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# **Environmental Assessment**

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## **Round Meadows Trail Reroute**

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Umatilla National Forest  
Umatilla County, Oregon**

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## CHAPTER 1 – PURPOSE AND NEED

### BACKGROUND

The Round Meadows Trail (#3155) is part of the Winom-Frazier Off-Highway Vehicle (OHV) complex. This complex consists of approximately 130 miles of motorized trails that offer a variety of difficulty levels for Class I (4-wheelers) and Class III (motorcycles) use. The Round Meadows Trail is located within the South Fork-Tower Inventoried Roadless Area, approximately 11 air miles southeast of Ukiah, Oregon, in Umatilla County, Oregon at T6S, R33E, sections 14, 15, and 22 (Appendix C - Figure 1 and Figure 2). It is rated as an “easy” level trail for Class I and III ATVs and is part of an “easy” loop<sup>1</sup> that is popular with both novice and experienced riders. Two segments of the Round Meadows Trail have required increased maintenance over the last few years, mainly for erosion control. The original design and layout of this trail, along with the 1996 Tower Fire, have resulted in the erosion of hillsides and siltation in South Fork Cable Creek. These changes have resulted in threats to anadromous and resident fish habitat.

In 1996, the 50,800-acre Tower Fire burned at high intensity through the Round Meadows Trail Reroute project area. Maintenance problems intensified after the fire due to falling dead trees and the loss of vegetation and woody material on the forest floor that had served to control runoff and hold soil in place. In the spring of 1997, an intense thunderstorm caused major damage to the trails in this area, washing out four bridges and causing some rutting throughout the Tower Fire area. The Round Meadows Trail received much of this damage. Following these two events, heavy maintenance was performed on the trail. This maintenance included installation of erosion control devices and minor trail realignment. Meanwhile, use of the trail and its associated loop increased.

In the summer of 2000, another thunderstorm caused additional damage to the trail. Severe gulying occurred on a steep portion of trail adjacent to South Fork Cable Creek, and a large amount of soil was deposited into the creek. This creek contains populations of both resident and anadromous fish, including Threatened steelhead (*Oncorhynchus mykiss*), that could be harmed by continued sediment deposition. The gulying is so severe that the trail is not repairable in its current location. Without corrective action, soil erosion will continue to occur on the trail, moving soil into the creek and deteriorating fish habitat.

### PURPOSE OF AND NEED FOR ACTION

The Umatilla National Forest Land and Resource Management Plan (Forest Plan), as amended, recognizes the following forest management goals (pp. 4-1 – 4-3):

- To provide land and resource management that achieves a more healthy and productive forest and assists in supplying lands, resources, uses, and values which meet local, regional and national social and economic needs

<sup>1</sup> Other trails included in this loop are the Whoop-De-Do (#3045), Cut-Across (#3158) and the Tower Loop (#3040) trails. In addition, the Roundaway (#3046), River (#3043), Cable Creek (#3152) and Short Cable (#3124) trails tie into this loop.

- To provide for a broad spectrum of recreation opportunities and experiences and a variety of recreation settings on the National Forest for Forest recreationists
- To provide and maintain a diverse, well-distributed pattern of fish habitats to assist in doubling anadromous runs in the Columbia River Basin (by the year 2000) in cooperation with Native American tribes, states, and other agencies
- To manage Forest resources to protect all existing beneficial uses of water and to meet or exceed all applicable state and Federal water quality standards

Current conditions, as described in the introduction, are preventing achievement of these goals. In order to improve water quality and fish habitat in South Fork Cable Creek, the District Ranger has identified the following needs:

- Reduce the amount of sediment entering the creek from the Round Meadows Trail
- Preserve the OHV recreation experience on this popular trail
- Maintain or improve OHV user safety

These goals mirror the management goals stated in the Forest Plan and will promote the recreational use of the Round Meadows Trail and its connected system in ways more compatible with the Plan's desired future conditions for the associated management areas.

## PROPOSED ACTION

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The North Fork John Day Ranger District proposes to reroute two segments of the Round Meadows Trail. Appendix C contains a map of the two trail segments and their proposed reroutes (Figure 3).

- **Reroute A** is 1.1 miles long and would provide an alternative route through a more stable, ridge-top area before rejoining the original trail. The original 1.1-mile route (Segment #1) would remain open to provide a short, easy loop and to disperse use.
- **Reroute B** is 0.5 miles long and would incorporate several climbing turns to prevent further gulying, which would eliminate the steep climb out of South Fork Cable Creek. The two existing bridges over the creek would be removed and two new bridges would be built upstream at a higher, more stable location. The original 0.3-mile route (Segment #2—a very difficult segment of an otherwise easy trail) would be decommissioned. The eroded gully would be rehabilitated with a series of grade control structures and seeding with native plants.

These reroutes have been designed to provide a safe trail for the OHV rider and to prevent additional damage to the surrounding landscape. The rerouting of the trail would add 1.3 miles to the existing length of the Round Meadows Trail, resulting in a total trail length of 8.1 miles.

## MANAGEMENT DIRECTION

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This Environmental Assessment (EA) process and documentation has been done according to direction contained in the *National Forest Management Act*, the *National Environmental Policy Act*, the *Council on Environmental Quality regulations*, *Clean Water Act*, and the *Endangered Species Act*. This EA is tiered to the *Umatilla National Forest Land and Resource Management Plan FEIS, Record of Decision*, and the accompanying *Land and Resource Management Plan (Forest Plan)*, dated June 11, 1990. The Forest Plan contains direction in how to manage lands that are part of the Umatilla National Forest, particularly standards and guidelines designed to protect environmental resources (see below for standards applicable to this project). This EA is also tiered to the clarifying direction of Plan Amendment #10 *The Interim Strategies for Managing Anadromous Fish-producing Watersheds in Eastern Oregon and Washington, Idaho, and Portions of California (PACFISH)* dated February 24, 1995. PACFISH includes objectives and direction to project ocean-migrating fish and habitat that occurs on the Umatilla National Forest. Finally, the EA is tiered to the *Managing Competing and Unwanted Vegetation FEIS*, its *Mediated Agreement*, and *Record of Decision* dated December 8, 1988. This EIS relates to the use of herbicides and other control or preventative measures related to silvicultural practices or noxious weeds.

This EA incorporates by reference the Environmental Assessment for the Management of Noxious Weeds and Decision Notice dated May 24, 1995. This is a more site-specific application of the *Managing Competing and Unwanted Vegetation FEIS*, its *Mediated Agreement* and lists preventative measures and mitigation to be used in site-specific projects. Also incorporated by reference is the *Camas Off-Highway Vehicle Trail Complex Environmental Assessment and Decision Notice* (April 1995) and the *North Fork John Day Motorized Access and Travel Management Program Environmental Assessment and Decision Notice* (June 5, 1990). These documents discuss specifically the goals for motorized trail access and site-specific details pertaining to the Winom-Frazier OHV Complex. In addition, the project analysis file, including specialist reports, is incorporated by reference. This includes references to other sources of information, documents, published studies, and books.

The Forest Plan identifies the type and intensity of management that may occur on Umatilla National Forest lands through the allocation and designation of “management areas.” Management areas for the Round Meadows analysis area are summarized in Table 1 and a map is located in Appendix C (Figure 4). The proposed action would occur within only two of the listed management areas:

- A3-Viewshed 1 (associated with Forest Road 52, a section of the Blue Mountain Scenic Byway)
- C7-Special Fish Management Area

**Table 1.** Analysis Area Ownership and Management Classifications

<u>Ownership</u>	<u>Acres</u>	<u>%</u>	<u>Forest Plan Management Areas</u>	<u>Acres</u>
Forest Service	17026	93	A3 – Viewshed 1	683
			A6 – Developed Recreation	85
			B1 – Wilderness	100
			C1 – Dedicated Old Growth	622
			C3 – Big Game Winter Range	525
			C4 – Wildlife Habitat	4
			C7 – Special Fish Management Area	15,007
Bureau of Land Mgt.	890	5		
Private	403	2		
<b>Total Analysis Area</b>	<b>18,319</b>			

## GOALS, STANDARDS, AND GUIDELINES

Prescriptions for the administration of the Round Meadows Trail Reroute project area will follow the goals, standards, and guidelines for the A3 and C7 management areas as defined in the Forest Plan:

**A3-Viewshed 1:** The goal is to manage the area seen from a primary travel route, use area, or water body, where forest visitors have a major concern for the scenic qualities (Sensitivity Level 1) as a natural appearing landscape. Standards and guidelines state that recreation design, construction, and maintenance, including trails and trailheads, must meet the visual quality objective assigned to the area and blend with the natural landscape. Opportunities provided should be mostly road-oriented. Off-highway vehicle use is allowed, but may be limited to designated roads, trails, and areas.

**C7-Special Fish Management Area:** The goal is to maintain and enhance water quality and produce high levels of anadromous fish habitat on an area-wide basis. Standards and guidelines state that recreation developments should provide the opportunity for road-oriented, walk-in, and horseback activities. Motorized access may be limited to designated roads, trails, and areas. Trail and associated facility construction, reconstruction, and maintenance are permitted as long as consistent with water quality and anadromous fish habitat objectives. Off-highway vehicle use is permitted and will be managed to meet management area goals and to prevent unacceptable damage to anadromous fish habitat and associated riparian soils and vegetation.

## DESIRED FUTURE CONDITIONS

The Forest Plan describes the desired future conditions for each management area that serve as a guide to what the forest should look like at the end of 10 years and at the end of 50 years, given full implementation of the Forest Plan direction.

**A3 – Viewshed 1:** *“Viewsheds will be managed primarily to meet the visual quality objectives of retention and partial retention<sup>2</sup>. An attractive, natural*

<sup>2</sup> “Retention” and “partial retention” refer to the “measure of the integrity of the landscape, or degree to which a landscape is visually perceived to be ‘complete’...” Retention refers to landscapes where the valued landscape

*appearing landscape will be created or maintained...Management activities will be done with the highest sensitivity to people's concern for scenic quality. Vegetative manipulation will be conducted so that Forest management activities are not usually noticeable in the foreground and remain visually subordinate in the middle ground viewing area...Recreational opportunities will be mostly road-oriented" (Forest Plan pages 4-99 to 4-100).*

**C7 – Special Fish Management Area:** *"In riparian areas, a natural to near natural setting...will predominate, with a variety of plant communities, sizes, and age classes. A high tree canopy layer will be present, and the forest will appear denser than surrounding areas. Forest canopy of conifers and hardwoods will provide desired levels of stream surface shading and long-term supply of large woody material for instream fish habitat and snags. Vegetation will contribute to stable streambanks and complex fish habitat along the banks...As a result of management, anadromous fish recovery and long-term population goals will be met" (Forest Plan page 4-167).*

## SCOPING PROCESS

Scoping is the process the Forest Service uses to identify potential concerns (or "issues") associated with the proposed action, develop alternatives to the proposed action, and determine the extent of environmental analysis necessary for reaching an informed decision.

Scoping for the Round Meadows Trail Reroute project was initiated when this proposal was listed in the Winter 2002 quarterly issue of the Umatilla National Forest Schedule of Proposed Activities; Round Meadows has been listed in every quarterly issue since then. Further scoping was conducted through a letter (March 5, 2002) to 75 interested organizations, individuals, and other agencies, a separate letter to the Confederated Warm Springs and Confederated Umatilla tribes (dated March 19, 2002), as well as internal consultation with agency specialists at the District and Forest headquarters. Scoping resulted in a response letter from one organization-Blue Mountain Biodiversity Project. They believe OHV use of public lands is *"an ecologically/scientifically unsupportable use (abuse) of natural public ecosystems."* They asked a number of questions regarding details of the project and are particularly concerned about abuse of the trail system. To the extent that information was available, these questions were answered in the EA. Blue Mountain Biodiversity Project recommended *"If an area is to be re-routed, it is a necessity that the former route be effectively and enforceably closed and restored (as well as monitored)."* This proposal is reflected in Alternative 1 and complete closure of the trail is discussed in Chapter 2 under "Alternatives dropped from Consideration."

The EA was sent out for 30-day public review on December 18, 2002, with letters to the Confederated Warm Springs and Confederated Umatilla tribes the following day. A notice was posted in the East Oregonian, legal newspaper of record for this area,

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character appears intact. Deviations may be present, but must repeat the form, line, color, texture, and pattern common to the landscape character so completely and at such scale that they are not evident. Partial retention refers to landscapes where the valued landscape character appears slightly altered" (USDA, 1995, pp. 2-3 – 2-4)

on December 21, 2002. One comment was received in response from the Cultural Resources Department of the Confederated Tribes of the Warm Springs Reservation, asking to be notified if an archaeological resources are encountered during ground disturbing activity associated with this project. This has been added to the mitigation section in Chapter 2.

