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Environmental Assessment

Round Meadows Trail Reroute

North Fork John Day Ranger District
Umatilla National Forest
Umatilla County, Oregon

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CHAPTER I – 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 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” loop¹ 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 Tower 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 those two events, heavy maintenance was performed on the trail. This maintenance included installation of erosion control devices and minor trail realignment. In addition, use of the trail and its associated loop increased during this time.

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. Work needs to be performed on the unstable sections of the Round Meadows Trail to reduce the amount of soil entering the creek from the trail and to prevent further deterioration of fish habitat.

¹ 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.

PROPOSED ACTION

The North Fork John Day Ranger District proposes to reroute two segments of the Round Meadows Trail. This action is displayed as Alternative 2 in chapters 2 and 3 of this document. A map of the two trail segments to be targeted and their proposed reroutes is in Appendix C of this analysis (Figure 3).

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.

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 (0.5 miles long) would close the original 0.3-mile route (Segment #2) through this section and repair the eroded gully that has formed on the trail. The existing portion of trail (a very difficult segment of an otherwise easy trail) would be decommissioned, rehabilitated with a series of grade control structures, and revegetated using native plants. The new trail segment would eliminate the steep climb out of South Fork Cable Creek and include several climbing turns to prevent further gullying. The two existing bridges over South Fork Cable Creek would be removed and two new bridges would be placed upstream to a more stable and higher location.

PURPOSE OF AND NEED FOR ACTION

The Umatilla National Forest Land and Resource Management Plan (USDA, Forest Service, 1990a) (Forest Plan), as amended, recognizes the following forest management goals (pp. 4-1 – 4-3):

1. 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;
2. To provide for a broad spectrum of recreation opportunities and experiences and a variety of recreation settings on the National Forest for Forest recreationists;
3. 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.
4. 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 comply with 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.

MANAGEMENT DIRECTION

This Environmental Assessment (EA) process and documentation has been done according to direction contained in the *National Forest Management Act* (NFMA), the *National Environmental Policy Act* (NEPA), the *Council on Environmental Quality* (CEQ) *regulations*, *Clean Water Act*, and the *Endangered Species Act* (ESA). 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* (USDA, 1990a), dated June 11, 1990. This includes 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. It is also tiered to the *Managing Competing and Unwanted Vegetation FEIS*, its *Mediated Agreement*, and *Record of Decision* dated December 8, 1988.

This EA incorporates by reference the *Environmental Assessment for the Management of Noxious Weeds and Decision Notice* dated May 24, 1995, 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. The project analysis file, including specialist reports, is also 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. Ownership and Management Classification of the Round Meadows Analysis Area

<u>Ownership</u>	<u>Area (acres)</u>	<u>%</u>	<u>Forest Plan Management Areas</u>	<u>Acres</u>
USDA Forest Service	17,026	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
USDI Bureau of Land Management	890	5		
Private	403	2		
Total Analysis Area	18,319			

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 specifies the desired future conditions (DFCs) 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 retention². An attractive, natural 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* (pp. 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 (p. 4-167). **SCOPING PROCESS**

Scoping is the process the Forest Service uses to identify potential concerns (or “issues”) associated with the proposed action, alternatives to the proposed action, and 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 and Spring 2002 quarterly issues of the Umatilla National Forest Schedule of Proposed Activities.

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.

KEY ISSUES

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 II) and to analyze the environmental effects of implementing each alternative (Chapter III).

² “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 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)

ROUND MEADOWS TRAIL MAINTENANCE

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 was required for this segment of the trail in 2002. 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.

The proposed action would address the existing trail conditions, but it would also add 1.3 miles of trail, which would increase the amount of trail to be maintained. This could potentially expose more area to soil instability and increase maintenance costs. The only letter received in response to scoping identified a concern that opening additional miles to OHV would likely result in more abuse by users.

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 otherwise buffers 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

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, if present, 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 II - ALTERNATIVES

This chapter describes and compares the alternatives considered for the Round Meadows Trail Reroute project. It includes a description and map of each alternative considered. This section also presents the alternatives in comparative form, defining the differences between each alternative, thus providing the decision maker and public with a clear basis for choice among options.

