

## ENVIRONMENTAL ASSESSMENT

**EA Number:** OR-104-04-08

**BLM Office:** Swiftwater RA, Roseburg District

**Proposed Action Title:** **Swiftwater 2004 Instream Restoration Projects**

**Location of Proposed Actions:** North Fork Big Tom Folley: Township 21 South, Range 7 West, Sections 35 and 26

Big Tom Folley Creek: Township 22 and 21 South, Range 7 West, Sections 2 and 36

Susan Creek: Township 26 South, Range 2 West, Section 14

### **Conformance with Applicable Land Use Plan:**

This Proposed Action is subject to the following land use plan:

Name of Plan: Roseburg District Record of Decision and Resources Management Plan (RMP)  
Date Approved: June 2, 1995.

This plan has been reviewed to determine if the proposed action conforms with the land use plan terms and conditions as required by 43 CFR 1610.5.

### **Need for Proposed Action**

The BLM has a need to implement the *Roseburg District Record of Decision and Resources Management Plan* (RMP) (USDI 1995b). The RMP “responds to dual needs: the need for forest habitat and the need for forest products” (RMP, pg. 15). The need for forest habitat can be met through watershed restoration. Watershed restoration is one of the four components of the Aquatic Conservation Strategy (RMP, pg. 21). As stated in the RMP, “Watershed restoration will be an integral part of a program to aid recovery of fish habitat, riparian habitat, and water quality” (RMP, pg. 21).

#### **North Fork Big Tom Folley**

Big Tom Folley Subwatershed was specifically identified in the Elk Creek Watershed Analysis (March 2004) as a potential restoration opportunity. Aquatic Habitat Surveys conducted by Oregon Department of Fish and Wildlife have identified low volume of large woody debris and few pieces of large woody debris along with few pool components (ODFW 1993).

#### **Susan Creek**

Susan Creek was identified by the Middle North Umpqua Watershed Analysis (July 2001) to have the highest restoration potential of the streams surveyed within the Old Fairview subwatershed (later renamed Susan Facial subwatershed). Within the Susan Facial subwatershed, current ODFW habitat surveys indicate that these streams rate as “Fair.” By enhancing some features of the habitat quality indicators, these reaches could be eventually upgraded to “Good.” All of these reaches are lacking in LWD, pool frequency, off-channel habitat, and refugia.

With regards to habitat for coho salmon, the South Coast-Northern Klamath Late-Successional Reserve Assessment (USDA, USDI 1998) identifies the need for “. . . complex habitats which include pools for resting, rearing and feeding, and gravel dominated riffles for spawning (p. 56).” It also identifies instream restoration as a management activity appropriate for Late-Successional Reserves (p. 88).

### **Purpose of Action**

The purpose of this project is restoration of spawning and rearing habitat in North Fork Big Tom Folley Creek, Big Tom Folley Creek, and Susan Creek for resident and anadromous salmonids, through the enhancement of existing habitat and creation of additional habitat. This would be accomplished by the addition of large wood and boulder structures to the stream channel. These structures would increase deposition and scour adjacent to the structures, allowing for the formation of deep pools, increased areas of spawning gravels, increased channel complexity, cover, and off channel habitat. This habitat would provide juvenile fish with slow-water rearing areas and deep, residual pool habitat during low flow periods.

### **Description of Proposed Action**

A combination of boulders and logs would be placed at approximately 16 sites along 1.0 mile of North Fork Big Tom Folley Creek in Section 35 (BLM ownership). Within section 26 (Seneca Jones Timber ownership), approximately 0.5 mile of North Fork Big Tom Folley Creek would be restored with boulders at approximately 15 sites. On 0.75 mile of Big Tom Folley Creek in Section 2 and 36 (Seneca Jones Timber ownership), habitat would also be restored using boulders at approximately 15 sites. There would be approximately five log placement sites along a 0.25 mile portion of Susan Creek in Section 14 (BLM ownership).

Key pieces of large wood placed instream would be twice as long as the bankfull width and at least 18 inches in diameter, as suggested in the *Guide to Placing Large Wood in Streams* (1995, ODF and ODFW). The boulders on North Fork Big Tom Folley and Big Tom Folley Creeks would average one and a half to two cubic yards in size.

All logs and boulders would be placed using a track-mounted excavator and/or yarder. Either machine shall operate from existing roadways in order to minimize riparian disturbance. Most structures would be placed from the stream bank, so any instream operations of the equipment would be minimal. All cables, blocks, shackles, straps, chains, and chokers shall be sized to perform the required work in a safe and proficient manner.

### **Affected Environment**

The FSEIS (USDA and USDI 1994a) describes the affected environment for the Cascades and Coast Range provinces on page 3 and 4-19 (Cascades) and page 3 and 4-21 (Coast Range). The Roseburg District Proposed Resource Management Plan/Environmental Impact Statement (PRMP/EIS) (USDI 1994, page 3-3 through 3-71) provides a detailed description of BLM administered lands on the Roseburg District. A further description can also be found in the Elk Creek and Middle North Umpqua Watershed Analyses.