## **KEY ISSUES**

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Public comments and internal concerns generated two key issues. Key issues are defined as resource or other values that drive the development of an alternative to the proposed action, may be adversely affected by the proposed action, or are “unresolved conflicts regarding alternative uses of available resources” [NEPA sec. 102(2)(E)]. These issues provide the focus of the analysis and are used in defining the alternatives. These issues were used to develop alternatives to the proposed action (described in Chapter 2) and to analyze the environmental effects of implementing each alternative (Chapter 3).

### **ROUND MEADOWS TRAIL MAINTENANCE**

Currently maintenance of Segment #2 will cost an estimated \$2,500 every two years (which would be \$4,167 per mile per year), while District-wide trail maintenance costs normally average approximately \$400 per mile per year. The proposed action would improve the existing trail conditions which would reduce maintenance costs on segment #2, but it would also add 1.3 miles of trail needing maintenance. This could potentially expose more area to soil instability and increase maintenance costs.

The measurements used to compare the result of each alternative in response to this issue are “miles of trail requiring maintenance” and “estimated annual trail maintenance cost.”

### **BIG GAME DISTURBANCE**

The Tower Fire of 1996 burned with high severity in this area, killing much of the vegetation that would otherwise buffer animals from disturbance. The addition of 1.3 miles of trail would increase the road and trail density in the South Fork Cable Subwatershed (33C), potentially increasing the area where big game are disturbed by OHV activities and noise.

The measurement used to compare the result of each alternative in response to this issue is “road/motorized trail density in miles per square mile.”

## **TRACKING ISSUES**

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Tracking issues are issues that are not “key” to the development of alternatives, but are important in the context of the proposal or required by law or regulation to be discussed. These issues are generally of high interest or concern to the public or are necessary to understand the full extent of the alternatives.

**THREATENED, ENDANGERED, AND SENSITIVE SPECIES**

Trail construction and use by OHVs afterward could remove vegetation, increase sedimentation in South Fork Cable Creek, and disturb wildlife using the area. As a result, several Threatened, Endangered, and Sensitive fish, wildlife, or botanical species or their habitats could be affected by the proposed action.

**HERITAGE AND CULTURAL RESOURCES**

In general, the Blue Mountains have been traversed first by Native American tribes, and later by miners, stockmen, other pioneers, and Forest Service administrators. Evidence of their passing could be impacted by the proposed action.

**NOXIOUS WEEDS**

Exposure of mineral soil can promote the propagation and spread of noxious weeds. Noxious weeds from other locations can also adhere to the tires or undercarriage of an OHV and be spread to establish new populations. The soil disturbance and OHV activity associated with the proposed action could increase the spread of noxious weeds along the Round Meadow Trail.

**VISUAL QUALITY**

Portions of the Round Meadow Trail can be seen from the Blue Mountain Scenic Byway (both a state and nationally designated route) due to the loss of vegetative cover after the Tower Fire. Soil disturbance associated with the proposed action could result in more trail area visible from the Blue Mountain Scenic Byway. This could reduce visual quality along this portion of the byway.

**DECISION FRAMEWORK**

The District Ranger will serve as the deciding official for the Round Meadows Trail Reroute project. He will decide whether to implement one of the action alternatives or the no action alternative and his decision will be based on the following criteria:

- Length of OHV trail rerouted or supplemented to improve trail stability and to preserve the recreation experience
- OHV-user safety
- Protection of resources in the Round Meadows area, especially Canada lynx, steelhead, bull trout, Chinook salmon, and water quality

If implementation is chosen, the District Ranger will also determine which mitigation and monitoring measures are necessary.



## CHAPTER 2 - ALTERNATIVES

This chapter describes and compares the alternatives considered for the Round Meadows Trail Reroute project. This section also presents the alternatives in comparative form, defining the differences between each alternative to provide the decision-maker and public with a clear basis for choice.

### ALTERNATIVE DEVELOPMENT

The interdisciplinary team used the purpose and need statement and field reconnaissance to develop the **Proposed Action**. Trail reroutes were located and modifications were designed to avoid adverse changes in water quality or measurable effects on federally-listed fish or wildlife species. The **No Action** alternative was defined as no change from current management. In other words, the trail would remain in its current location and activities such as maintenance and use would continue. **Alternative 1** was developed to address concerns with the increase in miles of OHV trail that would occur under the Proposed Action. The tracking issues were addressed by either avoiding activities of concern or mitigating their effects. All of the alternatives are consistent with Forest Plan direction and Forest Service policy, and meet State and Federal laws and regulations.

### ALTERNATIVES DROPPED FROM CONSIDERATION

#### CLOSING THE TRAIL

This alternative was identified based on comments received during scoping, but was dropped from further consideration after the interdisciplinary team determined that it would not satisfy the purpose of and need for action (see Chapter 1). Closing the trail would not repair the existing gully and so would not reduce the amount of sediment entering South Fork Cable Creek from the Round Meadows Trail. Even if the gully were repaired, closing the trail would reduce OHV opportunities, particularly for the less-experienced riders. This trail is one of the main trails connecting the Winom and Frazier portions of the complex. Loss of this trail would eliminate a loop opportunity as well as access to five other trails. Closure would result in an overall decrease in the recreation experience associated with the Winom-Frazier OHV Complex.

### ALTERNATIVES STUDIED IN DETAIL

#### No Action

Under this alternative, the trail would remain in its existing location and condition. The gully on the north side of South Fork Cable Creek would not be repaired. Existing maintenance and use of the trail would continue (Appendix C - Figure 5.).

## PROPOSED ACTION

**Description:** This alternative would reroute two sections of trail, with decommissioning of the gullied portion of trail and repair of the gully. The existing trail section at Reroute A would remain open, providing a short, easy loop to disperse use. This would increase the total length of the Round Meadows Trail from the current 6.8 miles to 8.1 miles. Trail tread would be 50 inches wide and water control devices would be installed as necessary to prevent erosion. Some lodgepole pine saplings would be removed to make way for both reroutes, although no large green trees would be cut. Trail construction would be accomplished manually or by using a small tractor or backhoe (like a Kubota KX-41).

Reroute A: Build 1.1 miles of trail along a ridge to bypass much of the side-hill portion of the existing trail. The original route (Segment #1 – 1.1 miles) would remain open, providing a short loop for beginning riders.

Reroute B: Build 0.5 mile of trail and close 0.3 mile of the original route (Segment #2). This reroute would eliminate the existing steep climb out of South Fork Cable Creek with several climbing turns before rejoining the existing trail. Construct two new 25-foot bridges across South Fork Cable Creek upstream of the existing bridges on higher, more stable streambanks where the bridges would not impede a 100-year flood event. An 8-inch deep by 8-inch wide by 12-foot long trench would be dug along each bank, three to four feet away from the edge, to bury the sill<sup>3</sup> logs. Because the 1996 Tower Fire burned native, on-site materials, bridges would be constructed of poles or glue laminates. Dismantle the original bridges and, to the extent possible, reuse decking and other materials in construction of the new bridges, for erosion control on the trail, or for repair of the gully. Repair the gully by reshaping its sides to improve stability and installing stair-like structures across the gully to slow downhill water flow and trap eroded soil. Reestablish vegetation on the bare soil using native seed.

See the associated mitigation beginning on page 11 for a further description of project design and Appendix C for a map (Figure 3).

## ALTERNATIVE 1

**Description:** This alternative responds to the key issues of reducing wildlife disturbance and the cost of maintenance. The same two sections of trail would be rerouted, however both existing segments would be decommissioned. This alternative would increase the total length of the Round Meadows trail from 6.8 miles to 7.0 miles (Appendix C - Figure 6).

Reroute A: Build 1.1 miles of new trail along a ridge to replace the original route (Segment #1), which is steeper and requires more recurrent maintenance.

Reroute B: Build 0.5 mile of new trail and close the original route (Segment #2). Two new bridges would be constructed across South Fork Cable Creek and the eroded gully would be repaired as described in the Proposed Action.

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<sup>3</sup> The foundations or footings upon which the main bridge support members are located. Sills are used to support and distribute the weight of the bridge at each bank of the creek.

## MITIGATION AND MANAGEMENT REQUIREMENTS

Mitigation measures were developed to lessen some of the potential effects that the action alternatives could cause. These measures are:

- No live trees will be cut, except some lodgepole pine saplings that have grown on the proposed reroutes since the 1996 fire.
- All construction will be outside Riparian Habitat Conservation Areas except where the old bridges will be removed and the new bridges will be constructed.
- Bridge and trail work will not occur during May and June in order to avoid human disturbance during the elk calving period. Work in the stream will only occur from July 15 to August 31 (the in-stream work window) to reduce sediment and potential impacts on fish. No equipment will be used in the stream.
- Heavy bridge materials will be flown in by helicopter and all other bridge materials brought in by OHVs using the existing trail system and placed by hand (using block and tackle where necessary) to avoid soil and streambank disturbance.
- No treated wood will be used for any project components.
- A silt fence will be placed between the stream and sill construction on the new bridges to trap loose soil. Sediment traps will be placed below the current gully and in other locations as necessary. The traps will be cleaned out as needed and sediment will be transported outside the Riparian Habitat Conservation Area. Sediment traps will be monitored periodically during the spring and after any large storm. Traps will be removed once the disturbed areas have been successfully re-stabilized with vegetation.
- Displaced soil will be collected from existing bridge decking and used in repair of the gully or deposited outside of the Riparian Habitat Conservation Area. Existing sills will be left in place to avoid soil disturbance. Stringers<sup>4</sup> on the larger bridge will be cut on one end so they fall into the stream to function as large wood fish habitat. The stringers on the small bridge would be removed.
- Any spills of oil or hazardous substances during construction will be mitigated according to standards required by the Hazardous Substance Spill Plan for the District. No fueling will occur within Riparian Habitat Conservation Areas.
- Construction activities will avoid wet areas (creek, seeps, shallow depressions with standing water) where possible in order to protect spotted frogs and their habitat.
- Seeding of the gully and other disturbed areas will be done as needed using certified noxious weed-free, native seed to reduce the spread of noxious weeds and restore soil protection. A mulch of natural material will be used to protect and cover the bare soil and seed to increase soil stability.

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<sup>4</sup> The main bridge support beams that cross the creek and support the bridge decking.

- If any cultural resources are encountered during ground disturbing activity, work will cease until the Forest or Zone Archeologist can investigate and determine an appropriate process. Also, the Confederated Tribes of the Warm Springs Reservation will be notified.

## **MONITORING**

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An aquatics specialist will assist in layout of rerouted trail segments to ensure riparian areas and other unique habitats are protected as described in the mitigation section. Trail reroutes that do not meet mitigation requirements will be adjusted accordingly. This monitoring is considered essential.

An aquatics specialist will monitor the functioning of sediment traps until the conditions they were to mitigate have stabilized. This monitoring is considered essential.

An aquatics or soils specialist will visually spot monitor during and after gully restoration to ensure that the gully is adequately reshaped and soil erosion structures are effective. This monitoring is considered essential.

An aquatics specialist will monitor during and after activities to ensure that sediment is not entering the creek as a result of the project. If sediment does enter the creek, the aquatics specialist will identify immediate corrective action and document modifications to be used in future projects. This monitoring is considered essential.

The District noxious weed coordinator will inspect all activities during implementation to determine whether mitigation measures and project risk management plans are implemented as designed. Deviations will be corrected immediately. This monitoring is considered essential.

For five years after activities are completed, the District noxious weed coordinator or crew will conduct an annual inventory of the Round Meadows Trail Reroute project area and access routes to determine if existing noxious weed populations have spread or if new sites have occurred. Any noxious weeds found will be treated in accordance with the Umatilla National Forest Environmental Assessment on the Management of Noxious Weeds (1995). This monitoring is considered essential.

## **COMPARISON OF ALTERNATIVES**

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Under the No Action alternative, no rerouting would occur. While continued trail maintenance would somewhat address the gully next to South Fork Cable Creek, OHV riders would continue to create their own path up this steep slope, causing dispersed damage to vegetation and soils. As a result, sediment would continue to be deposited into South Fork Cable Creek, potentially affecting the resident and anadromous fish downstream. This alternative would result in fewer disturbances to terrestrial wildlife than either of the action alternatives. Maintenance costs for the standard sections of the trail would amount to an estimated \$400 per year (2001 dollars at \$400 per mile). However, maintenance costs for the substandard Segment #2 are estimated at approximately \$1,250 per year (2001 dollars at \$4,167 per mile).

Both action alternatives would construct two reroutes on the existing Round Meadows Trail to reduce soil instability and repair the gully. Either alternative would improve water quality and fish habitat in South Fork Cable Creek by reducing the amount of sediment entering the creek. While both action alternatives would also provide a quality recreation experience and improved safety, the Proposed Action would actually enhance the experience by providing a new short loop route. Beginning riders could take the gentler ridge segment (Reroute A) or try the more challenging side-hill segment (Segment #1). Use at Reroute A would be distributed between the two segments, reducing maintenance needs on the original segment (Segment #1). Table 2 illustrates the differences between the alternatives with regard to construction. Table 3 provides a summary of the effects of implementing each alternative with regard to the key issues.