ALTERNATIVE DEVELOPMENT _____

The interdisciplinary team used the purpose and need statement and field reconnaissance to develop the proposed action. Trail segments 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 (Alternative 1) was defined as no change from current management. In other words, the trail would remain in its current condition and activities not associated with the proposed action (such as maintenance and use) would continue. Alternative 3 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 the Round Meadows Trail Reroute project. 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 _____

ALTERNATIVE 1: *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 of the trail would continue (Appendix C, Figure 5.).

ALTERNATIVE 2: *PROPOSED ACTION*

Goal: Reduce impacts to water quality and fish in South Fork Cable Creek, while enhancing the recreation experience.

Description: This alternative would reroute two sections of trail, with decommissioning and repair of the gullied portion of trail. The existing trail section at Reroute A would remain open to provide 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.

Reroute A: Build 1.1 miles of new trail that would provide a loop along a ridge before rejoining 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 new trail and close the 0.3-mile original route (Segment #2) through this section of the complex. This reroute would eliminate the existing steep climb out of South Fork Cable Creek with several climbing turns before rejoining the existing trail.

As part of Reroute B, two new 25-foot bridges would be constructed across South Fork Cable Creek upstream of the existing bridges. Because the 1996 Tower Fire burned native, on-site materials, bridges would be constructed of poles or glue laminates. The original bridges would be dismantled. To the extent possible, decking and other materials from the old bridges would be reused in construction of the new bridges, for erosion control on the trail, for repair of the gully, or anchored in South Fork Cable Creek for in-stream habitat.

The eroded gully would be repaired by reshaping its sides to improve stability. Stair-like structures would be built across the gully to slow downhill flow of water and trap eroded soil. Vegetation would be reestablished on the bare soil using native seed.

See the associated mitigation beginning on page 10 for a further description of project design, and Appendix C (Figure 3).

ALTERNATIVE 3

Goal: Reduce impacts to water quality and fish in South Fork Cable Creek while preserving the recreation experience and reducing wildlife disturbance and the cost of maintenance.

Description: This alternative would reroute two sections of trail, decommissioning both existing segments. 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) through this section of the complex. This would eliminate the existing steep climb out of South Fork Cable Creek with several climbing turns before rejoining the existing trail. Two new bridges would be constructed across South Fork

Cable Creek, the original bridges would be dismantled, and the eroded gully would be repaired as described in Alternative 2.

MITIGATION AND MANAGEMENT REQUIREMENTS _____

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

1. No live trees that survived the 1996 Tower Fire will be cut for the Round Meadows Trail Reroute project. However, it is conceivable that some lodgepole pine seedlings that have grown on the proposed reroutes since the fire will have to be removed.
2. Bridge and trail work will not occur during May and June in order to avoid human disturbance during the elk calving period.
3. Heavy bridge materials will be flown in by helicopter and all other bridge materials will be brought in by OHVs and placed by hand to avoid soil and streambank disturbance.
4. The only soil disturbance associated with installing the bridges will be a 8-inch deep by 8-inch wide by 12-foot long trench along each bank, three to four feet away from the edge, to bury the sill³ logs. A silt fence will be placed between the stream and the sill construction to trap loose soil.
5. 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.
6. The two existing bridges will be manually dismantled on site. Displaced soil will be collected from the decking and used in repair of the gully or deposited outside of the Riparian Habitat Conservation Area. Sills will be left in place to avoid soil disturbance. Stringers⁴ on the larger bridge will be cut on one end so they fall into the stream to function as large wood habitat. The stringers on the small bridge would be removed.
7. 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.
8. Construction activities will avoid wet areas (creek, seeps, shallow depressions with standing water) where possible in order to protect spotted frogs and their habitat.
9. Seeding of the gully 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.

³ 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.

⁴ The main bridge support members that cross the creek and support the bridge planks.

10. A sediment trap will be constructed below the gully until such time as the gully is stabilized to protect fish and water quality in South Fork Cable Creek. The sediment trap will be cleaned out as needed. Sediment will be transported outside the Riparian Habitat Conservation Area. The sediment trap will be monitored periodically during the spring and after any large storm.

MONITORING

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 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

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 less disturbance 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, Alternative 2 would actually enhance the experience by providing a new short loop route. Beginning riders could take the gentler ridge segment or try the more challenging sidehill segment at Reroute A. Under Alternative 2, use at Reroute A would be distributed between the two segments, reducing maintenance needs on the original segment. Table 2 illustrates the differences between the alternatives with regard to construction.