**Botany** - Pre-disturbance surveys were conducted in the project areas in the spring of 2004. There are no known Special Status Plants (SSP) in the project areas. There are some localized infestations of Tansy ragwort, thistle species, and Himalayan blackberry in both of the project areas. The Susan Creek project area has scattered populations of Scotch Broom.

**Cultural** - No cultural resources were found in the North Fork Big Tom Folley project area. The Susan Creek project area contains prehistoric archaeological site 35DO100. The site has been evaluated and found eligible for listing on the National Register of Historic Places.

**Hydrology** - The proposed project is located within the following fifth-field watersheds and sixth-field subwatersheds:

**Table1: Watersheds and Subwatersheds**

In-Stream Log and Boulder Placement	Watershed	Subwatershed
North Fork Big Tom Folley Creek	Elk Creek	Big Tom Folley
Big Tom Folley Creek	Elk Creek	Big Tom Folley
Susan Creek	Middle North Umpqua	Susan Facial

The Oregon Department of Environmental Quality (DEQ) has placed Big Tom Folley Creek, North Fork Big Tom Folley Creek, and Susan Creek on the 303(d) list of water quality limited streams for Summer and Winter Temperature (ODEQ 2003).

**Fisheries** - According to the Elk Creek Watershed Analysis (pg.103) and Middle North Umpqua Watershed Analysis (pg. 110), Oregon Coast Coho (*Oncorhynchus kisutch*), Oregon Coast Steelhead trout (*O. mykiss*), Coastal Cutthroat trout (*O. clarki clarki*), Oregon Coast Chinook salmon (*O. tshawytscha*), and Pacific Lamprey (*Lampetra tridentata*) are present in each watershed. Umpqua chub (*Oregonichthys kalawatseti*) are present in the Elk Creek Watershed.

The Oregon Department of Fish and Wildlife (ODFW) has conducted aquatic habitat surveys in the Elk Creek and Middle North Umpqua Fifth-Field Watersheds. Big Tom Folley is a stream dominated by shallow bedrock riffles and pools. Aquatic habitat surveys found the middle reaches of Big Tom Folley Creek to be lacking in spawning gravels. Currently there are few key pieces of large wood throughout the entire stream basin. Habitat data for North Fork Big Tom Folley (Reach 1, Sections 26 and 35, Township 21 South, Range 7 West) and Susan Creek (Reach 1, Sections 14 and 23, Township 26 South, Range 2 West) indicates aquatic habitat quality is limited by a lack of large woody debris (volume and number of key pieces), few pool habitat components, and a moderate percentage of fine sediment in riffle units (ODFW 1993 and 1994). North Fork Big Tom Folley Creek (Reach 1) had an average of 12 percent fines and 69 percent gravel in riffle units, 30 percent pool habitat (only 0.31 meter pool depth), 35 percent bedrock and less than 11 pieces of LWD comprising 15m<sup>3</sup> of wood per 100 meters. Susan Creek (Reach 1) had an average of 21 percent fines and 26 percent gravel in riffle units, five percent pool habitat (only 0.37 meter pool depth), and five and a half pieces of LWD comprising 9.3m<sup>3</sup> of wood per 100 meters.

**Wildlife** - This project has been reviewed for Federally Threatened and Endangered (T&E) species known to occur in the Roseburg District. No currently suitable Northern spotted owl (*Strix occidentalis caurina*), marbled murrelet (*Brachyramphus marmoratus*), or bald eagle (*Haliaeetus leucocephalus*) habitat would be altered by the project. There are no known spotted owl sites (activity centers) within 65 yards of either the North Fork Tom Folley or Susan Creek log placement sites. The North Fork Tom

Folley and Susan Creek log placement sites are within critical habitat units (CHU-OR-53 and CHU-OR-27 respectively) for the northern spotted owl. Placement sites 1-12 at North Fork Tom Folley fall within suitable, unsurveyed marbled murrelet habitat in Zone 2 (35 - 50 mile zone). The North Fork Tom Folley log placement sites fall within critical habitat for the marbled murrelet (CHU-OR-04-G). There are no known bald eagle nests which could be affected by disturbance above ambient noise levels within 0.5 miles of any of the log placement sites. The nearest bald eagle site to North Fork Tom Folley is the Brads Creek site (approx. 8 miles) and the nearest bald eagle site to Susan Creek is the Huntley Creek site (approx. 11 miles). The remaining T&E species do not occur in the project area. There are no known sites of Bureau Sensitive or Bureau Assessment species within the project area.

## **Discussion of the Alternatives**

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

### **Alternative One – No Action**

Under this alternative, no instream habitat improvement or restoration of access to habitat would be conducted. Structures would not be added to North Fork Big Tom Folley Creek, Big Tom Folley Creek, and Susan Creek on Federally-managed land.

### **Alternative Two –Proposed Action**

The portion of North Fork Big Tom Folley Creek proposed for instream restoration is approximately one and a half mile in length, 0.75 mile on Big Tom Folley Creek, and approximately 0.25 mile of Susan Creek. Lands adjacent to North Fork Big Tom Folley Creek in Section 35 and Susan Creek in Section 14 are under BLM administration. North Fork Big Tom Folley Creek is within Late-Successional Reserves (LSR), while Susan Creek is within Riparian Reserve.