**Table 2.** Round Meadows Trail Miles by Alternative

	<b>Alternative Proposed</b>		<b>1</b>
	<b>No Action</b>	<b>Action</b>	
Trail Miles Built			
Reroute A	0.0	1.1	1.1
Reroute B	0.0	0.5	0.5
<b>Total</b>	<b>0.0</b>	<b>1.6</b>	<b>1.6</b>
Trail Miles Closed			
Segment #1	0.0	0.0	1.1
Segment #2	0.0	0.3	0.3
<b>Total</b>	<b>0.0</b>	<b>0.3</b>	<b>1.4</b>
Change in Length of Trail (miles)	0.0	+1.3	+0.2
<b>Total Length of Round Meadows Trail (miles)</b>	<b>6.8</b>	<b>8.1</b>	<b>7.0</b>

Table 3. Comparison of the Alternatives Response to the Issues

<b>Measurement</b>	<b>Alternative Proposed</b>		<b>3</b>
	<b>No Action</b>	<b>Action</b>	
Trail Maintenance			
Estimated annual trail maintenance cost* (for the full length of trail)	\$3,850**	\$3,240	\$2,800
Big Game Disturbance			
Motorized trail and road density (miles/mile <sup>2</sup> )	1.5	1.7	1.5
*District-wide annual trail maintenance costs averaged \$400 per mile in 2002.			
**0.3 mile of the trail would require heavy annual maintenance at \$4,167 per mile.			



## CHAPTER 3 – ENVIRONMENTAL CONSEQUENCES

This section summarizes the physical, biological, social, and economic environments of the affected project area and the potential changes to those environments due to implementation of the alternatives. It also presents the scientific and analytical basis for the comparison of alternatives presented in Chapter 2.

### TRAIL MAINTENANCE

This section incorporates by reference the Round Meadows Reroute Recreation Existing Conditions and Effects of Alternatives to the OHV Trail Program reports contained in the project analysis file at the North Fork John Day Ranger District.

#### EXISTING CONDITION

The 6.8-mile long Round Meadows Trail has been rated as an “easy” trail, which makes it popular with beginning and moderate riders. However, the trail is used by more experienced riders because of its scenic views, historical aspect, and as a main connection between the north and south halves of the Winom-Frazier OHV Complex. For the less experienced rider, a difficult portion of trail exists where the gully is located (Segment #2), creating a “most difficult” section of trail.

Segment #1 of the Round Meadows Trail traverses the side of the hill and, as a result, has always required some maintenance. However, the 1996 Tower Fire amplified the problems. Immediately after the fire, numerous log waterbars were installed throughout the OHV complex as an emergency measure in anticipation of heavy spring run-off (related to the heavy loss of vegetation). Early the following summer, many of these logs were replaced with rubber waterbars to improve OHV rider safety. Maintenance continued to be a problem on this trail segment until 2000, when intense maintenance was conducted to eliminate some of the recurring trail problems. This involved reconstructing water bars and installing culverts for better drainage and erosion control. This appears to have stabilized this segment for now.

Maintenance of Segment #2 (just north of South Fork Cable Creek) was also consistently problematic due to the steepness of the trail. In the summer of 1997, an intense thunderstorm combined with the lack of post-fire vegetation resulted in a large volume of overland waterflow that created a gully down this portion of trail. The gully is approximately 4 feet wide and 3 feet deep. Soil was displaced into the creek and across several feet of the bridge. This gully continues to erode, and OHV riders have created a new trail next to the gullied portion. This user-made trail has no drainage or stabilization structures, so it is beginning to erode as well.

The bridge at Segment #2 did not require much maintenance until 1996 when it burned. The bridge was rebuilt in the original spot in 1997, but washed out later that summer during the same intense storm that created the gully. The embankment washed away as well and a side channel of the stream formed, requiring two bridges to be built. Every year since, at least a day is spent just to maintain the bridges in this location.

District-wide, trail maintenance costs average approximately \$400 per mile of trail. This cost includes administration, personnel, vehicles, and equipment. In the summer of 2001, the District spent several days doing heavy maintenance on Segment #1 of the trail at a total cost of \$1,000. This work brought this portion of trail "up to standard." As a result, only light-duty maintenance has been necessary for this segment of the trail. However, it is estimated that maintenance of Segment #2 will cost \$2,500 every two years, or \$4,167 per mile per year. Although this work would keep this section of trail usable, it would fall short of maintaining the trail at the "standard" level.

As the popularity of motorized recreation continues to grow, the use and maintenance of the Round Meadows Trail is expected to increase. This is especially true for family-oriented riders who are looking for easy trails that provide a variety of fun and challenging experiences in a remote setting. In 2001, the Round Meadows Trail was monitored for use—both authorized and unauthorized (see Recreation Report in analysis file for methodology). The trail was monitored in early June, big game bow season, and big game rifle season. During the early June and bow season, no unauthorized trails were encountered along the Round Meadows Trail. During the big game rifle season, several OHV trails were visible leading off the trail. These tracks went less than 100 yards off the trail, then returned by roughly the same route. Over four months (July 18-November 15), trail counters were placed on 3 trails in the Winom-Frazier OHV Complex. These counters recorded a total of 338 passes.

#### **ANALYSIS OF ENVIRONMENTAL EFFECTS**

**No Action:** With this alternative, the use of the trail would continue and is projected to increase. As a result, trail maintenance problems would likely worsen. While the most recent maintenance improvements appear to have stabilized Segment #1, this segment is located on the side of a hill so it is prone to wash-outs from spring run-off and summer thunderstorms. As use increases over time, this segment could begin to deteriorate once again.

More erosion would occur both in the old trail bed and on the user-made bypass at Segment #2. The bridges at Segment #2 would continue to require extensive maintenance annually, and would probably wash out again as flooding now occurs frequently at the current location. The cost of maintaining this segment would continue to be very high. As the trail deteriorates, hazards for inexperienced trail riders would increase. The result could be the eventual closure of the Round Meadows Trail, which would not be consistent with the Camas Off-Highway Vehicle Trail Complex Environmental Assessment and Decision Notice dated April 1995.

**Proposed Action:** This alternative would construct 1.1 miles of trail along an open ridge (Reroute A), while keeping the existing Segment #1 open. The ridge route would provide an alternate route for the less experienced rider and distribute use, which would reduce wear on the steeper Segment #1. The two routes would provide trail users with varied difficulty levels and an additional loop opportunity.

The bridges across South Fork Cable Creek would be moved upstream to a more constricted part of the stream that has higher banks. This location would be less prone to floods and channel instability, so the bridges would require less

maintenance. The ascending portion of trail north of the stream would be redesigned to avoid the steep, gullied trail segment and introduce several climbing turns to prevent future erosion (Reroute B). This would only increase trail length by 0.2 miles, while eliminating a “more/most difficult” trail segment (Segment #2) that did not fit the overall designation as an “easy” level trail. Safety would be improved for all experience levels. This would be consistent with the Camas Off-Highway Vehicle Trail Complex Environmental Assessment and Decision Notice dated April 1995, and the North Fork John Day Motorized Access and Travel Management Program Environmental Assessment and Decision Notice dated June 5, 1990.

While 1.3 miles would be added to the length of the Round Meadows Trail under this alternative, yearly maintenance would cost less than the existing situation due to better distribution of riders and skill levels, trail location on more stable terrain, better placement of the bridges, and repair of the gully.

Cumulatively, the Round Meadows Trail represents 5 percent of the Winom-Frazier OHV Complex (139 miles total). The Proposed Action (8.1 miles) would increase this to 6 percent. This would have little effect on cumulative trail use, safety, or maintenance within the Complex. Foreseeable future trail/road crossing improvements (see Appendix B) would combine with the trail reroutes to improve user safety.

**Alternative 1:** At Segment #1, this alternative would construct the 1.1-mile reroute along the ridge and close the original segment of trail. This would result in no net increase in trail miles, and the new portion of trail should require less maintenance due to a gentler, more stable location. This route is perceived as less scenic than the original segment and is not as challenging, so the recreation experience for some users could be reduced. The bridge relocation and Reroute B would occur as described under Alternative 2, with the same anticipated consequences.

Only 0.2 miles would be added to the overall length of the Round Meadows Trail under this alternative. Yearly maintenance would decrease from current levels due to more stable locations of the trail and bridges.

Cumulatively, Alternative 1’s small increase in trail length would remain at 5 percent of the Complex. Other cumulative effects would be the same as described for the Proposed Action

## TERRESTRIAL WILDLIFE AND HABITAT \_\_\_\_\_

This section incorporates by reference the Round Meadows Trail Reroutes Terrestrial Wildlife Report and Biological Evaluation contained in the project analysis file at the North Fork John Day Ranger District.

### EXISTING CONDITION

The scale of analysis for terrestrial wildlife is South Fork Cable Creek Subwatershed (33C). Two categories of wildlife species are analyzed in order to consider the effects of the alternatives:

- Management Indicator Species & habitats
- Proposed, Threatened, Endangered, and Sensitive wildlife species & habitats

Within South Fork Cable Creek Subwatershed, the 1996 Tower Fire continues to have the most influence on the quality of wildlife habitat. Fire severity was high along the sections of the Round Meadows Trail where the reroutes are proposed (USDA, 2001). As the area recovers from the fire, forage for wildlife continues to increase, but hiding cover remains sparse.

### **Management Indicator Species**

Management Indicator Species were designated in the Forest Plan in response to National Forest Management Act requirements [36 CFR Part 219.19(a)(1)]. These species are used to represent the welfare of a larger group of wildlife species presumed to share the same habitat requirements. The Management Indicator Species considered for this analysis include the following (Forest Plan page 2-9):

- Rocky Mountain Elk (*Cervus elaphus*)
- Pileated woodpecker (*Dryocopus pileatus*)
- Northern three-toed woodpecker (*Picoides tridactylus*)
- American marten (*Martes americana*)
- Primary cavity excavators

**Rocky Mountain elk:** This species represents general forest habitat and winter ranges. Elk are common within the analysis area, which has historically been part of an important migration corridor. The area is within the Oregon Department of Fish and Wildlife's Ukiah Management Unit, with an assigned management objective of 5,000 elk. Field observations suggest that there is a considerable amount of elk use of the Cable Creek area, despite the current level of OHV disturbance. While existing OHV trail users cause disturbance to wildlife, the fact that OHVs are restricted to a designated trail system somewhat moderates the effects (Canfield et al. 1999). The paved Forest Road 52 allows easy access to the area, but nearly one-half of the subwatershed is in an inventoried roadless area, which helps offset disturbance.

Elk begin to move through this area in early spring as they migrate from their low elevation wintering areas to the higher elevation calving and summer use areas. Migration patterns have changed slightly since the Tower Fire in 1996. Because calving is done in open areas, elk calving habitat could now be more widespread in burned areas, particularly in more secluded unroaded areas around the Cable Creek area. After migration, calving begins in late May and is mostly completed by early July. Observations of past OHV use indicate that there is very low use of the project area by OHVs during the winter and spring. OHV use increases beginning with the Memorial Day weekend each year and is moderate during June, the prime calving period.

Forage for elk has increased as a result of the Tower Fire, and elk are common in the Cable Creek area throughout the summer, during the time of moderate to high OHV activity. Fall migration to lower elevations usually begins in early October, coinciding with hunting seasons. Depending on snow levels, the majority of the elk leave the project area about the same time most recreation users do, in late November and early December.

Potential disturbance to big game can be measured by evaluating the density of open roads and the availability of hiding cover. As shown in Table 4, the open road density in the South Fork Cable Creek Subwatershed is relatively low. Even when including motorized trail miles, the density is within the Forest Plan desired condition<sup>5</sup> of an average road density not to exceed 2 miles of road per square mile Forest-wide (USDA 1990a).

**Table 4.** Existing Open Road and OHV Trail Densities in South Fork Cable Creek Subwatershed

	<b>Length (miles)</b>	<b>Area (miles<sup>2</sup>)</b>	<b>Open Road Density (mi/mi<sup>2</sup>)</b>
Open roads	8.2	9.0	0.9
Open roads and motorized trails	13.7	9.0	1.5

Hiding cover is somewhat sparse since the Tower Fire, but is recovering quickly with patches of shrubs and lodgepole pine now reaching three and four feet tall. The overhead cover<sup>6</sup> component for elk was severely reduced by the Tower Fire. It could take up to 50 years for conifers to grow in sufficient size and quantity to obtain an adequate overhead cover component as identified in the Forest Plan (satisfactory cover). The Forest Plan's standard for the C7 management area is a minimum of 10 percent of an area as satisfactory cover and a minimum of 30 percent of an area occurring in total cover (marginal and satisfactory cover combined).

