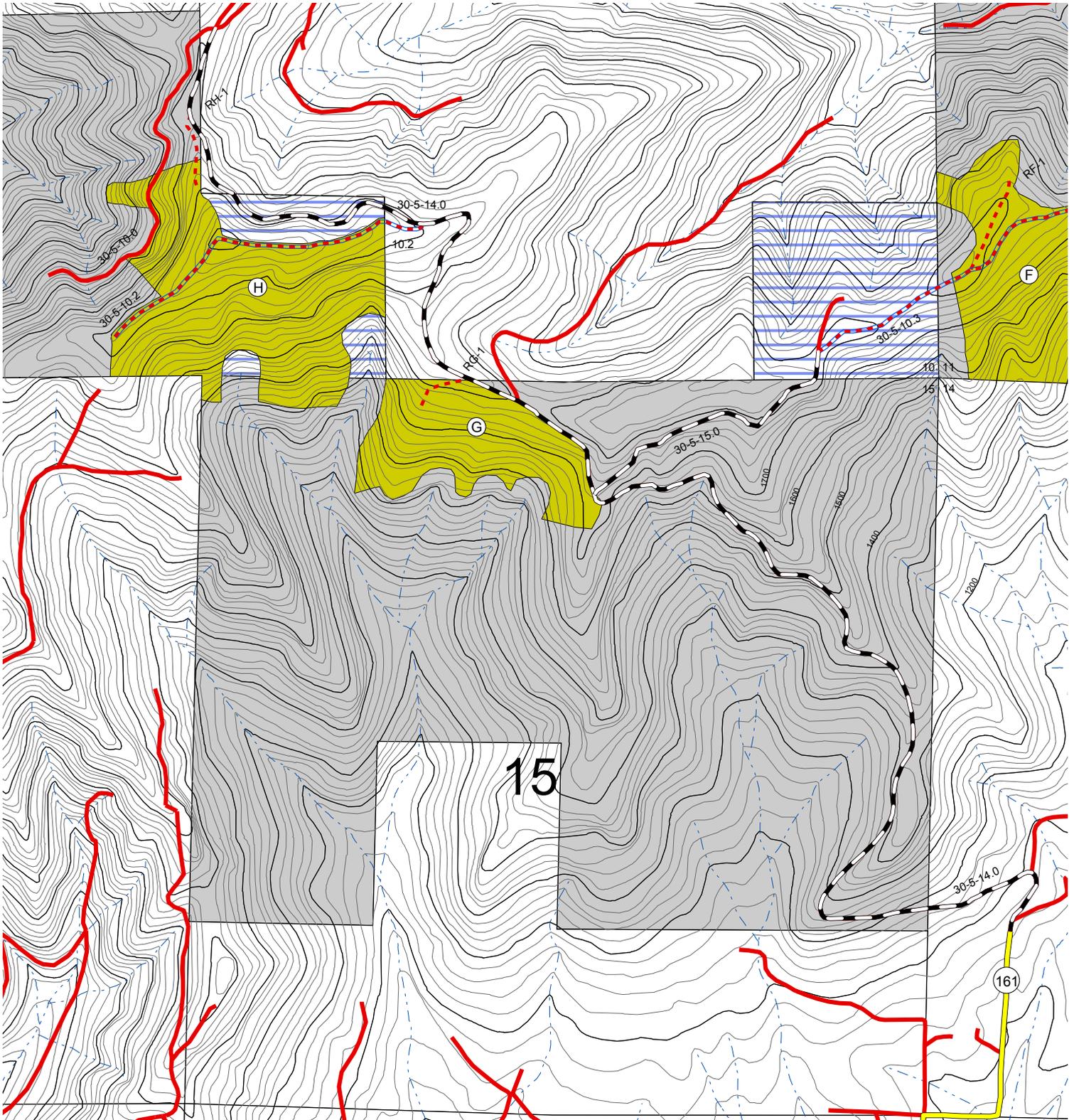
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- County Road
- Existing Road
- Construct, Permanent Rock
- Construct, Decommission
- Renovate, Permanent Rock
- Stream
- 100' Contour
- 20' Contour
- Harvest Area
- BLM (PD) Land
- BLM (O&C) Land
- Non-BLM Land

# MYRTLE MORGAN

Regeneration Harvest



T30S R5W  
Willamette Meridian, Douglas Co., OR.