According to the Oregon Department of Fish and Wildlife, the desired number of key pieces of large instream wood stream is three or more per 100 meters, or approximately one piece per 100 feet of stream channel (Foster et al., 2001). Key pieces are defined by ODFW as being greater than 24 inches in diameter and greater than 32 feet long. Placement of a large number of key pieces of wood throughout the reach has a greater potential to beneficially alter reach-scale hydrology than placement of a few isolated structures (Keim et al., 2000).

The project would involve the placement of instream structures on Federally-managed lands at approximately 21 locations. The structures would consist of either single or multiple logs, boulders, or combinations of logs and boulders. The structures would be designed to allow for fish passage. The number of structures would approximate “desirable” numbers found in least-impaired reference streams. Logs used for structures would be provided by trees 18-30 inches in diameter at breast height (DBH). Key Logs would be at least 40 feet long, or approximately twice the bankfull stream width. Boulders would average one and a half to two cubic yards in size. To the extent practicable, structures would be placed to interact with the channel during low as well as high stream flows. Some structures may be placed to encourage the creation of off-channel habitat. Large structures would not be placed in severely incised areas with a potential for severe bank erosion.

In order to keep key pieces in place, structures would be placed off of the bank, or weighted down by other logs, so that their mass would overcome buoyancy forces at flood flows. Structures would be designed to remain in place and function for 25-50 years, to be eventually replaced by the natural recruitment of large wood from adjacent riparian and upstream areas.

Boulder structures would be installed with an excavator. Log structures would be installed using an excavator, where practical. Eleven temporary access points on North Fork Big Tom Folley Creek and two on Susan Creek, 50-500 feet in length, have been identified. These would be blocked to any vehicular access following structure placement. Where access for an excavator is not available, logs would be winched into place and positioned with cable and blocks.

All instream work would implement appropriate Best Management Practices contained in Appendix D of the ROD/RMP (USDI 1995b) and Reasonable and Prudent Measure 2 found in the October 18, 2002 Programmatic Biological and Conference Opinion with NOAA Fisheries (USDC, October 18, 2002). Instream work would be conducted under *Oregon Guidelines for Timing of In-Water Work to Protect Fish and Wildlife Resources* published by the Oregon Department of Fish and Wildlife (ODFW 1997).

### **Environmental Impacts of the No Action**

The No Action Alternative is required by NEPA and provides a baseline for the comparison of the alternatives. This alternative represents the existing condition. In the absence of action, current deficits in amounts of large woody debris would persist in North Fork Big Tom Folley Creek and Susan Creek. Present conditions would only provide moderate amounts of habitat for spawning and rearing of salmonids. The stream channel would continue to incise in areas where bedrock is not currently the dominant substrate, further reducing available spawning habitat and floodplain access. Stream energy and velocity would remain high during periods of high flows, increasing scour rates and not allowing for deposition of gravels.

### **Environmental Impacts of the Proposed Action**

#### 1. Description of Potential Impacts

Analysis considers the *direct impacts* (effects caused by the action and occurring at the same place and time), *indirect impacts* (effects caused by the action but occurring later in time and farther removed in distance) and *cumulative impacts* (effects of the action when added to other past, present and reasonably foreseeable future actions) on the resource values.

**Cultural** - No impacts to cultural resources would occur. Equipment access and log placement locations along Susan Creek would be designed so as to avoid impacts to archaeological site 35DO100.

**Hydrology and Fisheries** - Instream habitat restoration would include large wood and/or boulder placements. Placing structure in streams effects channel morphology, the routing and storage of water and sediment, and provides structure and complexity to stream systems. Effects of large wood in streams have been well documented. Large wood is often the most important pool-forming agent

in smaller streams, (Bisson et al., 1987); it stores gravel, fine sediment, and organic matter (Beschta, 1979); and it dissipates the energy of flowing water (Heede, 1976). The use of boulder clusters with large wood placement would help hold log structures in place and provide additional structure. The results of wood and boulder placement would improve habitat conditions for aquatic species including coho salmon and terrestrial organisms in those areas that were previously simplified by stream clean out activities.

Instream restoration projects have been implemented within the Upper Smith River Watershed of the Swiftwater Resource Area. Monitoring data has shown measurable changes to stream geomorphology two years after log placement. Surveys were done in 1998 immediately following the placement of eighteen logs along a 2500-foot segment of the South Fork Smith River. Surveys were repeated on the same segment of stream in 2000. Survey data found that after two years, stream length increased by four percent (implies increased stream sinuosity), bankfull cross-sectional area has decreased by 13 percent (implies a decrease in width to depth ratio), the area of channel dominated by gravel has increased by 105 percent and the area in sand has increased by 26 percent. Other observed improvements include increased side channel development and improved flood plain connectivity. These results indicate this reach of stream now has more complexity and improved aquatic habitat conditions as a result of large wood placement. Effects of proposed large wood placement in the Elk Creek and Middle North Umpqua Watersheds are expected to be similar to the results observed in Upper Smith River.