Table 2. Round Meadows Trail Miles by Alternative

	<u>Alternative</u>		
	<u>1</u>	<u>2</u>	<u>3</u>
Trail Miles Built			
Reroute A	0.0	1.1	1.1
Reroute B	0.0	0.5	0.5
Total	0.0	1.6	1.6
Trail Miles Closed			
Segment #1	0.0	0.0	1.1
Segment #2	0.0	0.3	0.3
Total	0.0	0.3	1.4
Change in Length of Trail (miles)	0.0	+1.3	+0.2
Total Length of Round Meadows Trail (miles)	6.8	8.1	7.0

Table 3 (below) provides a summary of the effects of implementing each alternative with regard to the key issues. Information in the table is focused on activities and effects where different levels of effects or outputs can be distinguished quantitatively or qualitatively among alternatives.

Table 3. Comparative Summary of the Alternatives and their Response to the Issues

<u>Measurement</u>	<u>Alternative</u>		
	<u>1</u>	<u>2</u>	<u>3</u>
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 ²)	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 III – 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.

Cumulative effects of the Round Meadows Trail Reroute project were analyzed at a scale that included the downstream subwatersheds where the effects of the proposed action might be traced and attributable (Appendix C). This analysis area included: South Fork Cable (33C), Upper North Fork Cable (33D), and Lower North Fork Cable (33B) watersheds.

TRAIL MAINTENANCE

EXISTING CONDITION

The 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 situation exists where the washed out portion of the trail is located (Segment #2), creating a “most difficult” section of trail.

Segment #1 of the Round Meadows Trail 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 section until 2000, when heavy maintenance was conducted to try to eliminate some of the recurring trail problems. This involved reconstructing water bars and installation of culverts for better drainage and erosion control. This appears to have stabilized this section 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.

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.

ANALYSIS OF ENVIRONMENTAL EFFECTS

Alternative 1, No Action: 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.

With this alternative, the use of the trail would continue and is projected to increase. As a result, trail maintenance problems would likely worsen. 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. As the trail deteriorates, hazards for inexperienced trail riders would increase. The result could be the eventual closure of the Round Meadows Trail.

Alternative 2, Proposed Action: This alternative would construct 1.1 miles of trail along an open ridge (Reroute A), while keeping the existing section of trail open. The ridge route would provide an alternate route for the less experienced rider and distribute use, which would reduce wear on the steeper original trail segment. The two routes would provide trail users with varied difficulty levels and an additional loop opportunity.

The bridge 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 bridge 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.

While 1.3 miles would be added to the length of the Round Meadows Trail under this alternative, yearly maintenance should cost less due to better distribution of riders and skill levels and more stable terrain.

Alternative 3: 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 should be reduced due to more stable locations of the trail and bridges.

TERRESTRIAL WILDLIFE AND ITS HABITAT

EXISTING CONDITION

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

1. Management Indicator Species and their habitats.
2. Proposed, Threatened, Endangered, and Sensitive (TES) wildlife species and their 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 (USDA, 1990, p. 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 Ukiah Management Unit, for which the Oregon Department of Fish and Wildlife has assigned a 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 unroaded, which helps to 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 roadless areas found around the Cable Creek area. After migration, calving begins in late May and is mostly completed by early July. The 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. OHV use 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 Subwatershed 33C is relatively low. Even when including motorized trail miles, the density is within the Forest Plan desired condition 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 (33C)

	<u>Length</u> <u>(miles)</u>	<u>Area</u> <u>(miles²)</u>	<u>Open Road</u> <u>Density</u> <u>(mi/mi²)</u>
Open roads	8.2	9.0	0.9
Open roads and motorized trails	13.7	9.0	1.5

Hiding cover is somewhat sparse after the Tower Fire, but is recovering quickly with patches of shrubs and lodgepole pine now reaching three and four feet tall. The overhead cover⁵ component for elk was severely reduced by the Tower Fire. It could take up to 30 years for conifers to grow in sufficient size and quantity to obtain an adequate overhead cover component as identified in the Forest Plan. The Forest Plan’s standard and guideline 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).

⁵ 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).

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 mixed conifer stands, while northern three-toed woodpeckers represent the same 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 area. The Tower Fire created an abundance of habitat for these species.

Proposed, Threatened, Endangered, and Sensitive Species

Species designated 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 being 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 confirmed to live in Oregon. Individual gray wolves have dispersed from Idaho into the Blue Mountains, but none have survived. 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 Subwatershed 33C (South Fork Cable Creek) 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 habitat⁶, 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 sightings have been reported in the Blue Mountains.