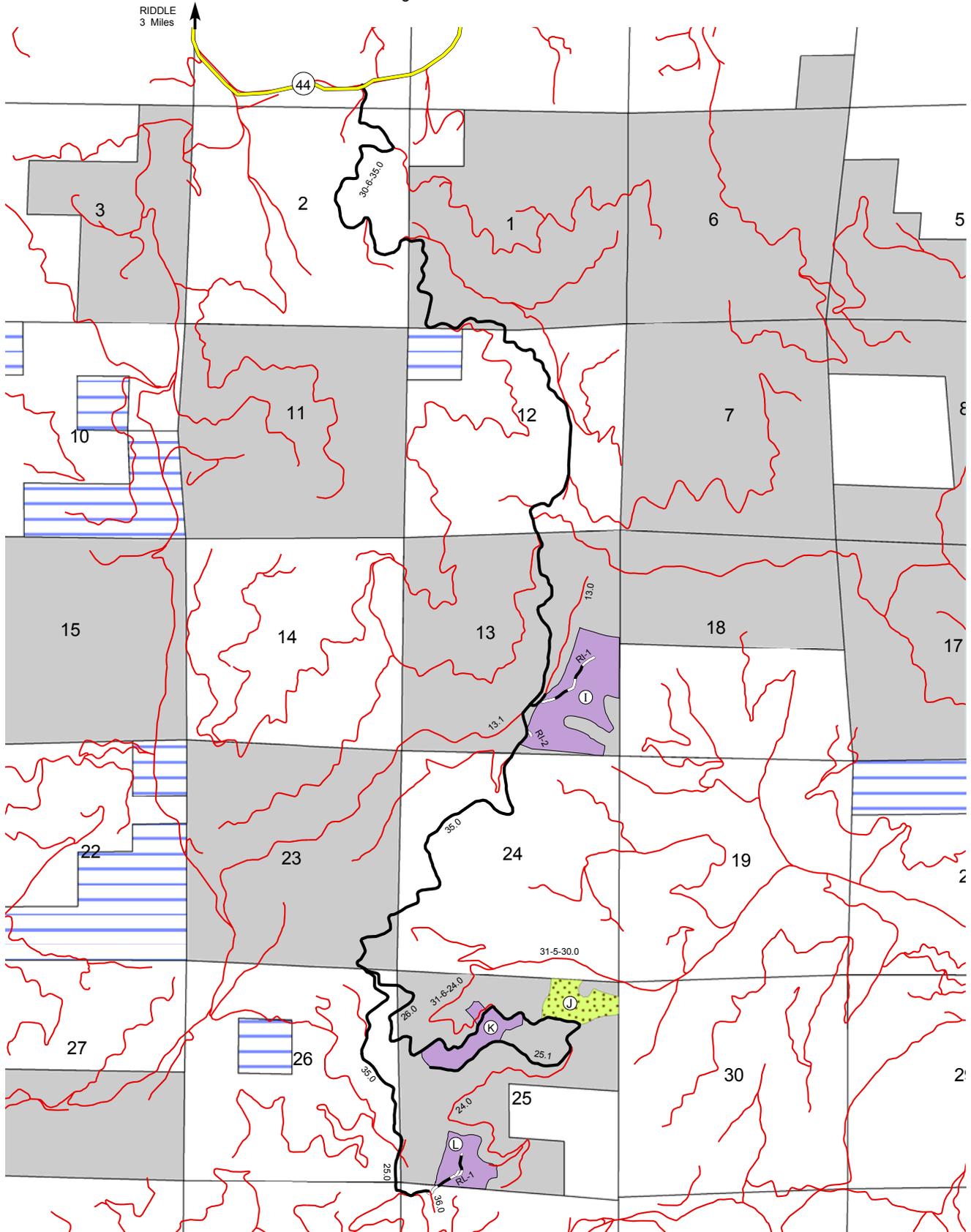
- County Road
- Existing Road
- Construct, Permanent Rock
- Construct, Decommission
- Renovate, Permanent Rock
- Stream
- 100' Contour
- 20' Contour
- Harvest Area
- BLM (PD) Land
- BLM (O&C) Land
- Non-BLM Land