It is likely that there would be some immediate sedimentation downstream of the projects (direct impact) due to the disturbance at the sites; however, the project design criteria to control sediment would minimize these effects. An additional influx of sediment may occur following the first rain events, but this sedimentation is not expected to disrupt the feeding or reproduction of fish communities. Some riparian vegetation at the project sites would be removed and/or disturbed during construction, but the impacts would be limited to instream access points. These effects are expected to have a negligible impact on stream shade, streambank stability, or water quality. Potential increases in sedimentation and stream temperature would be offset by increased sediment storage capacity and deeper pool areas within the treated stream channels.

Major downstream movement of logs is unlikely and potential risk to property, bridges, or culverts is low due to adherence to ODFW guidelines for placing large wood in streams.

Although there would be minor impacts to special status fish species, a Programmatic Biological Opinion was issued from the National Marine Fisheries Service approving projects of the type proposed, due to the long-term benefits to fish and their habitat. The benefits and effects of the Proposed Actions on waters and substrates necessary to fish and fish habitat described above also pertain to Essential Fish Habitat.

**Wildlife** - Since there are no known northern spotted owl sites within 65 yards or bald eagles within 0.5 miles of the proposed log placement sites, incidental take due to noise/visual disturbance is not expected to occur. Therefore, seasonal restrictions for northern spotted owls or bald eagles are not currently necessary.

There are potential direct effects to marbled murrelets due to disturbance from the use of heavy equipment within 100 yards of suitable, unsurveyed habitat. In order to mitigate potential disturbance effects to nesting murrelets within Zone 2, it is recommended that daily operating restrictions (DOR) be applied from April 1<sup>st</sup> through August 5<sup>th</sup>. The DOR requires that projects only operate between two hours after sunrise and two hours before sunset.

No indirect effects from this action are foreseen.

2. Cumulative Impacts Analysis

**Botanical** - An increase in the abundance of noxious weeds could occur within the project areas.

**Hydrology** – At the fifth-field watershed scale, the scope of this project is too small to significantly alter current watershed functions. Over time, as other restoration projects are implemented, log and boulder placement would increase channel complexity, dissipate stream energy, promote pool formation and improve sediment storage capacity. Water and sediment routing would be improved which will benefit aquatic habitat and water quality.

**Fisheries** - Survival and reproduction opportunities would be improved over the long-term for fish species, and combined with other management strategies, populations of sensitive species could increase. Fish species would have the increased ability to withstand natural events (such as floods and drought) that can lead to population declines because of their ability to migrate into more desirable habitats. Approximately 2.5 miles of habitat would be enhanced for anadromous fish species.

**Wildlife** - No cumulative effects are anticipated.

3. Critical Elements of the Human Environment

“Critical Elements of the Human Environment” is a list of elements specified in BLM Handbook H-1790-1 that must be considered in all EA’s. These are elements of the human environment subject to requirements specified in statute, regulation, or executive order. These elements have been analyzed for potential effects and are as follows:

<u>Critical Elements</u>	<u>Potentially Affected</u>	
	<u>No</u>	<u>Yes</u>
Air Quality	X	
ACEC	X	
Cultural Resources		X
Environmental Justice	X	
Farmlands, Prime/Unique	X	
Floodplains	X	
Invasive and Nonnative Species		X
Nat. Amer. Religious Concerns	X	
T & E Species		X
Waste, Hazardous/Solid	X	
Water Quality, Drinking / Ground	X	
Wetlands/Riparian Zones	X	
Wild and Scenic Rivers	X	
Wilderness	X	

**Cultural Resources -**

Equipment access and log placement locations along Susan Creek would be located away from archaeological sites.

**Invasive and Nonnative Plant Species -**

An increase in the abundance of noxious weeds could occur within the project areas. Project Design Criteria #3 and #4 (Appendix C) are recommended during project implementation to control or prevent the spread of noxious weeds. Prudent application of these measures would likely control or prevent the spread of noxious weeds within the project areas.

**T & E Species -**

Terrestrial Species – Daily operating restrictions for marbled murrelets included in the design of this project are expected to alleviate potential disturbance effects resulting from the use of heavy equipment.

Aquatic Species - Suspended sediment can result in direct or indirect mortality by impairing foraging, growth, and respiration (Waters, 1995). Fine sediment in the stream can also accumulate in pools, decreasing available rearing habitat, and can fill in gravel beds reducing the quality of spawning habitat (Waters, 1995). Increases in suspended sediment would likely occur in the fall as flow increases and begin to mobilize fine sediment. Juvenile and adult coho are expected to be present in the stream during the elevated levels of suspended sediment. Sediment increases within the Elk Creek watershed may affect fish and fish habitat at the project site and up to 500 feet downstream of the confluence of North Fork Big Tom Folley and Big Tom Folley for up to a year following project implementation. Sediment increases within the Middle North Umpqua watershed may affect fish and fish habitat at the project site and up to 100 feet downstream of the confluence of Susan Creek and the North Umpqua River.

As a consequence, the proposed alternative would be considered a “may affect, likely to adversely affect” determination for OC coho salmon. These activities are consistent with those described in the *Programmatic Biological and Conference Opinion for Programmatic Activities Affecting SONC Coho Salmon, OC Coho Salmon, and OC Steelhead* (USDC, October 18, 2002a) and would not require additional formal consultation with NOAA Fisheries.