American marten: Marten represent mature and old growth forests at high elevations. They are generally found in moist forest types with developed riparian areas and high down wood densities. The Tower Fire killed this type of habitat within the South Fork Cable Subwatershed.

Pileated woodpecker, Northern three-toed woodpecker, and primary cavity excavators: Pileated woodpeckers represent snag and downed tree habitat in mature and old growth stands of mixed conifers, while northern three-toed woodpeckers represent the same habitat in lodgepole pine stands. Primary cavity excavators represent nearly 100 bird and mammal species that depend on dead standing or down trees in general. Many woodpeckers and primary cavity excavators occur in the analysis area. The Tower Fire created an abundance of habitat for these species.

### **Proposed, Threatened, Endangered, and Sensitive Species**

Species listed as Proposed, Threatened, or Endangered are managed under the Endangered Species Act to ensure that federal actions do not result in a downward population trend. Sensitive species are those recognized by the Pacific Northwest Regional Forester as needing special management to prevent them from being

<sup>5</sup> There is no Forest Plan standard for road density, only the desired condition stated here.

<sup>6</sup> According to the Forest Plan, marginal cover contains trees that are "10 or more feet high with an average canopy closure of at least 40 percent and generally capable of obscuring at least 90 percent of a standing adult elk from the view of humans at a distance of 200 feet or less" (USDA 1990(a), p. GL-23. Satisfactory cover for elk "includes stands of coniferous trees 40 feet or more in height with an average crown closure of 70 percent or more" (*id.* at GL-36).

placed on Federal or State protection lists. Based on local studies, surveys and monitoring, as well as published literature regarding distribution and habitat use, the following Proposed, Endangered, Threatened, and Sensitive terrestrial wildlife species have the potential to occur in or adjacent to the analysis area:

<u>Species</u>	<u>Status</u>
Gray wolf ( <i>Canus lupus</i> )	Endangered
Canada lynx ( <i>Lynx canadensis</i> )	Threatened
California wolverine ( <i>Gulo gulo</i> )	Sensitive
Peregrine falcon ( <i>Falco peregrinus anatum</i> )	Sensitive
Columbia spotted frog ( <i>Rana luteiventris</i> )	Sensitive

Gray wolf: Currently, no wolves are known to inhabit the District, although there have been sightings of individual gray wolves that dispersed from Idaho into the Blue Mountains. The Idaho wolf population has been increasing steadily, and dispersion into the Blue Mountains will likely continue. There is a slight chance that a wolf could pass through the general project area. There are currently no known denning or rendezvous sites near this project or on the District.

Canada lynx: The Blue Mountains are considered to be on the fringe of the range for Canada lynx. Lynx are known to have occurred in the area historically, and several recent, but unconfirmed, sightings have been reported in the Blue Mountains. Surveys have been ongoing and to date no lynx have been detected. The majority of potential lynx habitat is found in cool, moist habitat types at higher elevations (greater than 5,000 feet).

The Round Meadows Trail project is within the Meadow Creek Lynx Analysis Unit. About one-half of South Fork Cable Creek Subwatershed (33C) is considered potential but unsuitable lynx habitat due to heavy tree mortality from the Tower Fire. The suitable lynx habitat within Subwatershed 33C includes approximately 50 acres of lynx denning habitat and approximately 200 acres of lynx foraging habitat<sup>7</sup>, each occurring in scattered small patches. The proposed trail relocation is within currently unsuitable lynx foraging habitat.

California wolverine: Wolverines are wide ranging carnivores that could be present in the analysis area at any time. No wolverine presence has been documented on the District since surveys began in 1991; however, several unconfirmed sightings and tracks have been reported.

Peregrine falcon: This species is not known to occur within the analysis area, but has been observed foraging on the District during the non-breeding season. Potential nesting habitat on the District has been surveyed for several years (1991 – 2001) and no peregrine nesting has been found.

<sup>7</sup> Denning habitat for giving birth to and rearing of young is defined as an area having large amounts of down woody debris either in older mature forest, or in regenerating stands older than 20 years old; foraging habitat that supports primary or alternate prey consists of dense trees or shrubs that are tall enough to protrude above average snow levels (USDA et al., 2000).

Columbia spotted frog: Columbia spotted frogs have been observed in the analysis area, however, no surveys have been conducted for this frog on South Fork Cable Creek.

## ANALYSIS OF ENVIRONMENTAL EFFECTS

### Rocky Mountain elk

**No Action:** Road densities would remain at the current level. Public recreation activities (particularly OHV use) on and adjacent to roads and trails would be expected to increase in the future. Human disturbance to wildlife would be greatest in the spring and autumn during mushroom harvesting and hunting seasons. Since the loss of hiding cover in 1996 and increased use of the Round Meadows Trail, big game disturbance and displacement in the general area has likely increased. Because elk calving habitat could now be more widespread in the area, existing and possible future increases in OHV trail use could cause disturbance to elk during this critical period.

**Proposed Action:** The 1.3-mile increase in trail miles would slightly increase disturbance of big game, making elk slightly more vulnerable to disturbance during hunting season due to additional access. However, the location of the rerouted portions of trail are, at their widest point (i.e. Reroute A), less than one half mile distant from the current trail location, so disturbance would remain in the same locality. Trail use would likely increase with the addition of an easier route into the Cable Creek area from Forest Road 52. Less experienced riders would likely be drawn to the proposed ridgetop trail (referred to as Reroute A).

The location of the new trail on a ridge top (Reroute A) is not a known traditional elk calving area, so little impact on elk calving would be expected. Likewise, elk forage, hiding cover, and migration would not likely be affected by the new trail locations.

Cumulatively, the combined open road/motorized trail density would increase to 1.7 miles per square mile in the subwatershed (Table 5). This is a small increase, but the result is still within the desired condition of 2.0 miles per square mile or less. Considering the lack of hiding cover in the area due to the Tower Fire, any additional miles of trail would cumulatively detract from the quality of elk habitat.

**Alternative 1:** Effects to elk would be similar to Alternative 2, with the following exceptions. The net increase in trail would be only 0.2 miles. While motorized trail miles would only slightly increase, the existing trail near Reroute A would likely continue to be used for foot travel and occasional OHV riders despite the closure.

Cumulatively, the combined open road/motorized trail density would remain 1.5 miles per square mile in the subwatershed (Table 5).

**Table 5.** Open Road/OHV Trail Density in South Fork Cable Creek Subwatershed

	<b>Road &amp; OHV Trail (miles)</b>	<b>Area (mi<sup>2</sup>)</b>	<b>Road Density (mi/mi<sup>2</sup>)</b>
<b>No Action</b>	13.7	9	1.5
<b>Proposed Action</b>	15.0	9	1.7
<b>Alternative 1</b>	13.9	9	1.5

**American marten**

**No Action, Proposed Action, and Alternative 1:** It is highly unlikely that marten would use this area due to the severity of the Tower Fire, so none of the alternatives would affect marten.

**Pileated woodpecker, Northern three-toed woodpecker and primary cavity excavators**

**No Action:** This alternative would not affect woodpeckers or other primary cavity excavators.

**Proposed Action and Alternative 1:** The effects of repairing the trail and slightly changing OHV use patterns as described under these alternatives would be very small relative to the large amount of dead snag habitat currently available for these species. Because of the large number of snags, rerouting the trail would cause no change from the baseline condition for these management indicator species. There would be no cumulative effects on snags or down wood habitat.

**Gray wolf**

**No Action:** Because gray wolves are not known to currently inhabit the District and existing activities would have **no effect** on gray wolf habitat, this alternative would have no effect on individuals or the quality or quantity of habitat.

**Proposed Action and Alternative 1:** The proposed activities would have **no effect** on individuals or the quality or quantity of habitat. Wolves are not known to inhabit the area, and no denning or rendezvous sites have been found.

Cumulatively, the proposed activities would not affect wolves or their habitat because of the small percentage of area impacted by the proposal, the location of this project in a roadless area, and the current lack of wolf habitation in this area.

**Canada lynx**

**No Action:** Lynx are not known to occur in the area, and there would be no change in management activities. Therefore, this alternative would have **no effect** on Canada lynx. In 15 to 20 years, abundant denning and foraging habitat would likely develop as large burned trees fall and lodgepole pine trees grow tall enough to provide cover above the snow. Potential disturbance to lynx by existing trail use would diminish with time as forest cover develops.

**Proposed Action and Alternative 1:** The proposed activities would have **no effect** on Canada lynx or its habitat because lynx are not known to be in the area and habitat is currently unsuitable.

Cumulative effects would be non-existent because the Tower Fire destroyed any suitable habitat, the proposed reroutes constitute a small percentage of the analysis area, and the project is located within an inventoried roadless area. Few activities have occurred within the South Fork-Tower Roadless Area in the past, with the exception of the trail complex, fire recovery projects, and livestock grazing, and the Tower Fire removed any timber harvest options for many years into the future. Activities that have occurred in this area since the fire have involved emergency trail stabilization and several thousand acres of tree planting (which will benefit lynx in 20

to 30 years). Future activities would likely include the return of livestock grazing (ceased since the fire) and fencing around Round Meadows. The proposed activities and foreseeable future activities would comply with the Canada Lynx Conservation Assessment and Strategy (USDA, et al. 2000).

### **California wolverine**

**No Action:** The quality and availability of habitat components for wolverine would not change. In the event that wolverine happen to pass through the area, this alternative would have **no impact** on individuals or the quality or quantity of habitat.

**Proposed Action and Alternative 1:** The proposed activities would have **no impact** on wolverine. While short-term disturbance could occur, the likelihood would be relatively low. If a wolverine happened to pass through the area where trail work or recreational use was occurring, the brief disturbance could result in animals moving elsewhere. The proposed trail modifications would not adversely affect habitat conditions or prey resources, nor cause long-term animal movements.

In combination with past, ongoing, and foreseeable future actions, the proposed activities would not adversely impact wolverine. This is because of the small percentage of area affected and the status of the location as an inventoried roadless area.

### **Peregrine falcon**

**No Action:** There would be **no impact** on peregrine falcon under this alternative. Peregrine falcons could pass through the area, but the percentage of area affected would be small.

**Proposed Action and Alternative 1:** The proposed activities would have **no impact** on peregrine falcon. The proposed reroutes would not adversely affect habitat conditions or prey resources, nor cause long-term shifts in animal movement.

In combination with past, ongoing, and foreseeable future actions, the proposed activities would not adversely impact peregrine falcon because the percentage of area affected would be small and the trail is within an inventoried roadless area.

### **Columbia spotted frog**

**No Action:** Without modifications to the trail, degradation of South Fork Cable Creek would continue. The degree to which spotted frog habitat could be negatively affected is unknown, but would likely be small. Therefore, this alternative **may impact** individuals, but would not likely reduce viability or cause a downward trend in the spotted frog population.

**Proposed Action and Alternative 1:** The degree to which spotted frogs would be affected is unknown, but would likely be small. Proposed activities would improve stream habitat by eliminating a source of sediment. Installation of the bridges would not occur during the breeding season for spotted frog, so egg masses and tadpoles, if present at the site, would not be harmed. Juvenile and adult frogs are more mobile and would likely temporarily move a short distance up or down the creek if the bridge and trail work disturbed them. Therefore, the proposed activities **may impact** spotted frog, but would not likely reduce viability or cause a downward trend in the spotted frog population.

Cumulative effects on spotted frogs would also not be expected because of the limited duration and intensity of activities, and the small percentage of area affected. The proposed reroutes could combine with future projects (see Appendix B) to reduce long-term sediment in Cable Creek.

## FISH POPULATIONS AND HABITAT

This section incorporates by reference the Round Meadows Trail Reroutes EA Fish and Aquatic Habitat Specialist Report and Aquatic Species Biological Assessment contained in the project analysis file at the North Fork John Day Ranger District. The scale of analysis from a fish population perspective includes the downstream subwatersheds where the effects of the Proposed Action might be traced (Appendix C - Figure 2). This analysis area included: South Fork Cable (33C), Upper North Fork Cable (33D), and Lower North Fork Cable (33B) subwatersheds. Cable Creek is listed by the State of Oregon as 303(d)-water quality limited. The reasons for this listing were fish habitat modification and temperature. As a result, this section also incorporates by reference the *Draft Water Quality Restoration Plan for Federal portions of Cable Creek (segment 26C-CABL0) and Hidaway Creek (segment 26C-HIDE0)*.