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# HI YO SILVER

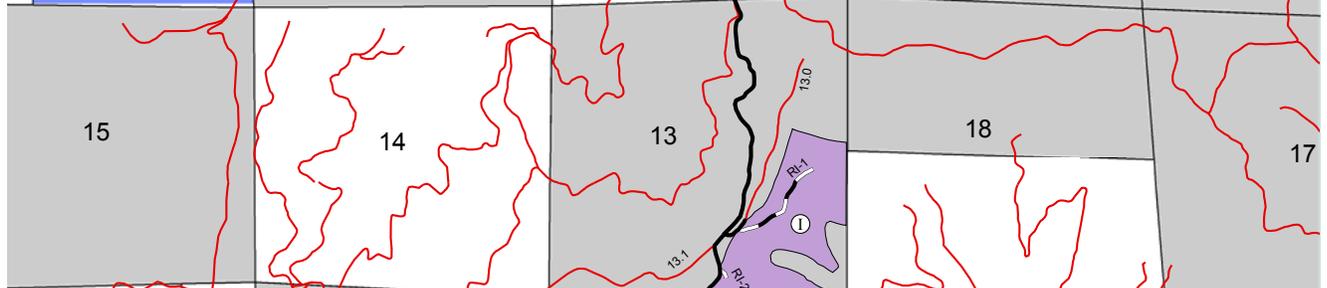
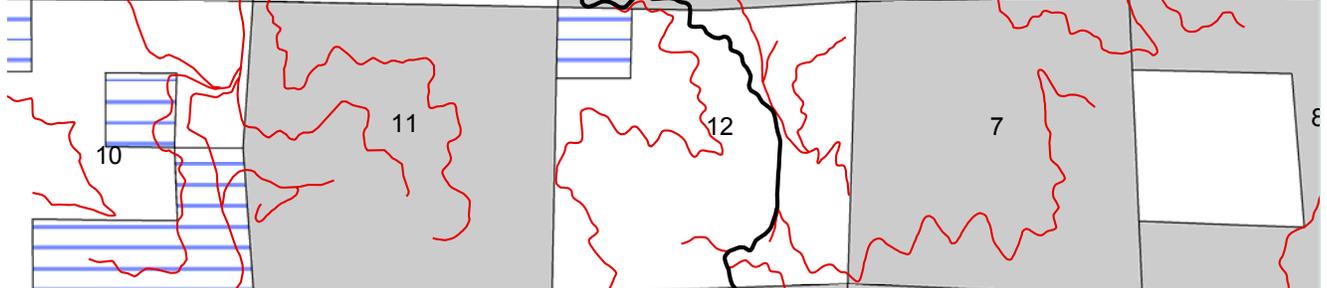
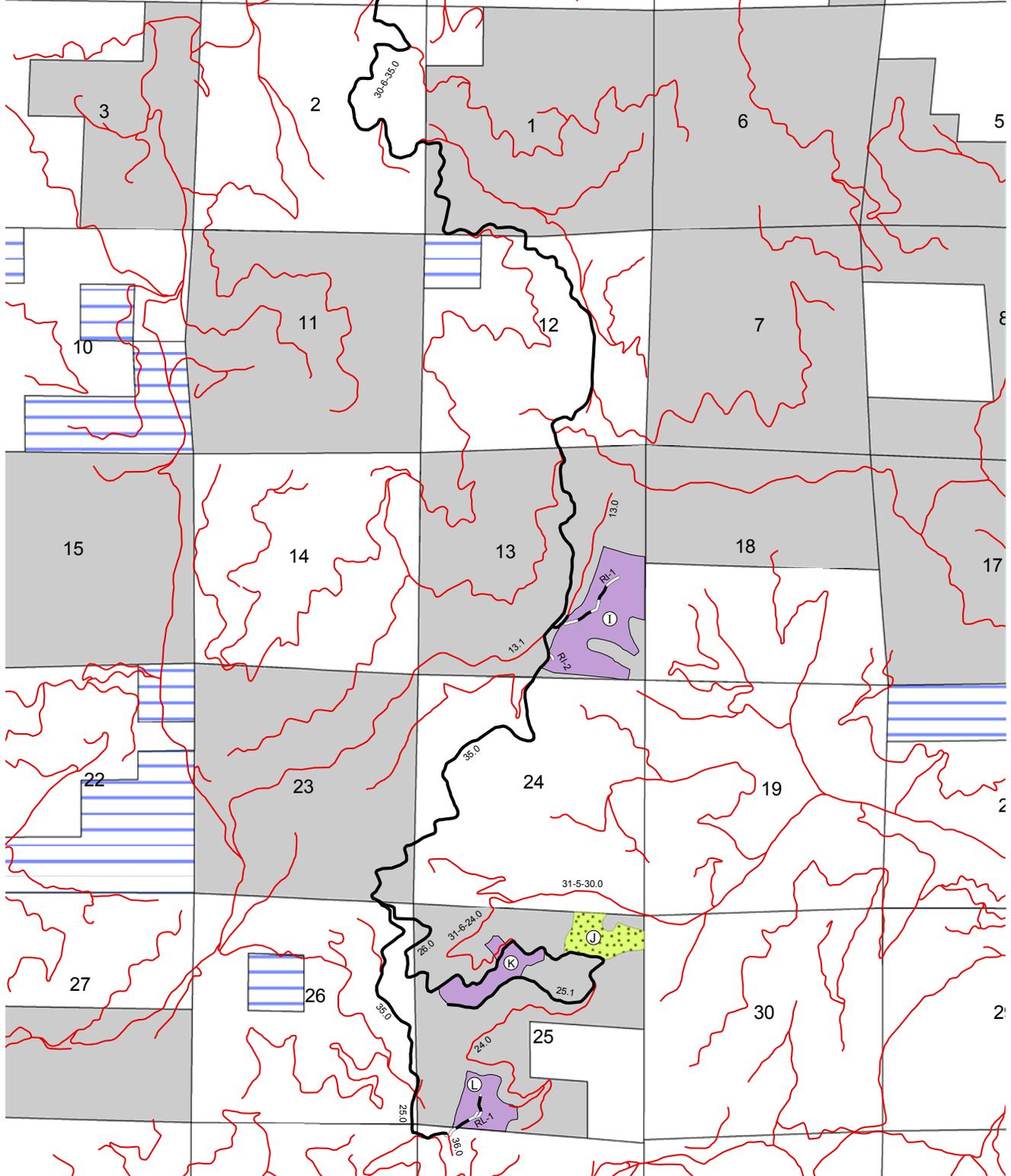
Regeneration Harvest



RIDDLE  
3 Miles

44

30-6-35.0



T31S R6W

Willamette Meridian, Douglas Co., OR.