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.

Columbia spotted frog: Columbia spotted frogs have been observed in the analysis area. It is not known if spotted frogs occur where the current trail crosses the creek.

ANALYSIS OF ENVIRONMENTAL EFFECTS

Rocky Mountain elk

Alternative 1, 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.

Alternative 2, Proposed Action: There would be a 1.3-mile increase in trail miles, which would increase the combined open road/motorized trail density 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. 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 is expected. Likewise, elk forage, hiding cover, and migration will not likely be affected by the new trail locations. However, elk may be slightly more vulnerable to disturbance during hunting season, due to additional hiking and motorized access. 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.

⁶ 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).

Alternative 3: Effects to elk would be similar to Alternative 2, with the following exceptions. The net increase in trail would be only 0.2 miles. The open road/motorized trail density would be 1.5, well within the standard of 2.0 miles per square mile or less (Table 5). 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.

Table 5. Open Road and OHV Trail Density by Alternative (mi/mi²) in South Fork Cable Creek Subwatershed

<u>Alternative</u>	<u>Road & OHV Trail</u>		
	<u>(miles)</u>	<u>Area (mi²)</u>	<u>Road Density</u>
1	13.7	9	1.5
2	15.0	9	1.7
3	13.9	9	1.5

American marten

Alternatives 1, 2, and 3: 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

Alternatives 1, 2, and 3: Alternative 1 would not affect woodpeckers or other primary cavity excavators. The effects of repairing the trail and slightly changing OHV use patterns as described under alternatives 2 and 3 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.

PROPOSED, THREATENED, ENDANGERED AND SENSITIVE SPECIES

Gray wolf

Alternative 1, No Action: Because gray wolf are not known to currently inhabit the District, and existing activities would have no effect on gray wolf habitat, Alternative 1 would have no effect on individuals, nor the quality or quantity of habitat.

Alternatives 2 and 3: The proposed activities would have no effect on individuals, nor the quality or quantity of habitat. Wolves are not known to be in the area, and no denning or rendezvous sites are known. Cumulatively the proposed activities, other ongoing projects, and future foreseeable projects would not affect wolves or their habitat because of the small percentage of area impacted and the current lack of wolf sightings in this area.

Canada lynx

Alternative 1, No Action: Lynx are not known to occur in the area, and there would be no change in management activities. Therefore, Alternative 1 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.

Alternatives 2 and 3: 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 of the small percentage of area affected under these alternatives and the location of the project 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 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 will 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

Alternative 1, 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, Alternative 1 would have **no impact** on individuals, nor the quality or quantity of habitat.

Alternatives 2 and 3: The proposed project 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. The proposed activities, in combination with past, ongoing, and future foreseeable projects, would not adversely impact wolverine because of the small percentage of area affected and the status of the location as an inventoried roadless area.

Peregrine falcon

Alternative 1, No Action: Peregrine falcon would not be impacted under this alternative. Peregrine falcons could pass through the area, but because of the small percentage of area affected, **no impacts** would be expected.

Alternatives 2 and 3: The proposed activities would have **no impact** on peregrine falcon. The proposed trail would not adversely affect habitat conditions or prey resources, nor cause long-term animal movements. The proposed activities, in

combination with past, ongoing, and future foreseeable projects, would not adversely impact peregrine falcon because of the small percentage of area affected and the status of the location as an inventoried roadless area.

Columbia spotted frog

Alternative 1, 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, Alternative 1 may impact individuals, but would not likely reduce viability or cause a downward trend in the spotted frog population.

Alternatives 2 and 3: Proposed activities would likely 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. Therefore, the proposed activities may impact spotted frog, but would not likely reduce viability or cause a downward trend in the spotted frog population. The degree to which spotted frogs would be affected is unknown, but would likely be small. 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. 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.

FISH POPULATIONS AND HABITAT

The scale of analysis from a fish population perspective is the Upper North Fork Cable, Lower North Fork Cable, and South Fork Cable subwatersheds (Appendix C, Figure 2).

Based on local studies, surveys, and monitoring, as well as published literature regarding distribution and habitat use, the following Proposed, Endangered, Threatened, and Sensitive and management indicator species 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>) ⁷	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.