**Essential Fish Habitat –**

The effects of the Proposed Action on Essential Fish Habitat would result as a consequence of temporary and localized sedimentation in North Fork Big Tom Folley Creek and Big Tom Folley Creek in the Elk Creek watershed and Susan Creek and North Umpqua River in the Middle North Umpqua Watershed. This sediment could result in short-term degradation of spawning substrates and would adversely affect EFH for coho and chinook salmon on a temporary basis. This is also consistent with the *Programmatic Biological and Conference Opinion for Programmatic Activities Affecting SONC Coho Salmon, OC Coho Salmon, and OC Steelhead* (USDC, October 18, 2002).



**Description of Mitigation Measures and Residual Impacts**

No residual impacts are expected with the implementation of the Proposed Action and associated Project Design Criteria; therefore no mitigating measures are necessary to lessen impacts below certain thresholds.

**Agencies, Persons, and Permittees Consulted**

**US Fish and Wildlife Service**

The Roseburg District’s consultation for T&E wildlife species is covered under the *Formal Consultation and Written Concurrence on FY 2003-2008 Management Activities (Ref. # 1-15-03-F-160)* (Feb. 21, 2003) which concluded that the project would “. . . not likely to jeopardize the continued existence of the spotted owl, murrelet and bald eagle, and are not likely to adversely modify spotted owl or murrelet critical habitat . . .”.

**National Oceanic and Atmospheric Administration (NOAA - fisheries)**

The elements of this action are covered the *Programmatic Biological and Conference Opinion* (Oct. 18, 2002). The Biological Opinion (BO) concluded that the project “. . . is not likely to jeopardize the continued existence of . . . OC coho salmon, or OC steelhead”. . .” In addition, the proposed activities were analyzed for, and determined to not adversely affect Essential Fisheries Habitat (EFH).

**State Historic Preservation Office**

National Historic Preservation Act (Section 106) responsibilities under the 1997 National Programmatic Agreement and the 1998 Oregon Protocol have been completed. No consultation with the State Historical Preservation Office (SHPO) was required.

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June 21, 2004

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## CRITICAL ELEMENTS OF THE HUMAN ENVIRONMENT

The following elements of the human environment are subject to requirements specified in statute, regulation, or executive order (BLM NEPA Handbook, Appendix 5). These resources or values are either not present or would not be affected by the Proposed Actions or alternatives, unless otherwise described in this EA. This negative declaration is documented below by individuals who assisted in the preparation of this analysis.

<b>Element</b>	<b>Responsible Position</b>	<b>Initials</b>	<b>Date</b>	<b>Remarks</b>
Air Quality	Fuels Management Specialist			Possible minimal localized dust at project site
Areas of Critical Environmental Concern	Environmental Specialist			Project is not within or near an ACEC.
Cultural Resources	Archeologist			Not affected
Environmental Justice	Environmental Specialist			No disproportionate use by Native Americans, minorities or low-income populations.
Farm Lands (prime or unique)	Soil Scientist			“No discernable effects are anticipated” (PRMP pg. 1-7)
Flood Plains	Hydrologist			No adverse effects
Invasive Nonnative Species	Natural Resource Specialist - Botany			Mitigation measures would control or prevent the spread of noxious weeds
Native American Religious Concerns	Environmental Specialist			No concerns were noted from public contact
T&E Terrestrial Species	Wildlife Biologist			PDC’s would mitigate effects
T&E Plant Species	Natural Resource Specialist - Botany			PDC’s would mitigate effects
T&E Aquatic Species	Fisheries Biologist			PDC’s would mitigate effects
Hazardous/Solid Wastes	Area Hazardous Materials Coordinator			Applicable Haz Mat policies would be in effect.
Water Quality Drinking/Ground Water	Hydrologist			No adverse effects
Wetlands/Riparian Zones	Hydrologist			No adverse effects
Wild and Scenic Rivers	Recreation Planner			Project is not within or does not affect scenic river corridor
Wilderness	Recreation Planner			Project is not within a wilderness study area.

The following items are not considered a Critical Element but have been cited by regulation or executive order as an item warranting consideration in NEPA documents:

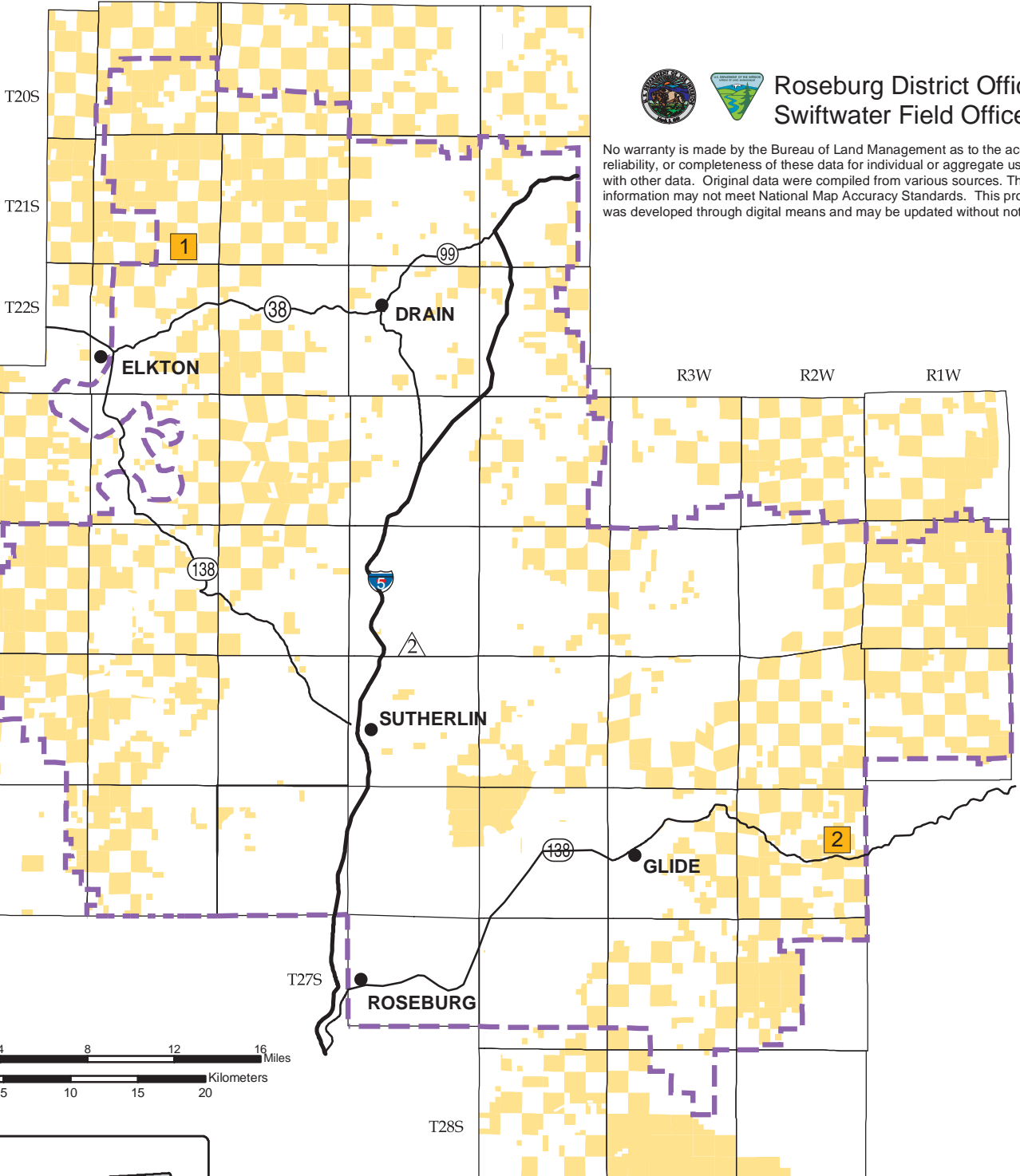
**Healthy Lands Initiative** - This project would not violate this initiative the Healthy Lands Initiative in that this project would be in compliance with the RMP which has been determined to be consistent with the standards and guidelines for healthy lands (43 CFR 4180.1) at the land use plan scale and associated time lines.

**Adverse Energy** - Executive Order 13212 provides that all decisions made by the Bureau of Land Management will take into consideration adverse impacts on the President's National Energy Policy. This project would not have a direct or indirect adverse impact on energy development, production, supply, and/or distribution and therefore would not adversely affect the President's National Energy Policy.

**Indian Trust Resources** - Secretarial Order No. 3175 (November 8, 1993) requires that any significant impact to Indian Trust resources be identified and addressed in NEPA documents. There are no known Indian Trust resources on the Roseburg District therefore this project is expected to have no impacts to these resources.

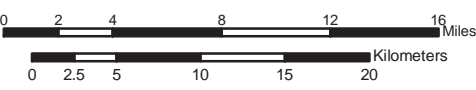
# Appendix A Vicinity Map

R8W R7W R6W R5W R4W



Roseburg District Office  
Swiftwater Field Office

No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were 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.