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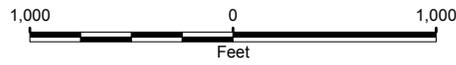
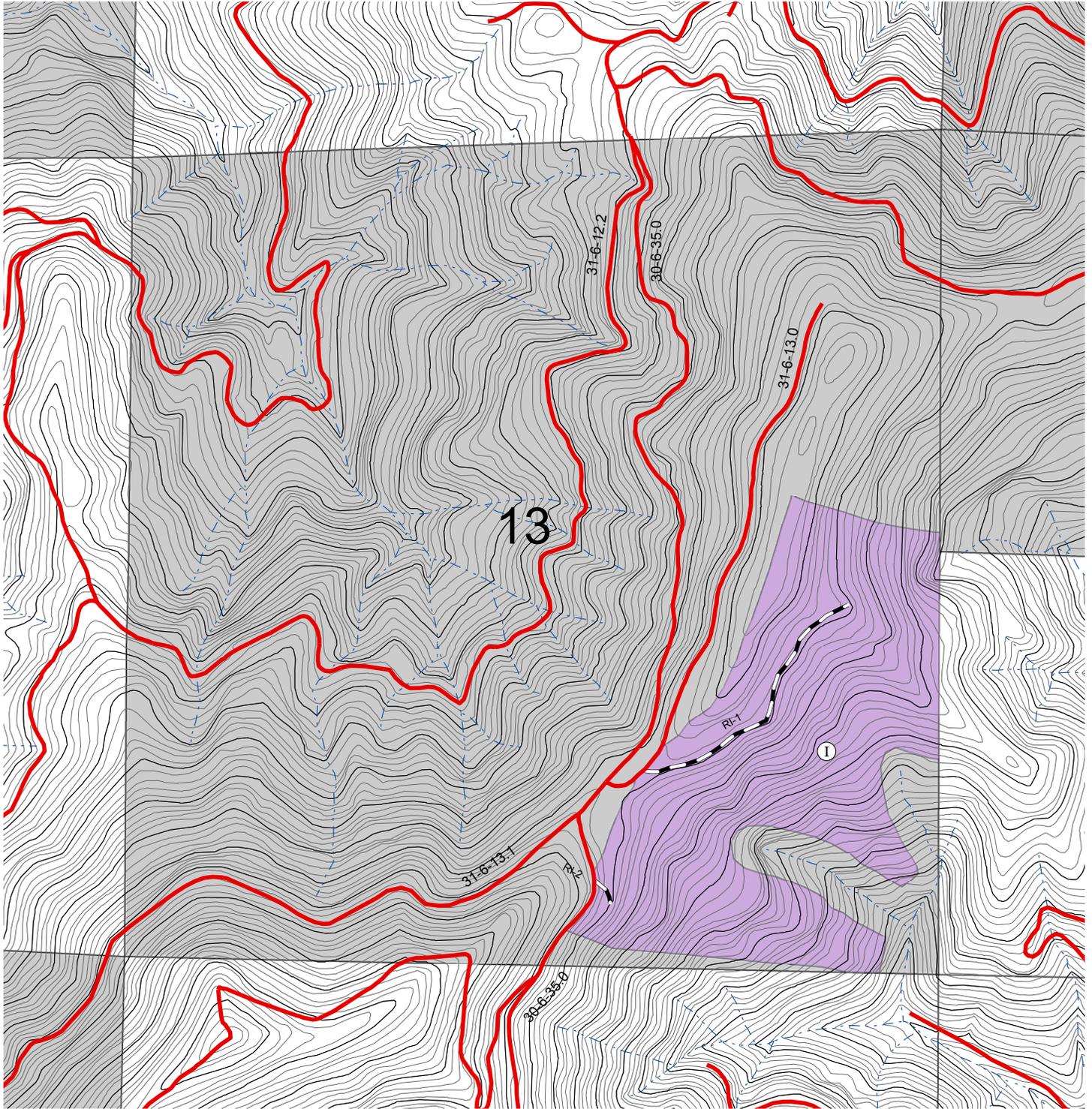


- Existing Road
- Construct, Permanent Rock
- County Highway
- Haul/Access Road

- Harvest Area
- Considered / Eliminated Area
- BLM (O&C) Land
- BLM (PD) Land
- Non-BLM Land

# HI YO SILVER

Regeneration Harvest



T31S R6W

Willamette Meridian, Douglas Co., OR.