Based on local studies, surveys, and monitoring, as well as published literature regarding distribution and habitat use, the following management indicator species and Proposed, Endangered, Threatened, and Sensitive species and have been considered in this analysis:

<u>Species</u>	<u>Status</u>
Mid-Columbia steelhead trout ( <i>Oncorhynchus mykiss</i> )	Threatened, management indicator species
Chinook salmon ( <i>Oncorhynchus tshawytscha</i> )	Sensitive
Bull trout ( <i>Salvelinus confluentus</i> )	Threatened
Redband trout ( <i>Oncorhynchus mykiss ssp</i> )	Sensitive, management indicator species

Water quality and habitat elements of temperature, sediment, substrate embeddedness, and large instream wood would be most directly affected by the alternatives developed for this environmental analysis.

## EXISTING CONDITIONS

### Temperature

Standards for water temperature are established by the state of Oregon and specify that “[s]even (7) day average of the daily maximum shall not exceed the following values unless specifically allowed under a Department-approved basin surface water temperature management plan:

- 64° F (for steelhead and Chinook rearing)

- 55° F during times and in waters that support salmon spawning, egg incubation, and fry emergence from the egg and from the gravels
- 50° F in waters that support Oregon Bull Trout.”

Forest Service thermograph data was used to evaluate this habitat component. Temperatures within the Cable Watershed are currently “Functioning at Unacceptable Risk”<sup>8</sup> because they are regularly above those considered healthy for fish. Maximum stream temperatures regularly exceeded 64° F during the summer (the period of fish rearing<sup>9</sup>). Temperature data from 2000 showed, on average, a three-degree temperature increase District-wide, indicating this increase was likely due to widespread environmental influences and not localized conditions. Seven day moving averages of the maximum stream temperatures are presented below in Table 6.

**Table 6.** Seven-day Maximum Water Temperature (Degrees Fahrenheit) at Sampled Locations, 1993-2001.

<u>Year</u>	<u>Cable Creek</u>		
	<u>South Fork at mouth (Subwatershed 33C)</u>	<u>North Fork at mouth (Subwatershed 33B)</u>	<u>North Fork at Whoop De Do Trail (Subwatershed 33D)</u>
1993	66		
1995	66	66	
1996	68	68	
1997	72	71	75
1998	73		
1999	70	68	
2000	73	70	
2001	73	70	

### Sediment

Wolman pebble counts<sup>10</sup> taken during 1997 stream surveys are available for Upper North Fork Cable Creek only. The values are shown in

Table 7.

<sup>8</sup> Three condition levels are used in the analysis of stream function: Functioning Appropriately, Functioning at Risk, Functioning at Unacceptable Risk. A function indicator in the watershed is “Functioning Appropriately” when it results in strong and significant populations that are interconnected. This level promotes recovery of a proposed or listed species or its critical habitat. When a function indicator is “Functioning at Risk”, it provides for persistence of the species. Active or passive restoration efforts may be necessary to promote recovery of a proposed or listed species or its habitat. “Functioning at Unacceptable Risk” indicates the absence or rarity of a proposed or listed species from historical habitat. Active restoration is necessary for recovery of the species and its habitat.

<sup>9</sup> The period when juvenile fish are actively feeding and growing.

<sup>10</sup> Wolman Pebble Count is a procedure used to characterize size and composition of substrate to determine the percent of fines (sand and silt) within the active channel.

**Table 7.** North Fork Cable Creek, 1997 - Sediment in Percent Fines <6 mm

Reach Sampling point	<u>5</u>		<u>6a</u>		<u>6b</u>											
	a	b	a	B	a	b	c	d	e	f	g	h	i	j	k	l
% Fines	26	39	21	46	32	15	17	10	15	35	10	5	23	17	12	28

The amount of fines smaller than 6 millimeters was greater than 12 percent of the total fines on 12 of 16 sites in upper North Fork Cable Creek, (with a mean of 21.9 percent). Therefore, according to both the National Marine Fisheries Service's Anadromous Fish (Snake River Basin) Guide for Section 7 Consultation (USDOC 1992) and the adaptation of that document by the U.S. Fish and Wildlife Service (USDI 1998)<sup>11</sup> this stream would be considered "Functioning at Risk".

All Wolman pebble counts are taken in riffles and across the entire bankfull channel width. Bankfull channel width is, in most cases, greater than the actual stream width during summer low flows. Therefore, the figures in the table above probably overestimate the percent surface fines in mid to late summer, which is when Chinook salmon and bull trout spawn. As a result, spawning habitat available to these two species is probably better than indicated by Wolman pebble count data. Steelhead, on the other hand, spawn in spring during higher flows, so that the Wolman pebble count values might better represent habitat available to them.

### **Substrate Embeddedness**

Fish in the juvenile and fry stages require openings between gravel and cobble in the streambed (or "substrate") for cover. This requirement is satisfied when the gravel and cobble in the streambed is not embedded<sup>12</sup> in sand and silt. The Forest Service (via PACFISH) and the Oregon Department of Fish and Wildlife habitat standard is no more than 35 percent embeddedness as an average for each reach. Surveys were completed on the North and South forks of Cable Creek during 1993. Embeddedness was recorded as averaging above 35 percent for Reach 1 of South Fork Cable, and below 35 percent for Reach 2 of South Fork Cable and for all five surveyed reaches of North Fork Cable (Table 8).

<sup>11</sup> These documents however, use 0.85 millimeter as the size cut-off for fine sediments. Our methods do not differentiate any particles under 6 millimeters so percent fines given in the above table are an overestimate of "fines" referred to in the documents used for classifying the functionality of the habitat element.

<sup>12</sup> The extent that individual cobbles or gravels are surrounded or covered by fine sediment.

**Table 8.** Substrate Embeddedness in Sampled Reaches of Cable Creek

Habitat Element	South Fork Cable Subwatershed 33C		Lower North Fork Cable Subwatershed 33B			Upper North Fork Cable Subwatershed 33D	
	Reach		Reach			Reach	
	1	2	2	3	4	5	6
Gradient %	3	2	1	1	1	2	9
Dominant Bed Substrate	Gravel	Sand	Gravel	Gravel	Gravel	Gravel	Gravel
Subdominant Bed Substrate	Gravel	--	Cobble	Sand	Cobble	Sand	Cobble
Embedded (>35%)	Yes	No	No	No	No	No	No

The Tower Fire burned after these surveys, and its effects may have altered substrate conditions in this watershed. Conditions have not likely improved since the fire, so the best estimate of the substrate condition in this watershed would be "Functioning at Risk".

### **Large Instream Wood**

Large instream wood was counted in 1993 in the north and south forks of Cable Creek using the Forest Service Region 6 protocol. All surveyed reaches within the analysis area contained at least 20 pieces of large woody debris per mile. In the spring of 1997, an intense storm scoured some of the headwater draws of North Fork Cable Creek to bedrock and produced a large debris torrent, which then scoured the main upper channel of North Fork Cable Creek. The upper 1½ reaches of North Fork Cable Creek were resurveyed in 1997 (Table 9).

**Table 9.** Large Woody Debris by Subwatershed (pieces per mile)

Survey Date	South Fork Cable Subwatershed 33C		Lower North Fork Cable Subwatershed 33B			Upper North Fork Cable Subwatershed 33D	
	Reach		Reach			Reach	
	1	2	2	3	4	5	6
1993	168.7	103.8	49.0	28.8	30.4	34.0	34.2
1997						37.2	21.4*

**Note:** For the 1993 survey, trees that were leaning over the creek were included in the large woody debris count. The 1997 resurvey counted only large woody debris that was actually in the channel. It is not known what proportion of the wood reported in the 1993 survey was in the channel.

\*This 1997 survey data is for Reach 6a, which was shorter than Reach 6 (1993) so values are not directly comparable.

## ANALYSIS OF ENVIRONMENTAL EFFECTS

**No Action:** Under this alternative, no segments of the trail would be rerouted for erosion control and the trail would remain in its current condition. Erosion of the current trail would likely continue and worsen, causing further sediment problems in South Fork Cable Creek. Currently, several inches of sand and other sediment have built up on the bridge below the actively eroding gully (Segment #2). This section of trail would continue to contribute sediment into the creek. Continued input of large amounts of sediment from the eroding trail could eventually cause physical changes to the stream channel, adversely affecting spawning habitat and increasing water temperatures (i.e. stress on fish). This alternative would have no effect on large wood in the stream.

**Proposed Action and Alternative 1:** Except for stream crossings, the new trail would be constructed outside of PACFISH Riparian Habitat Conservation Areas, so risk of additional sediment delivery to streams would be low. Trail construction within the Riparian Habitat Conservation Area and the relocation of bridges would likely involve some short-term increase in sediment. However, mitigation requiring that work within Riparian Habitat Conservation Areas be completed during the in-stream work window would minimize the amount of sediment introduced or mobilized. The old trail at Segment 2 would be blocked and reseeded to facilitate recovery of the exposed soil in the Riparian Habitat Conservation Area. The gully would be rehabilitated and a sediment trap would be located below the gully to prevent transport of sediment to the creek. These measures would minimize effects on spawning fish.

Removal of the old bridges would not cause any soil disturbance other than potentially causing some loose soil to enter the stream while removing the accumulated soil from the bridge. To mitigate this possibility, a silt fence would be placed along the stream during this phase. The existing sills would be left in place to avoid soil disturbance and the stringers on the larger bridge would be cut at one end and left in the creek to serve as large woody debris. Except for the re-used portions, all other pieces of the bridges would be removed by hand and transported out of the area by OHVs. Construction of the new bridges would involve manually digging 8-inch deep by 8-inch wide by 12-foot long trenches 3 to 4 feet back from each streambank to hold the four new sills. Heavy bridge materials would be flown in by helicopter and all other bridge materials would be brought in by OHVs and placed by hand to avoid soil and streambank disturbance. A silt fence would be placed between the stream and the sill construction to trap loose soil. The only disturbance to the streambed would be due to foot traffic during bridge construction and that traffic would avoid any potential spawning areas. Construction of the new OHV bridges would not impede fish passage.

No shade-providing trees would be cut, so there would be no change in stream temperature (as related to stream shade) resulting from the Round Meadows Trail Reroute project. There would be a slight increase in large woody debris as a result of decommissioning the old bridge. Because the silt fences would be in place, no increase in sediment or embeddedness would be expected.

The trail reconstruction and bridge installation **may affect but is not likely to adversely affect** Mid-Columbia steelhead trout because there would be a slight

possibility of a negligible increase in sedimentation even with mitigation. The Round Meadows Trail Reroute project would **not likely result in the destruction or adverse modification of essential fish habitat for chinook salmon**. Because bull trout are not present in the Round Meadows Trail Reroute project area, this project would have **no effect** on Columbia River Bull trout. The proposed project **may impact** individuals or habitat for redband trout, but would not likely contribute to a trend towards federal listing or cause a loss of viability to the population or species.

Cumulatively, much of the soil movement resulting from the Tower Fire has stabilized, with the exception of the actively eroding gully associated with the Round Meadows Trail. Proposed activities would stabilize the gully and reduce associated soil disturbance related to the user-made trails. Proposed activities would concentrate use on a single trail that has been engineered and constructed to minimize soil erosion. This would reduce cumulative sediment input into Cable Creek, which could also reduce cumulative impacts on stream temperature and aquatic habitat (see Appendix B). Large instream wood would also slightly increase as a result of dismantling the existing bridges. When combined with the proposed fencing, past riparian planting, and other restoration projects proposed in the *Draft Water Quality Restoration Plan for Federal portions of Cable Creek (segment 26C-CABLO) and Hidaway Creek (segment 26C-HIDE0)*, stream conditions and aquatic habitat could begin to improve.

## **NOXIOUS WEEDS**

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This section incorporates by reference the Round Meadows Trail EA Noxious Weed Report contained in the project analysis file at the North Fork John Day Ranger District.

### **EXISTING CONDITION**

The scale of analysis encompasses the OHV Complex and OHV loading areas along Forest Road 52. Weeds within the analysis area and their respective treatment are presented in Table 10 listed in order of treatment priority. Species that are “New Invaders/Established” are presently controllable but are approaching the “Established” infestation level. Because they are controllable, they are prioritized for early treatment.

**Table 10.** Current Weed Presence in the Round Meadows Analysis Area

<u>Species</u>	<u>Treatment Priority</u>	<u># of Sites/ Acres</u>	<u>Remarks</u>
Diffuse knapweed ( <i>Centaurea diffusa</i> )	New Invader/ Established	5/17.5	An annual or short-lived perennial; spread by animals, wind, vehicles; highly competitive.
Spotted knapweed ( <i>Centaurea biebersteinii</i> )	New Invader/ Established	3/22	A short-lived perennial; tolerates shade; spread by animals, wind, vehicles; highly competitive.
Canada thistle ( <i>Cirsium arvense</i> )	Established	Unknown	A creeping perennial; established slowly; difficult to control because of rhizomes; prolific seed producer; seeds dispersed by wind/water in late summer and fall.
Bull thistle ( <i>Cirsium vulgare</i> )	Established	Unknown	Common in harvest units; persistent for about 2 years; not considered problematic by District silviculturists.
St. Johnswort ( <i>Hypericum perforatum</i> )	Established	Unknown	A perennial; well established on roadsides; very slow in spreading off roadside; difficult to control; currently under biological control on District.