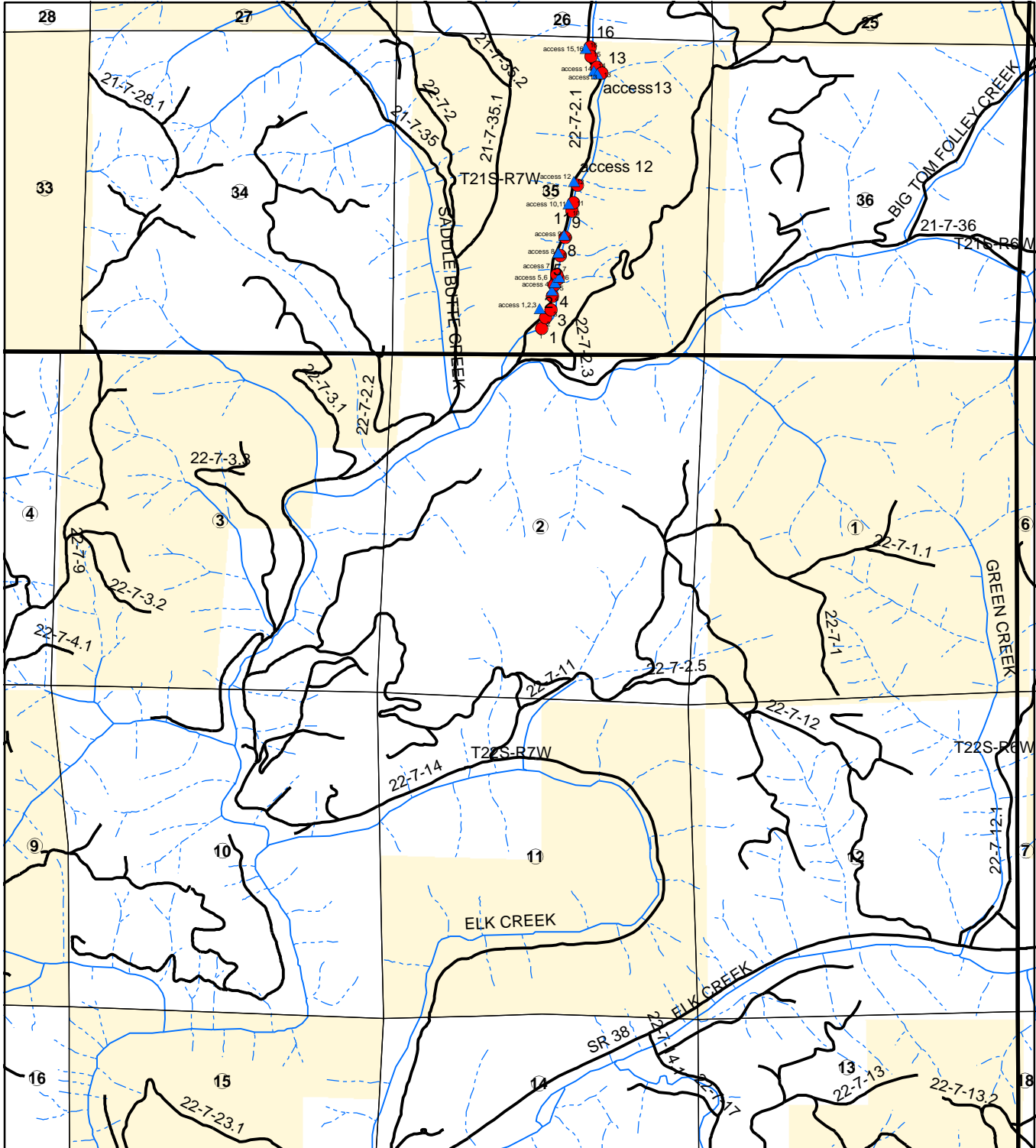
### Legend

- Swiftwater RA Boundary
- Interstate Highway
- Oregon Highway
- Towns
- BLM Lands
- 1 Project Area - North Fork Tom Folley Creek
- 2 Project Area - Susan Creek



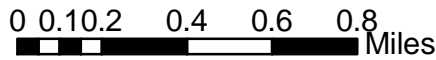
# Appendix B: Project Location Map

## North Fork Tom Folley Swiftwater 2004 Instream Restoration Project



### Legend

- ▲ tom\_folley\_access
- structures
- BLM ROADS
- - - - - INTERMITTENT STREAMS
- PERENNIAL STREAMS
- BLM ADMINISTERED LANDS