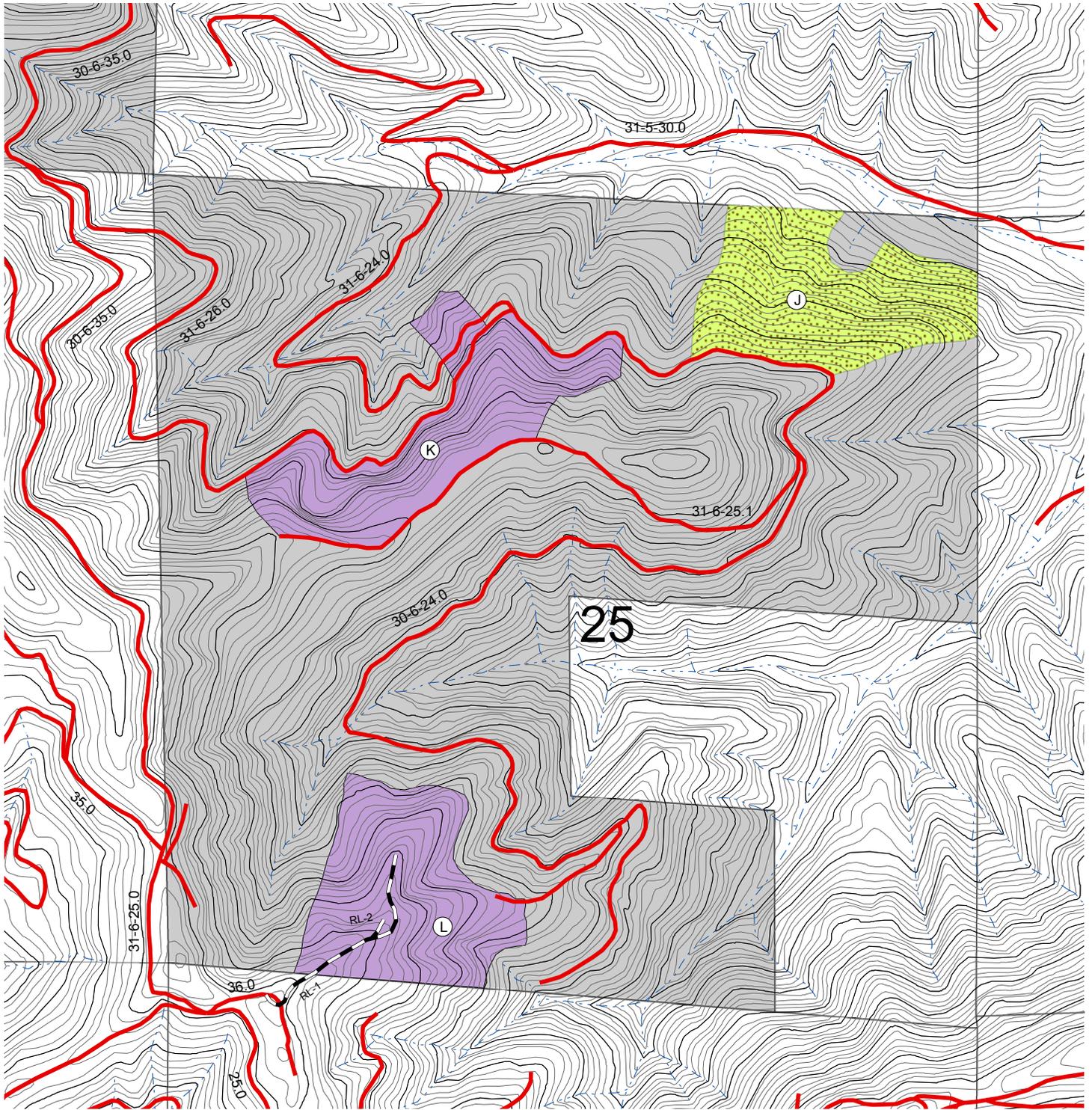
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- Existing Road
- Construct, Permanent Rock
- Stream
- 100' Contour
- 20' Contour
- Harvest Area
- BLM (O&C) Land
- Non-BLM Land

# HI YO SILVER

Regeneration Harvest



T31S R6W  
Willamette Meridian, Douglas Co., OR.