There are eight, high priority "New Invaders/Established" weed sites within the general project area (a map of these sites is in the project analysis file). All eight are currently under treatment and would continue to be under treatment per direction in the Umatilla National Forest Environmental Assessment for the Management of Noxious Weeds (USDA, 1995). Overall, the current "New Invader/Established" noxious weed presence within the analysis area is in the early stages of establishment, with no large infestations.

Occurrence of the three low priority "Established" weeds (bull thistle, Canada thistle, and St. Johnswort) is widespread throughout the District and so extensive Forest-wide that these species are not generally inventoried. St. Johnswort and bull thistle are less invasive and/or persistent than the high priority weeds and *generally* give way to, or at least do not out-compete, desirable vegetation. Because of their prevalence Forest-wide, these established weeds likely occur within or adjacent to the Round Meadows Trail Reroute project. Surveys for noxious weeds within the Round Meadows Trail Reroute project area primarily focused on open roads, so some populations may yet be undiscovered.

#### **ANALYSIS OF ENVIRONMENTAL EFFECTS**

The risk of noxious weed introduction and spread was estimated by assuming noxious weeds would increase proportionally to the level of soil disturbance. For the purposes of this analysis, "soil disturbance" is defined as the removal of the duff layer or vegetation down to mineral soil. For the Round Meadows Trail Reroute

project, it is assumed that at least some level of new soil disturbance would occur (in addition to the soil disturbance caused by natural mechanisms and other human activity).

**No Action:** All motorized vehicles that have made contact with noxious weed infestations are vectors for weed spread, so there would be a continued risk of invasion and spread along the Round Meadows Trail. Continued trail erosion, user-made trails at Segment #2, and the required recurrent maintenance caused by the erosion could, over a course of several years, have a higher likelihood of noxious weed introduction and spread than the Proposed Action or Alternative 1. This is particularly true along Segment #2, which is actively eroding. As the user-made trail beside the gully erodes, users would likely create a new route adjacent to the existing routes. This would create a larger area of soil disturbance which would be exposed to the spread of noxious weeds.

**Proposed Action:** Construction of 1.6 miles of new trail would increase the potential for noxious weed introduction by creating a suitable microhabitat, i.e. where bare mineral soil is exposed and more light is available for seed germination. There would be soil disturbance with the dismantling of the old bridges and the relocation of the displaced soil to fill the gully. However, the chronic soil disturbance associated with the gully at Segment #2 should be eliminated by the new trail location and design. Mitigation to protect the soil, such as seeding and mulching, should also prevent establishment of noxious weeds. Also, the Round Meadows Trail Reroute would be located in a post-fire, high-density lodgepole pine stand, which is generally not conducive for noxious weed establishment on the Umatilla National Forest<sup>13</sup>. The area with the highest potential of invasion would be along the trail's edge.

Cumulatively, this alternative would add 1.3 miles of trail to the OHV Complex, which equates to about 0.5 acres of exposed mineral soil that could be invaded by noxious weeds.

**Alternative 1:** This alternative would initially expose 1.6 miles of mineral soil through trail construction; however, 1.4 miles of the original trail would then be restored to a vegetated condition. Within 10 years, the total area of disturbance would drop to only 0.2 miles more than the current condition. Provided that no noxious weeds are currently present, the seeding and native vegetation should reclaim the unused sections with virtually no risk of noxious weed spread or introduction. As discussed under the Proposed Action, repair of the gully would further reduce the risk of weed invasion.

Cumulatively there would be little effects since the total area of disturbance would drop to only 0.2 miles more than the current condition within 10 years.

## VISUAL QUALITY

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This section incorporates by reference the Round Meadows Visuals Analysis contained in the project analysis file at the North Fork John Day Ranger District.

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<sup>13</sup> There are no known noxious weed sites within dense lodgepole pine stands on the District.

The Round Meadows Trail is partially visible from the Blue Mountain National and State Scenic Byway. A part of the trail also lies within the A3-Viewshed 1 management area (see page 3 for a description). This area was severely burned by the 1996 Tower Fire and there is little vegetation to shield this trail from view. Visible portions of the trail appear unnatural in terms of line and color.

**No Action:** There would be no change in current visibility of the trail. As forest vegetation regrows, the trail would once again be hidden from view.

**Proposed Action and Alternative 1:** A landscape simulation model was run with ArcMap 3-D Analysis Geographic Information Systems technology. This model simulated the view of the proposed trail layouts from points along the Scenic Byway. Results showed that the terrain, even with the post-fire reduction in vegetation, would block views of the trail and its reroutes at the trailhead. Reroute A would be seen from the byway, but because it would be located on the line of horizon at the top of a ridge, it would cause no deviation in color, line, or texture in contrast to the existing landscape. These results were field verified and found to be accurate. As a result, no cumulative effects with regard to visual quality are expected.

## COMPLIANCE WITH OTHER LAWS, REGULATIONS, POLICIES

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### ENDANGERED SPECIES ACT

This section incorporates by reference the Biological Evaluations for Fish and Aquatic Habitat, Terrestrial Wildlife, and Plants, the Aquatic Species Biological Assessment, and the Endangered Species Act Section 7 Informal Consultation letter from NOAA National Marine Fisheries Service contained in the project analysis file at the North Fork John Day Ranger District.

Threatened and Endangered wildlife and fish species were discussed under the associated resource sections above (see pages 19-21 and 25-26). Based upon the Biological Evaluations for terrestrial and aquatic species and habitats that may occur in the analysis area<sup>14</sup>, Threatened Mid-Columbia steelhead trout and Essential Chinook salmon habitat may be affected by the proposed project. The District consulted with the NOAA National Marine Fisheries Service (16 U.S.C. §1536(a)). NOAA Fisheries concurred with the Umatilla National Forest determination that steelhead and essential fish habitat for Chinook salmon would not likely be adversely affected.

The Biological Evaluation for Proposed, Endangered, Threatened, and Sensitive plants found that the proposed project area does not contain habitat for *Silene spaldingii*, a species proposed for listing under the Endangered Species Act, so the Proposed Action and Alternative 1 would have **no effect** on that species. The project would also have no impact on regionally Sensitive Crawford's sedge (*Carex crawfordii*) or Inland sedge (*Carex interior*).

The Round Meadows Trail Reroute project complies with the Endangered Species Act.

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<sup>14</sup> Copies of these reports are in the analysis file for this project.

**MAGNUSON-STEVENS FISHERIES CONSERVATION AND MANAGEMENT ACT**

This section incorporates by reference the Round Meadows Trail Reroute Aquatic Species Biological Assessment and Endangered Species Act Section 7 Informal Consultation letter from NOAA National Marine Fisheries Service contained in the project analysis file at the North Fork John Day Ranger District.

The Magnuson-Stevens Act requires federal agencies to consult with NOAA Fisheries regarding actions that are authorized, funded, or undertaken by that agency that may adversely affect designated essential fish habitat. The Round Meadows Trail Reroute project area includes habitat which has been designated as essential fish habitat for various life stages of Chinook salmon. NOAA Fisheries determined that the conservation measures (mitigation) included as part of the Proposed Action are adequate to avoid, minimize, or otherwise offset potential adverse effects on designated essential fish habitat, so conservation recommendations pursuant to the Magnuson-Stevens Act are not necessary. As a result, the Round Meadows Trail Reroute project complies with the Magnuson-Stevens Act.

**NATIONAL HISTORIC PRESERVATION ACT**

This section incorporates by reference the Round Meadows Cultural Resources Worksheet and Project Review Form for Heritage Resources contained in the project analysis file at the North Fork John Day Ranger District.

Recent historical uses of the analysis area have been primarily for recreation, timber, and livestock grazing. A review of Mits Qooi Nux Sa Kin Na Noon Im Watus Pa; A Partial Traditional Use Area Inventory of the Umatilla National Forest and the Wallowa-Whitman National Forest (Minthorn 1994) indicates this was also one of the many areas within the Forest used to some degree by the Confederated Tribes of the Umatilla Indian Reservation and neighboring tribes.

Two formal cultural resource inventories covering the proposed project area were conducted to gather sufficient information to evaluate historic properties listed or eligible for listing on the National Register of Historic Places. The Big Tower Fire Cultural Resource Inventory Survey, conducted by Mount Emily Archaeological Services in 1998, covered some of the area later proposed for the trail reroutes (Jaehnig 1998). Gary Popek, South Zone Archaeologist for the Umatilla National Forest, checked the remaining unsurveyed portions of the proposed trail reroutes on June 6, 2001. Neither survey located any heritage resources within the area of potential effect. Both reroutes traverse slopes greater than 20%, terrain considered to have little potential for the location of historic properties.

Inventories were conducted in accordance with the National Historic Preservation Act, as amended, and its implementing regulations (36 CFR 800). The Round Meadows Trail Reroute project has met the conditions of the 1995 Programmatic Agreement between the Advisory Council of Historic Preservation, the State Historic Preservation Office, and Region 6 of the Forest Service, and complies with Section 106 of the National Historic Preservation Act.

## CLEAN WATER ACT

The Clean Water Act of 1977 focuses on the restoration and maintenance of the chemical, physical, and biological integrity of the Nation's waters. This Act was amended in 1987 to protect waters against pollution from both point and non-point sources<sup>15</sup>. The act assigned the responsibility for management and enforcement of water quality to the States. Table 11 lists the beneficial water uses for the Round Meadows analysis area as defined by the State of Oregon for the John Day River Basin, as well as the water quality parameters associated with these beneficial uses.

**Table 11.** Beneficial Uses for North Fork John Day Subbasin.

<u>Beneficial Use</u>	<u>Associated Water Quality Parameter</u>
Public Domestic Water Supply	Turbidity, Chlorophyll a
Private Domestic Water Supply	Turbidity, Chlorophyll a
Industrial Water Supply	Turbidity, Chlorophyll a
Irrigation	None
Livestock Watering	None
Anadromous Fish Passage	Biological Criteria, Dissolved Oxygen, Flow Modification, Habitat Modification, pH, Sedimentation, Temperature, Total Dissolved Gas, Toxics, Turbidity
Salmonid Fish Rearing	Dissolved Oxygen, Flow Modification, Habitat Modification, Sedimentation, Temperature
Salmonid Fish Spawning	Same as Salmonid Fish Rearing
Resident Fish and Aquatic Life	Same as Anadromous Fish Passage
Fishing	Aquatic Weeds or Algae, Chlorophyll a, Nutrients
Water Contact Recreation	Aquatic Weeds or Algae, Bacteria, Chlorophyll a, Nutrients, pH
Aesthetic Quality	Aquatic Weeds or Algae, Chlorophyll a, Nutrients, Turbidity

As part of the implementation of the Clean Water Act, the state of Oregon maintains an inventory of water quality limited streams, based on standards developed by the Oregon Department of Environmental Quality. Water temperatures have been monitored by the Forest Service on numerous streams within the Round Meadows analysis area and water temperatures in South Fork Cable Creek have frequently failed to meet Oregon's water quality standard of 64° F during the summer months. In particular, stream temperatures noticeably increased after the Tower Fire of 1996. In 1998, Cable Creek appeared on the state of Oregon's 303(d) list of water quality limited streams. The reasons for this listing were fish habitat modification and temperature. A Water Quality Restoration Plan has been developed by the Forest Service to address the water quality deficiencies on Cable Creek (USDA 2000).

<sup>15</sup> Point sources are identified as those sources from which water polluting discharges occur through directed, discernible, confined, and discrete conveyance such as pipes, channels, ditches, and gullies (*Sierra Club v Abston Constr. Co.*, 620 F.2d 41 (10<sup>th</sup> Cir. 1980)). Every other type of water pollution that does not originate from a point source is a non-point source.

Sedimentation is the water quality standard most likely to be affected by the proposed trail reroutes. This, in turn, would most likely affect the following beneficial uses: salmonid fish rearing, salmonid fish spawning, and resident fish and aquatic life. New soil disturbance would occur with construction of the trail reroutes. This could result in sediment reaching streams, particularly where reroutes and bridge construction would occur in riparian areas. However, mitigation and Best Management Practices (see Appendix A) would protect South Fork Cable Creek from sediment deposit, and rehabilitation of the active gully should eliminate the current source of sediment. These measures include seeding and mulching all disturbed soils, manual placement of the new bridges, a silt fence below the new bridge during construction to trap disturbed soil, and a sediment trap below the gully to capture any eroded soil not stopped by measures to rehabilitate the gully. When combined with riparian planting and fencing of Round Meadows and an adjacent 1 mile of stream, sediment should cumulatively reduce, with a like response in stream temperatures due to increased vegetative stream shade. As a result, the Round Meadows Trail Reroute project would comply with the standards of the Clean Water Act because associated activities were designed to avoid any increases in sedimentation or stream temperatures.