1 inch equals 0.451632 miles

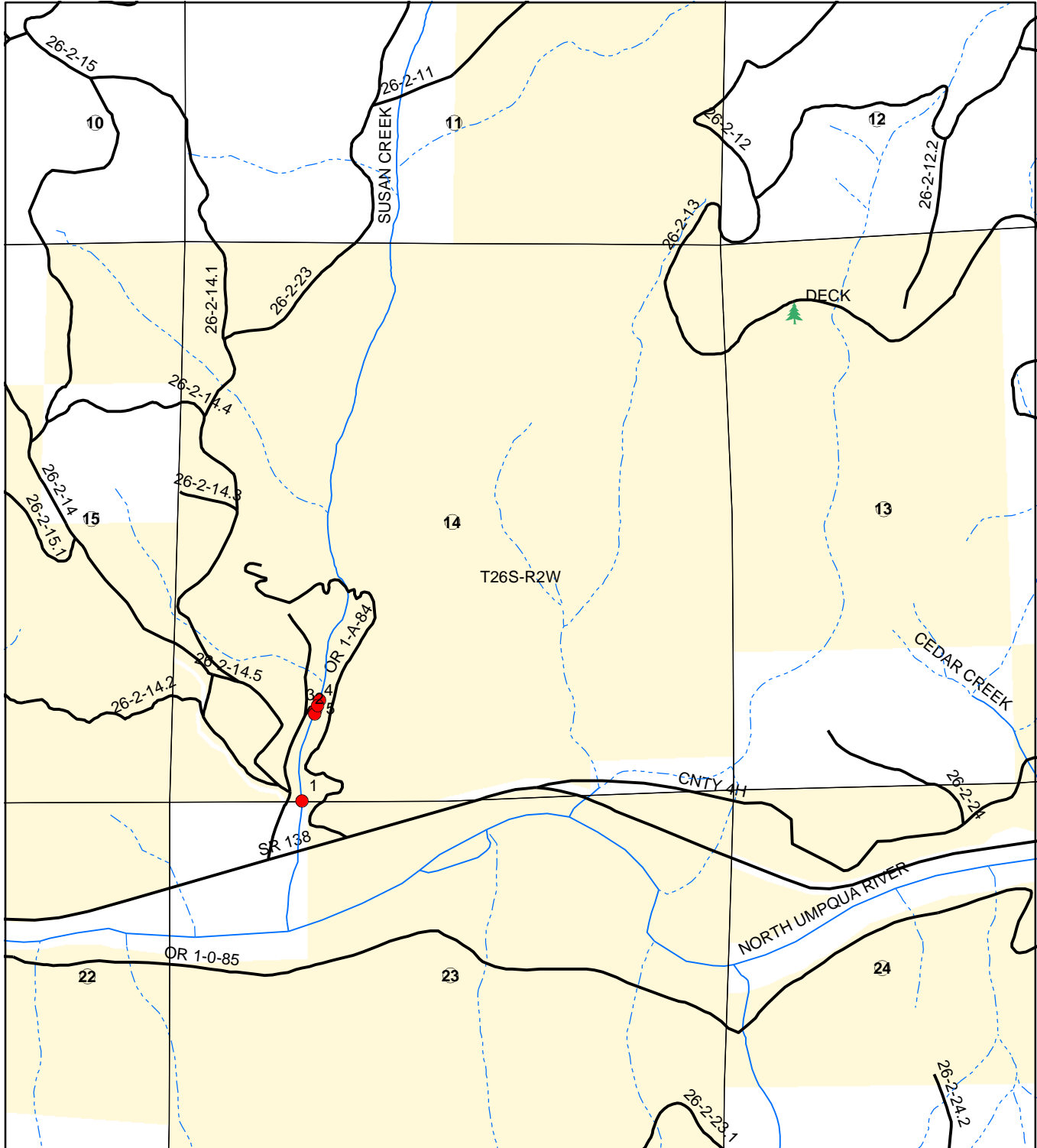
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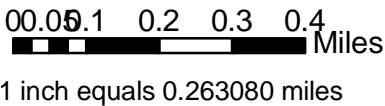
# Appendix B: Project Location Map

## Susan Creek Swiftwater 2004 Instream Restoration Project



### Legend

- susan creek log placements
- 🌲 deck
- BLM ROADS
- - - - - INTERMITTENT STREAMS
- PERENNIAL STREAMS
- BLM ADMINISTERED LANDS



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## APPENDIX C

### Project Design Criteria

The following Project Design Criteria are included as part of the proposed project. These criteria are the result of the application Best Management Practices outlined in Appendix D of the RMP (pg. 129) specific to this project, as well as Terms and Conditions outlined in past consultations with regulatory agencies:

1. In order to mitigate potential disturbance effects to nesting murrelets within Zone 2, it is recommended that daily operating restrictions (DOR) be applied from April 1<sup>st</sup> through August 5<sup>th</sup> for log placement sites 1-12 at North Fork Tom Folley. The DOR requires that projects only operate between two hours after sunrise and two hours before sunset.
2. Potential impacts to stream ecology would be accomplished by limiting in-stream work (i.e. log and boulder placement) to periods of low stream flow (between July 1 and September 15). In-stream work could be temporarily suspended if significant storm events occur during this period.
3. Prior to initial move-in, construction equipment would be steam cleaned or pressure washed to remove soil and vegetative material from the equipment to avoid the spread of noxious weeds (RMP, pg. 74; BLM Manual 9015 - Integrated Weed Management).
4. All disturbed surfaces would be seeded and/or planted with native grass species or a sterile hybrid mix depending on availability after project completion to stabilize exposed soils and prevent erosion and sedimentation. Additionally, all disturbed surfaces would be mulched with native grass hay or weed-free straw. If available, large logs would be added to block the access ways within the Riparian Reserve and to serve as coarse woody debris.
5. Special Status Species (plant and animal) sites would be protected according to established BLM Manual 6840 guidelines. If, during implementation of the Proposed Action, any Special Status Species (e.g. Threatened or Endangered, proposed Threatened or Endangered, State Listed, Bureau Sensitive or Bureau Assessment) are found, evaluation for the appropriate type of mitigation needed for each species would be performed. Stipulations would be placed in the contract to halt operations if any of these Special Status Species are found, and time would be allowed to determine adequate protective measures before operations could resume.
6. Stipulations would be placed in the contract to halt operations and evaluate the appropriate type of mitigation needed to provide adequate protection if any objects of cultural value (e.g. historical or prehistorical ruins, graves, fossils or artifacts) are found during the implementation of the Proposed Action.
7. Hazardous materials (particularly petroleum products) would be stored in durable containers and located so that any accidental spill would be contained. All work site trash and materials would be removed. All equipment planned for instream work would be inspected beforehand for leaks. Accidental spills or discovery of the dumping of any hazardous materials would be reported to the Contracting Officer and the procedures outlined in the "Roseburg District Hazardous Materials (HAZMAT) Emergency Response Contingency Plan" would be followed.