1,000 0 1,000 Feet



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- Existing Road
- Construct, Permanent Rock
- Stream
- 100' Contour
- 20' Contour
- Harvest Area
- Considered / Eliminated Area
- BLM (O&C) Land
- Non-BLM Land

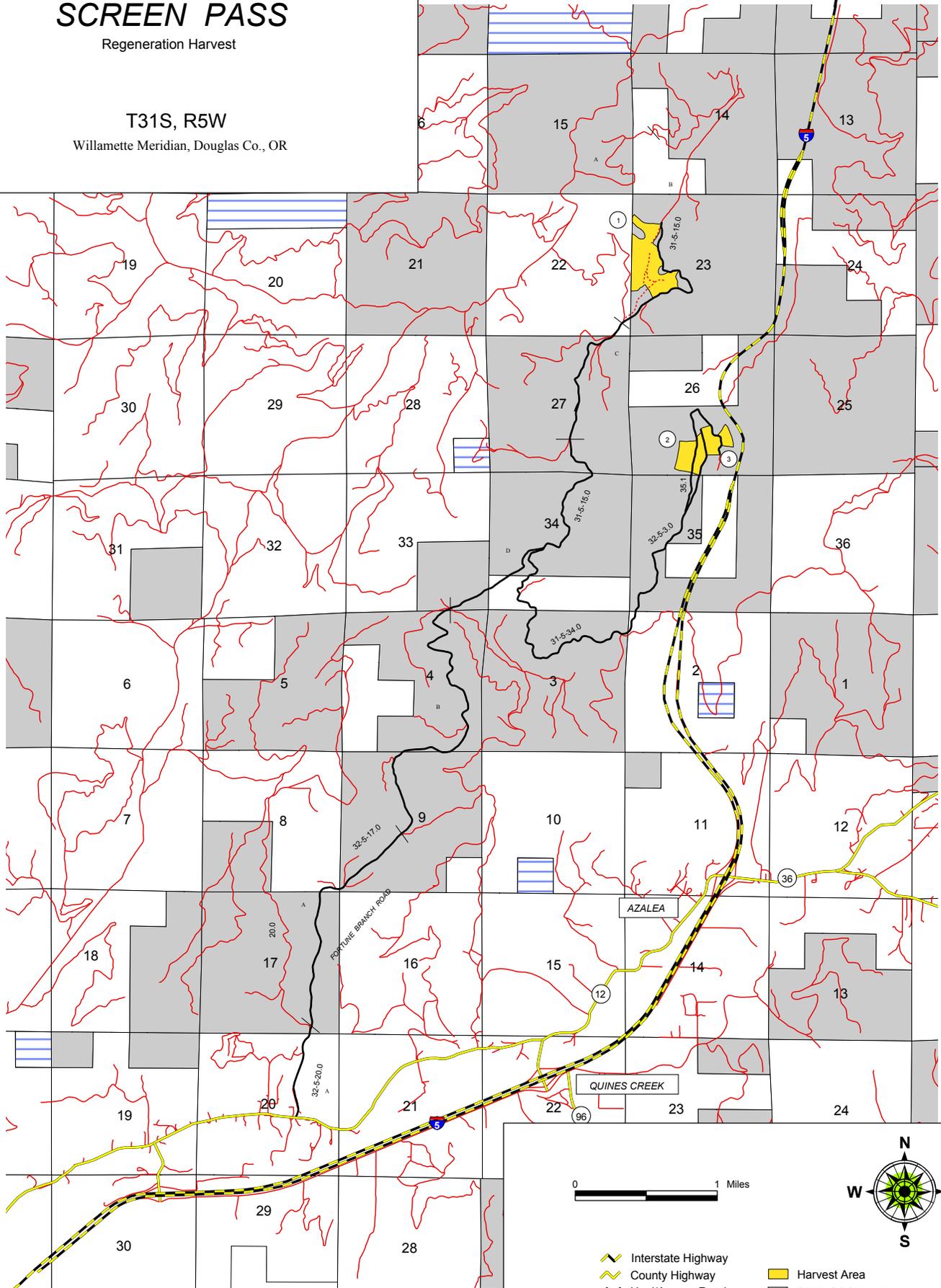
# SCREEN PASS

Regeneration Harvest

T31S, R5W

Willamette Meridian, Douglas Co., OR

Canyonville  
3 miles



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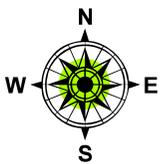