### **CLEAN AIR ACT**

The use of OHVs contributes pollutants into the air. Although OHV use is expected to increase over time, this increase is expected to be incremental, not significantly large, and not related to the actions proposed in this document (OHV use is expected to increase regardless of the outcome of this project). Therefore, the Round Meadows Trail Reroute project would not affect air quality and, as a result, would comply with the Clean Air Act.

### **NATIONAL FOREST MANAGEMENT ACT**

As discussed under the wildlife and fish sections (see pages 19-21 and 25-26), the proposed Round Meadows Trail Reroute project would provide sufficient habitat to maintain viable populations of fish and wildlife and protect critical habitat for threatened and endangered species. Proposed, Threatened, Endangered and Sensitive plants would not be affected (see page 29). Mitigation has been identified to protect soils and water quality. The proposed reroutes are designed to protect riparian and aquatic habitats that are being locally damaged by soil erosion and to enhance the diversity of plant and animal communities in the long-term. See discussions under the applicable resource sections above for further support that proposed activities would comply with the requirements associated with resource protection (36 CFR 219.27(a)), riparian areas (36 CFR 219.27(e)), and soil and water (36 CFR 219.27(f)). As a result, the Round Meadows Trail Reroute project would comply with the National Forest Management Act.

### **EXECUTIVE ORDERS 11988 AND 11990: FLOODPLAINS AND WETLANDS**

Executive Order 11990 protects wetlands. There are no locations within the project area that meet the legal definition of a wetland. Therefore, the Round Meadows Trail Reroute project would be consistent with Executive Order 11990.

Executive Order 11988 provides for the protection of people from floods by restricting federal activity on floodplains. While the bridge relocation would occur within a floodplain, the result would be to move the bridge to higher ground that would be less likely to flood. Due to its location, the Round Meadows Trail Reroute project would have no impacts on floodplains that would affect human safety, health, or welfare. Therefore, the Round Meadows Trail Reroute project would be consistent with Executive Order 11988.

#### **EXECUTIVE ORDER 12898: ENVIRONMENTAL JUSTICE**

Executive Order 12898 requires that federal agencies adopt strategies to address environmental justice concerns within the context of agency operations. With implementation of any of the Round Meadows Trail Reroute alternatives, there would be no disproportionately high and adverse human health or environmental effects on minority or low-income populations. The actions would occur in a remote area and nearby communities would not be affected. The Round Meadows Trail Reroute project would be consistent with Executive Order 12898.

#### **EXECUTIVE ORDER 13186: MIGRATORY BIRD PROTECTION**

This order directs that environmental analyses evaluate the effects of actions on migratory birds. The amount of migratory bird habitat affected by this project was deemed too small to cause any effect to migratory birds. The project does not conflict with any of the desired conditions outlined in the Conservation Strategy for Landbirds (Altman, 2000). Therefore, the Round Meadows Trail Reroute project would be consistent with Executive Order 13186.

#### **ENERGY REQUIREMENTS AND CONSERVATION POTENTIAL**

Some form of energy would be necessary for proposed projects requiring use of mechanized equipment: trail rerouting, trail closure, and material transport by OHV and helicopter. High fuel requirements would be associated with helicopter operations that are proposed to transport bridge stringers to the area of bridge construction. However, helicopter operations would only be for a brief period (1 or 2 trips).

#### **PRIME FARMLAND, FORESTLAND, AND RANGELAND**

No prime farmland, rangeland, or forestland occurs within the analysis area.

#### **INVENTORIED ROADLESS AREAS AND WILDERNESS**

The proposed project is located within the South Fork-Tower Inventoried Roadless Area (USDA, Forest Service, 1990b). Due to its long and narrow shape, opportunities for solitude and primitive experience do not exist within this roadless area, and OHV trails are an existing use in this location. Since there would be no roads or timber harvest associated with this project, Round Meadows Trail Reroute would be consistent with current inventoried roadless area policy.

There are also 100 acres of the North Fork John Day Wilderness within the analysis area. None of the proposed activities would occur within the Wilderness. There would be no change in visual condition as viewed from the Wilderness.

## FOREST PLAN CONSISTENCY

The Umatilla National Forest produced the Land and Resource Management Plan (USDA 1990a) in accordance with the National Forest Management Act of 1976. This plan provides guidelines for all natural resource management activities and establishes management standards. While seven Forest Plan Management Areas occur within the Round Meadows Trail Reroute analysis area, the trail only occurs in two: A3-Viewshed I and C7-Special Fish Management. Standards and guidelines were summarized in the "Management Direction" section of this Environmental Assessment (on page 2). Visual quality objectives (USDA, 1990a, p. 4-100 and 4-167) would be met, and a Roaded Natural<sup>16</sup> physical and social setting would be maintained.

Activities under the Proposed Action or Alternative 1 would not affect water temperature or instream flows, so this project would be consistent with Forest-wide Standards and Guidelines for those parameters. Guidelines developed to provide and maintain riparian and fish habitat (USDA, 1990, pp. 4-59 to 4-62) and soil (USDA, 1990, p. 4-80) would also be met. The Umatilla Forest Plan was amended in 1995 to incorporate PACFISH. PACFISH defines Riparian Habitat Conservation Areas surrounding streams and other riparian features, and identifies associated Riparian Management Objectives. The only stream that could be affected by proposed activities is South Fork Cable Creek. The Riparian Habitat Conservation Area boundary for this stream extends 300 feet on each side. Although trail construction, bridge removal, and bridge construction activities have been proposed within this Riparian Habitat Conservation Area, sediment delivery into South Fork Cable Creek would be negligible and should be reduced in the long-term. Design and mitigation consistent with all of the above guidelines are discussed in Section 2 of this Environmental Assessment. Because the Round Meadows Trail Reroute project would **not likely result in the destruction or adverse modification of essential fish habitat for Chinook salmon**, the project would comply with PACFISH.

As a result, activities proposed under either the Proposed Action or Alternative 1 would be consistent with the Forest Plan.

## CONSUMERS, MINORITY GROUPS, AND WOMEN

No effects on civil rights, including those of minorities and women, are expected to occur. Activities associated with the Proposed Action or Alternative 1 would be accomplished by Forest Service employees who are hired based upon qualifications, regardless of race, color, sex, religion, etc. While the activities identified here would provide a public recreational benefit, no quantitative output, lack of output, or timing

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<sup>16</sup> One of the six classes of recreational experience opportunities on a continuum from primitive to urban. Each class is defined in terms of the degree to which it satisfies certain recreation experience needs, based on the extent to which the natural environment has been modified. Roaded natural areas are characterized by predominantly natural-appearing environments with moderate evidence of the sights and sounds of humans. Such evidence usually harmonizes with the natural environment. Interaction between users may be moderate to high, with evidence of other users prevalent. Resource modification and utilization practices are evident, but harmonize with the natural environment. Conventional motorized use is allowed and incorporated into construction standards and design of facilities (USDA 1990a, page GL-32).

of output associated with these projects would affect the civil rights, privileges, or status quo of consumers, minority groups, and women.

### **UNAVOIDABLE ADVERSE EFFECTS**

Implementation of any of the alternatives, including the No Action alternative, would inevitably result in some adverse environmental effects. The severity of the effects would be minimized by adhering to the direction in the management prescriptions and Standards and Guidelines in Chapter 4 of the Forest Plan and additional mitigation proposed in Chapter 2 of this document. These adverse environmental effects are discussed under each resource section.

### **SHORT-TERM USE AND LONG-TERM PRODUCTIVITY**

Short-term uses are generally those that determine the present quality of life for the public. In the Pacific Northwest, this typically includes: timber harvest, livestock grazing, recreation, transportation, utility corridors, and wildlife habitat. Long-term productivity refers to the land's capability to support sound ecosystems producing a continuous supply of resources and values for future generations.

#### **Analysis of Environmental Effects**

**No Action:** There would be no change in short-term uses within the analysis area, since the primary use of the area would remain recreational. However, there would be a risk of reducing long-term productivity in the vicinity of the gully either gradually, or in the event of a catastrophic storm event. Sedimentation would continue to affect South Fork Cable Creek, to the detriment of water quality and fish habitat.

**Proposed Action and Alternative 1:** Proposed trail reroutes would improve short-term accessibility of the Winom-Frazier OHV system. The reroutes and closure would also improve the long-term productivity in South Fork Cable Creek by reducing recurring sediment, though the improvement would be small and localized. Long-term soil and vegetative productivity would likely improve in the vicinity of the existing gully, as rehabilitation efforts decrease erosion and restore vegetative cover.

### **IRREVERSIBLE AND IRRETRIEVABLE EFFECTS**

An "**Irreversible**" commitment of resources refers to a loss of future options with nonrenewable resources. An "**Irretrievable**" commitment of resources refers to loss of opportunity due to a particular choice of resource uses.

#### **Analysis of Environmental Effects**

**No Action:** There would be an irreversible loss of soil and also of water quality because erosion associated with the Round Meadow Trail would not be corrected.

**Proposed Action and Alternative 1:** Reroutes and bridges would produce irretrievable changes in the natural appearance of the landscape. The visual effect of the trail reroutes would be reduced by locating the reroutes in less-visible locations.

## CHAPTER 4 - CONSULTATION AND COORDINATION

The following Forest Service personnel served on the Interdisciplinary Team (IDT) that prepared this environmental assessment:

### Core IDT:

Janel Lacey	Team Leader/NEPA Coordinator
Rick Guglielmi	Recreation Technician
Holly Harris	Wildlife Biologist
Kristy Groves	Fisheries Biologist
Bart Lander	Writer/Editor

### IDT Consultants:

Ralph Hartman	Supervisory Recreation Forester
Chris Helberg	GIS Specialist
Ed Farren	Hydrologist
Gary Popek	Zone Archeologist

Scoping letters were sent to a mail list of individuals and groups that have indicated an interest in recreation on the North Fork John Day Ranger District (see analysis file for details). Only one letter was received in response to scoping (Blue Mountain Biodiversity Project—an environmental interest group). The Environmental Assessment was posted on the Umatilla National Forest website and a letter announcing the availability of the Environmental Assessment was sent to the entire maillist on December 18, 2002,. One comment was received in response from the Cultural Resources Department of the Confederated Tribes of the Warm Springs Reservation. Hard copies of the Environmental Assessment sent to the following for 30-day review:

- Confederated Tribes of the Umatilla Indian Reservation
- Confederated Tribes of the Warm Springs Indian Reservation of Oregon
- Oregon Department of Fish and Wildlife
- Oregon Parks and Recreation Department
- Umatilla Basin Watershed Council, Tracy Bosen
- Blue Mountains Biodiversity Project, Asante Riverwind
- Alliance for the Wild Rockies, Ecosystem Defense
- Oregon Natural Resources Council, Tim Lillebo
- Rocky Mountain Elk Foundation
- Dale Store, Butch Phelps
- Desert Rats, Brigit Mudd
- Pacific Northwest 4-Wheel Drivers Association, Pat Harris
- Northwest Trailbikers Association, Norvel Arbogast
- Northwest Trailriders Association, Curt Lavelle

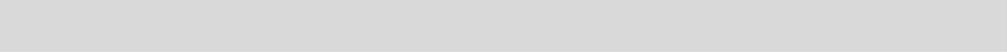
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U.S. Department of Commerce (USDOC), National Marine Fisheries Service. 1992. Making Endangered Species Act determinations of effect for individual or grouped actions at the watershed scale.

U.S. Department of Interior (USDI), Fish and Wildlife Service. 1998. A framework to assist in making Endangered Species Act determinations of effect for individual or grouped actions at the bull trout subpopulation watershed scale.





## APPENDIX A - BEST MANAGEMENT PRACTICES

Best Management Practices (BMPs) are the primary mechanisms used to enable the achievements of water quality standards (Environmental Protection Agency 1987). The EPA has certified the Oregon Forest Practices Act and Washington Forest Practices Rules and Regulations as BMPs. The States of Oregon and Washington compared Forest Service practices with these State practices and concluded that Forest Service practices meet or exceed State Requirements.

The following Best Management Practices apply to the Round Meadows Trail Reroute Project.