⁷ The Umatilla National Forest Plan lists rainbow trout as a Management Indicator Species. Interior redband trout is the name given to rainbow trout when it occurs above stream barriers.

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:

- (1) 64° F (for steelhead and chinook rearing)
- (2) 55° F during times and in waters that support salmon spawning, egg incubation, and fry emergence from the egg and from the gravels
- (3) 50° F in waters that support Oregon Bull Trout.”

Forest Service thermograph data was used to evaluate this indicator. Temperatures within the Cable Watershed are currently Functioning at Unacceptable Risk⁸ because they are regularly above those considered healthy for fish. Maximum stream temperatures regularly exceeded 64° F during the summer (the period of fish rearing⁹). Temperature data from the year 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 Location</u>		
	<u>South Fork at mouth (33C)</u>	<u>North Fork at mouth (33B)</u>	<u>North Fork at Whoop De Do Trail (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	

⁸ 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.

⁹ The period when juvenile fish are actively feeding and growing.

Sediment: Wolman pebble counts¹⁰ taken during 1997 stream surveys are available for Upper North Fork Cable Creek only. The values are shown in Table 7.

Table 7. Sediment in Percent Fines Less than 6 mm – North Fork Cable Creek, 1997

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)¹¹ this stream would be considered not properly functioning.

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 embedded¹² 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 all five surveyed reaches of North Fork Cable and for Reach 2 of South Fork Cable (Table 8).

¹⁰ 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.

¹¹ 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.

¹² 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	<u>Stream / Subwatershed</u>						
	South Fork Cable 33C		Lower North Fork Cable 33B			Upper North Fork Cable 33D	
	<u>Reach 1</u>	<u>Reach 2</u>	<u>Reach 2</u>	<u>Reach 3</u>	<u>Reach 4</u>	<u>Reach 5</u>	<u>Reach 6</u>
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 in North Cable Creek to bedrock and produced a large debris torrent, which then scoured the main upper channel of North Cable. The upper 1½ reaches of North Cable Creek were resurveyed in 1997. The results are shown in Table 9.

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

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

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

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.

ANALYSIS OF ENVIRONMENTAL EFFECTS

Alternative 1, No Action: Under this alternative, the trail would remain in its current condition and location. No segments of the trail would be rerouted for erosion control. 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 that increase water temperatures. This alternative would have no effect on large wood in the stream.

Alternatives 2 and 3: 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. Construction of the portion of trail 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 by recontouring the sides to a more stable grade, installing erosion control devices, seeding, and mulching. A sediment trap would be located below the gully to prevent transport of sediment to the creek. These measures would minimize effects to 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 will not likely contribute to a trend towards federal listing or cause a loss of viability to the population or species.

NOXIOUS WEEDS

EXISTING CONDITION

The scale of analysis encompasses the OHV Complex and loading areas along Forest Road 52. Weeds of the Round Meadows 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 archived in the analysis file for this project). All eight are currently under treatment and would continue to be under treatment per direction in the Umatilla 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).

Alternative 1, 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 and the required recurrent maintenance caused by the erosion could, over a course of several years, have a higher likelihood of introduction and spread than alternatives 2 and 3. 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.

Alternative 2, 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. While some of the original trail would then be closed, this alternative would add 1.3 miles of trail to the OHV Complex (which equates to about 0.5 acres of exposed mineral soil). 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 Forest¹³. The area with the highest potential of invasion would be along the trail’s edge.

Alternative 3: 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

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

present, the seeding and native vegetation should reclaim the unused sections with virtually no risk of noxious weed spread or introduction.

VISUAL QUALITY

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, blocks views of the trail and its reroutes at the trailhead. Reroute A would be seen from the byway, but because it is proposed to 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.

COMPLIANCE WITH OTHER LAWS, REGULATIONS, POLICIES

ENDANGERED SPECIES ACT

Threatened and Endangered wildlife and fish species were discussed under the associated resource sections above. 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 alternatives 2 and 3 would have no effect on that species.

Table 11 (below) summarizes the effects of each alternative of the Round Meadows Trail Reroute project on Threatened, Endangered, and Sensitive wildlife, fish, and plant species that might occur in the analysis area.

Based upon the Biological Evaluations for terrestrial and aquatic species and habitats that may occur in the analysis area¹⁴, Threatened Mid-Columbia steelhead trout and Essential chinook salmon habitat may be affected by the proposed project. Although these affects are not likely to be detrimental, the District will consult with the National Marine Fisheries Service before making any irreversible or irretrievable commitments of resources to implement the proposed project (16 U.S.C. §1536(a)). The Round Meadows Trail Reroute project complies with the Endangered Species Act.