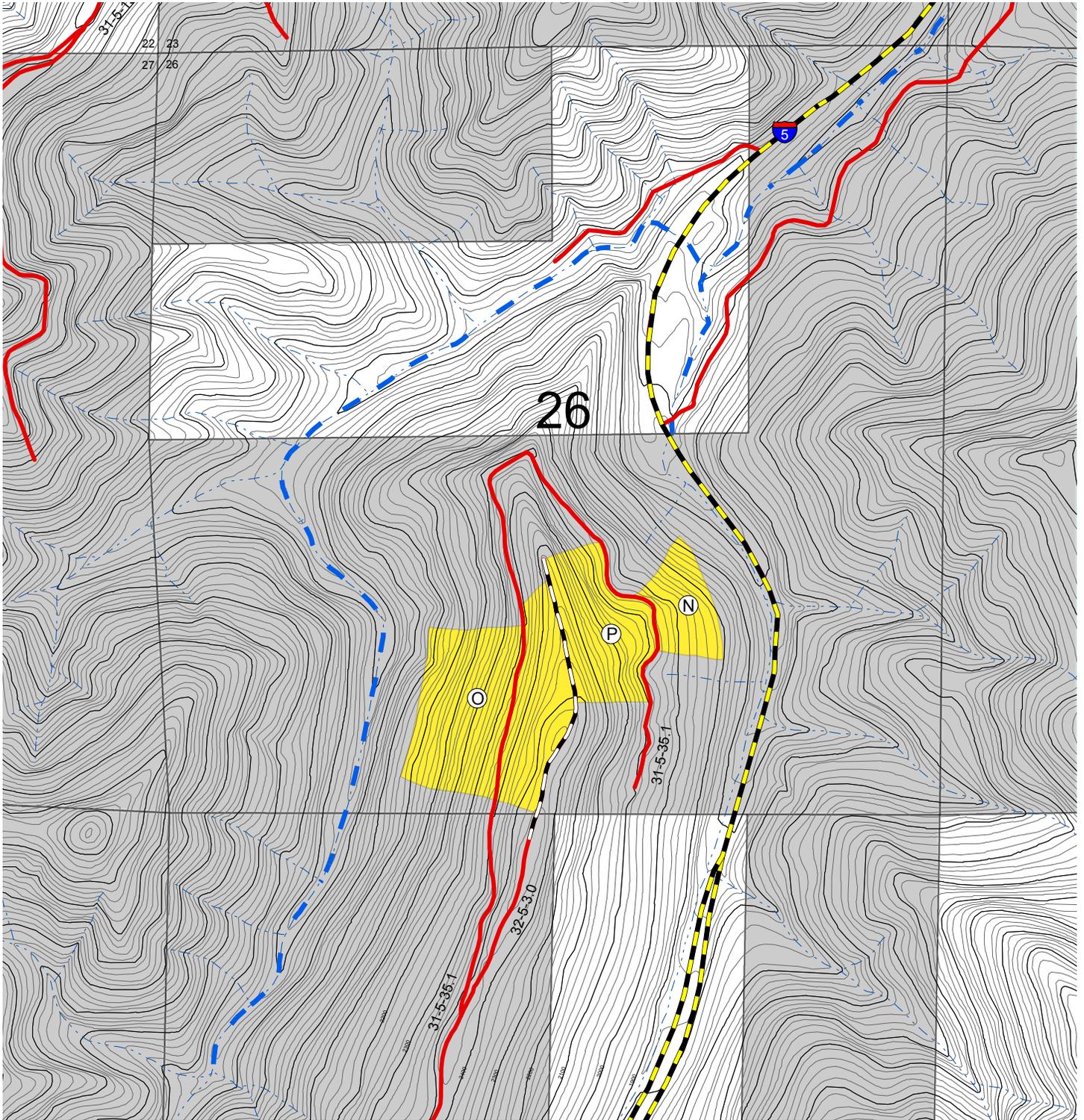


0 1 Miles

Interstate Highway  
 County Highway  
 Haul/Access Road  
 Existing Road  
 New Construction  
 Harvest Area  
 BLM (O&C) Land  
 BLM (PD) Land  
 Non-BLM Land

# SCREEN PASS

Regeneration Harvest



- Interstate Highway
- Existing Road
- Renovate, Permanent/Rock
- Stream
- Fish Bearing Stream
- 20 ft. Contour Line
- 100 ft. Contour Line