### RECREATION MANAGEMENT

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#### **REC-6: MANAGEMENT OF OFF-ROAD VEHICLE (ORV) USE**

- Description – To provide a systematic process to aid in determining when and to what extent ORV use will cause, or is causing adverse effects on water quality
- Location – Entire project area
- Effects – Detrimental impacts to soil, riparian areas, and downstream water sources are reduced
- Application -- Identify areas or trails where ORV use could cause degradation of water quality

#### **REC-8: PROTECTION OF WATER QUALITY WITHIN DEVELOPED DISPERSED RECREATION AREAS**

Description – To protect water quality by regulating the discharge and disposal of potential pollutants

Location – Entire project area

Effects – Protection of water quality

Application – Prohibition of the placing in or near a stream, substances which may degrade water quality

## WATERSHED MANAGEMENT

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### **W-4: HAZARDOUS SUBSTANCE SPILL CONTINGENCY PLAN AND SPILL PREVENTION CONTROL & COUNTERMEASURE PLAN**

Description - Prevent contamination of Umatilla National Forest streams from accidental spills

Location – entire project area; spill plan is located at the Umatilla N.F. Supervisor's Office

Effects – Oil products are prevented from entering the navigable waters of the United States

Application – Language in this EA addresses fueling of equipment

### **W-5: CUMULATIVE WATERSHED EFFECTS**

Description - Protect the beneficial uses of water from the cumulative effects of past, present, and future management activities that could result in degraded water quality or stream habitat

Location - Entire project area

Effects - Activities that could result in cumulative damage to water quality are altered or eliminated as appropriate

Application - A cumulative watershed effects analysis was conducted for the Round Meadows analysis area and beneficial uses have been identified in the Environmental Assessment

### **W-7: WATER QUALITY MONITORING**

- Description - Determine the effects of the proposed action on the beneficial uses of water, monitor baseline watershed conditions for comparison with State Water Quality and Forest Plan standards and estimate long-term trends, ensure the health and safety of water users, and evaluate BMP effectiveness

Location - Entire project area

Effects - Monitoring would ensure that mitigation to protect water quality is effective, and, if not, would recommend changes for future activities

Application - The first, second, and third monitoring items in the Monitoring section of Chapter II apply to this BMP

## APPENDIX B - CUMULATIVE ACTIVITIES CONSIDERED

**Past activities/disturbances** in the analysis area include the 1996 Tower Fire, which burned 15,691 acres of the 18,327-acre Round Meadow analysis area and 95 percent of the Round Meadow Trail. In the vicinity of the existing trail and proposed reroutes, the fire burned at moderate to high severity, killing most overstory trees. As a result, past activities completed prior to the fire have little remaining residual effects (soil compaction may be the exception). Also much of the analysis area is within an Inventoried Roadless Area. As a result, there have been few activities within the roadless area other than trail construction.

The Tower Fire removed most vegetation and duff, leaving soils unprotected from erosion and increasing overland water flow. Vegetation is still sparse (with the exception of lodgepole pine seedlings/saplings) where fire severity was high. Soil erosion and sedimentation in Cable Creek continue to occur. Some fire suppression activities occurred within the analysis area, mostly to the north of the proposed project. Firelines were rehabilitated after the fire and should no longer produce residual resource effects.

A number of post-fire rehabilitation projects (associated with the Tower Fire Rehabilitation Projects EIS) have also been implemented in the recent past. These include:

- 13.6 miles of riparian vegetation planting along South Fork Cable Creek
- 2.8 miles of riparian vegetation planting along Upper North Fork Cable Creek
- 6,786 acres of conifer planting.

The effects of these activities has been to stabilize soils, restore stream shade (which will increase as plants mature buffering streams from temperature increases), and produce future instream wood.

**Ongoing activities** within the analysis area includes trail use and maintenance, road maintenance, livestock grazing, recreation use, personal firewood collection, mushroom collection, and residential use of Pearson Summer Home and Guard Station. Livestock grazing reduces streamside vegetation and contributes to streambank instability, which adds to current sediment loads and high water temperatures. Recreation, primarily trail use, also contributes to stream sediment at stream crossings. Personal firewood collection, road maintenance, and the residential use of Pearson Summer Home and Guard Station occur far enough away from the proposed Round Meadow Trail reroutes that there is not likely a cumulative effect relationship. Mushroom collection occurs near the trail, but does not have a measurable cumulative effect with the proposed project.

**Foreseeable future activities** include projects associated with the Tower EIS that remain to be implemented (a map of the locations of these activities is archived in the analysis file for this project):

- Fencing of Round Meadows (45 acres) and a 1 mile degraded section of the adjacent creek

- Improvement of trail/road crossings on Round Meadows Trail and installation of sign at the trailhead.
- Reconstruction of Pearson Guard Station outhouse and water line
- Repair of Forest Road 5448
- Rehabilitation of dispersed campsites
- Subsoiling of old skid trails and landings,
- Fuels reduction (740 acres—all outside the Roadless Area) as follows:
  - 162 acres of commercial firewood/post-and-pole sales,
  - 371 acres of felling and slashbusting/burning dead standing fuels, and
  - 207 acres of felling small diameter trees and burning them in place

Effects of these projects were discussed at length in the Tower Fire Rehabilitation Projects EIS and ROD. Fencing would reduce livestock grazing along Cable Creek which would increase streambank stability. Also, repair of Forest Road 5448, subsoiling, and rehabilitation of dispersed campsites would reduce sediment input upstream of the trail reroutes. This would cumulatively reduce sediment when coupled with the move of the Round Meadows Trail bridge and repair of the associated gully. Fencing would also increase stream shade and reduce stream temperatures, though the proposed reroutes would not affect this stream component. Improvement of the trail/road crossings would combine with the trail reroute to cumulatively improve OHV user safety. Reconstruction of Pearson Guard Station outhouse and water line is downstream of the proposed reroutes and across Forest Road 52, so there should not be any cumulative interaction with this project. Fuels reduction projects should also not affect sediment due to unit locations and techniques used.



# APPENDIX C - MAPS

Figure 1. Vicinity Map of Round Meadows Trail Reroute Project

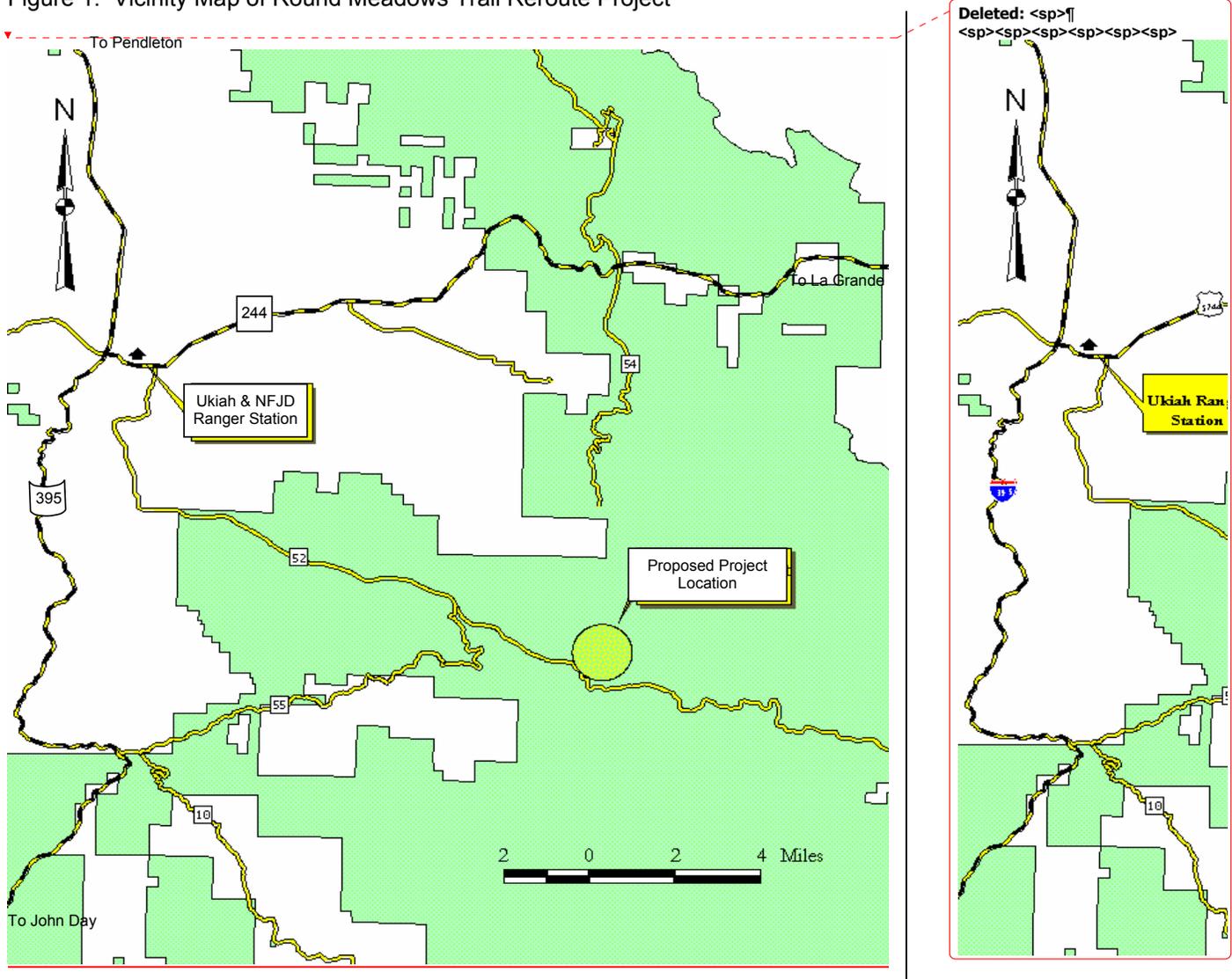


Figure 2. Round Meadows Trail Reroute Analysis Area

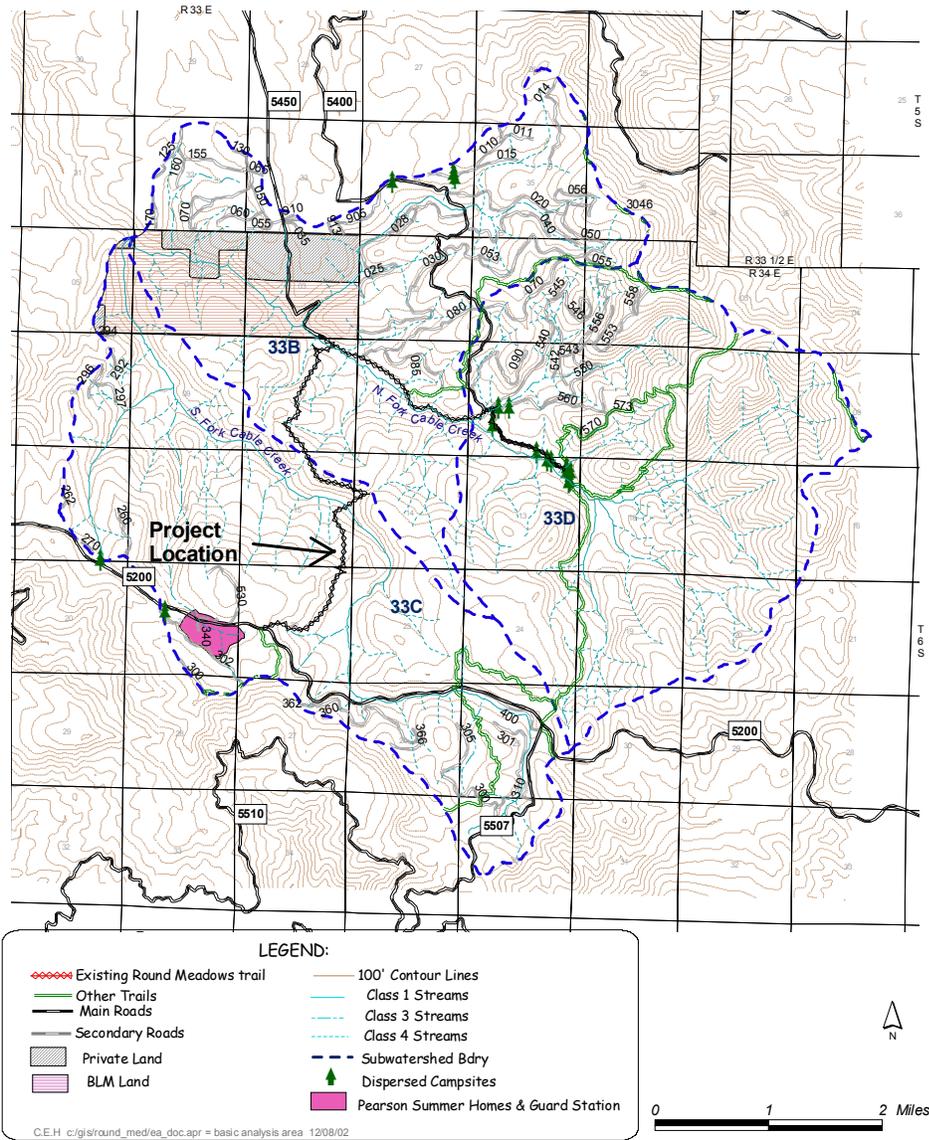


Figure 3. Proposed Action (Alternative #2)