- Harvest Area
- BLM (O&C) Land
- Non-BLM Land

T31S, R5W

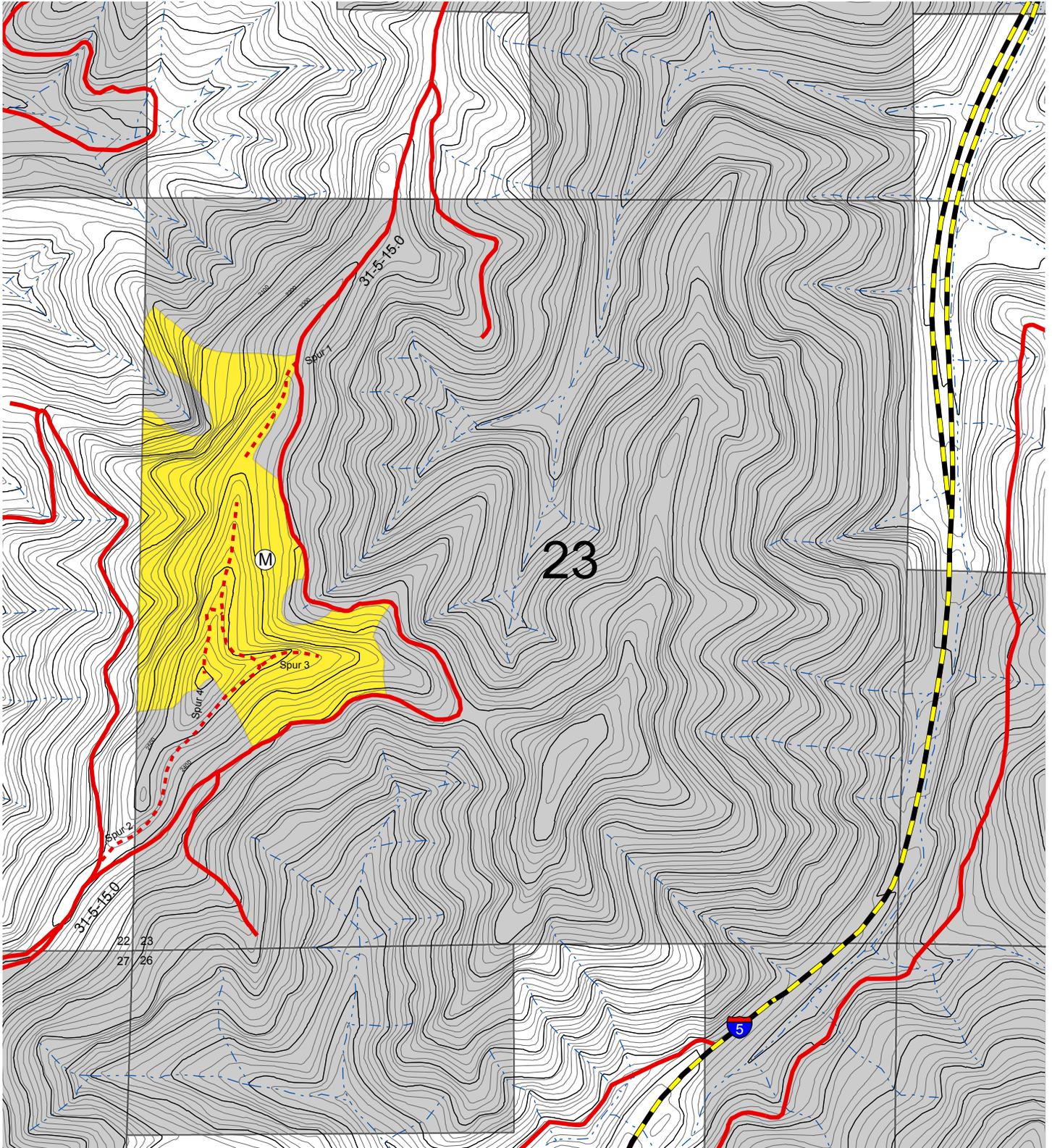
Willamette Meridian, Douglas Co., OR

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# SCREEN PASS

Regeneration Harvest



- Interstate Highway
- Existing Road
- Construct, Decommission
- Stream
- 20 ft. Contour Line
- 100 ft. Contour Line
- Harvest Area
- BLM (O&C) Land
- Non-BLM Land

T31S, R5W

Willamette Meridian, Douglas Co., OR

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# **Appendix E**

**Status of Regeneration Harvest Authorized  
In the Connectivity/Diversity Block  
Land Use Allocation  
on the Roseburg District  
FY 1995-2003**

Sale Name	FY Sold	Acres in Connectivity/Diversity Block Allocation	Current Sale Status
Right View	1995	32	Harvested
High Noon	1996	40	Harvested
Red Top Salvage I	1997	123	Harvested
Buck Fever	1998	67	Unawarded
Class of 98	1998	22	Unawarded
Dream Weaver	1998	26	Unawarded
Christopher Folley	1999	63	Unawarded
Final Curtin	1999	36	Unawarded
Cow Catcher	2003	27 (Unit 4)	Harvested
Cow Catcher	2003	54 (Unit 5)	Enjoined
Total		490	

# APPENDIX F

## CRITICAL ELEMENTS OF THE HUMAN ENVIRONMENT

The following elements of the human environment are subject to requirements specified in statute, regulation, or executive order.

These resources or values are either **not present** or **would not be affected by the proposed actions or alternative**, unless otherwise described in this EA. This negative declaration is documented below by individuals who assisted in the preparation of this analysis.

ELEMENT	NOT PRESENT	NOT AFFECTED	IN TEXT
Air Quality		X	X
Areas of Critical Environmental Concern	X		
Cultural Resources		X	X
Environmental Justice		X	
Farm Lands (prime or unique)	X		
Floodplains	X		
Invasive, Non-native Species		X	X
Native American Religious Concerns	X		
Threatened or Endangered Wildlife Species			X
Threatened or Endangered Plant Species		X	X
Wastes, Hazardous or Solid	X		
Water Quality, Drinking/Ground		X	X
Wetlands/Riparian Zones		X	
Wild & Scenic Rivers	X		
Wilderness	X		
Visual Resource Management		X	X