¹⁴ Copies of these reports are in the analysis file for this project.

Table 11. Summary of Effects on Proposed and Federally Listed Terrestrial Wildlife, Aquatic, and Plant Species and Habitats

<u>Species</u>	<u>Status</u>	<u>Alternative</u>		
		<u>1</u>	<u>2</u>	<u>3</u>
Gray wolf <i>Canis lupus</i>	Endangered	NE	NE	NE
Canada lynx <i>Lynx Canadensis</i>	Threatened	NE	NE	NE
Mid-Columbia steelhead trout <i>Oncorhynchus mykiss</i>	Threatened	NLAA	NLAA*	NLAA*
Bull trout <i>Salvelinus confluentus</i>	Threatened	NE	NE	NE
Habitat for Chinook salmon	Essential	NLAA	NLAA*	NLAA*
Spalding's catchfly <i>Silene spaldingii</i>	Proposed	NE	NE	NE

*Consultation with National Marine Fisheries Service is required.

NE No effect on a proposed or listed species or critical habitat

NLAA May affect but is not likely to adversely affect

NATIONAL HISTORIC PRESERVATION ACT

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 identify and 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). The portions of the proposed trail re-routes that remained unsurveyed were then checked on June 6, 2001, by Gary Popek, South Zone Archaeologist for the Umatilla National Forest. 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. These 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 sources¹⁵. The act assigned the responsibility for management and enforcement of water quality to the States. Table 12 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 12. Beneficial Uses and Associated Water Quality Parameters for North Fork John Day Subbasin, Including the Round Meadows Analysis Area

<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

¹⁵ 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 (10th Cir. 1980)). Every other type of water pollution that does not originate from a point source is a non-point source.

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).

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 C) 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. 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. 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 related sections, 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. Mitigation has been identified to protect soils and water quality. The proposed activity is 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.

Table 13 (below) summarizes the effects of each alternative of the Round Meadows Trail Reroute project on Regionally Sensitive species that might occur in the analysis area.

Table 13. Summary of Effects on Regionally Sensitive Terrestrial Wildlife, Aquatic, and Plant Species and Habitats

<u>Species</u>	<u>Alternative</u>		
	<u>1</u>	<u>2</u>	<u>3</u>
Peregrine falcon <i>Falco peregrinus anatum</i>	NI	NI	NI
California Wolverine <i>Gulo gulo</i>	NI	NI	NI
Columbia spotted frog <i>Rana luteiventris</i>	MI	MI	MI
Chinook salmon <i>Oncorhynchus tshawytscha</i>	MI	MI	MI
Redband trout <i>Oncorhynchus mykiss ssp</i>	MI	MI	MI
Crawford's sedge <i>Carex crawfordii</i>	NI	NI	NI
Inland sedge <i>Carex interior</i>	NI	NI	NI
NI	No impact to R6 sensitive species individuals, populations, or their habitat		
MI	May impact individuals or habitat, but will not likely contribute to a trend towards federal listing or cause a loss of viability to the population or species		

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 wetlands within the project area that meet the legal definition of a wetland. Therefore, the Round Meadows Trail Reroute project would comply 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 comply 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 is 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).

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. All proposed activities would result in minor energy requirements. 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 Roadless Area (USDA, Forest Service, 1990b). There are also 100 acres of the North Fork John Day Wilderness within the analysis area. 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. 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 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 3). Visual

quality objectives (USDA, 1990a, p. 4-100 and 4-167) would be met, and a Roded Natural¹⁶ physical and social setting would be maintained.

Activities under alternatives 2 or 3 would not affect water temperature or instream flows, so Forest-wide Standards and Guidelines for those parameters would be met.

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. Activities proposed within Riparian Habitat Conservation Areas are expected to comply with PACFISH criteria. 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 Alternative 2 or Alternative 3 would be consistent with the Forest Plan.

CONSUMERS, MINORITY GROUPS, AND WOMEN

The effects on civil rights, including those of minorities and women, are expected to be minimal. Activities associated with alternatives 2 and 3 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 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 IV of the Forest Plan and additional mitigation proposed in Chapter 2 of this document. These adverse environmental effects are discussed at length under each resource section.

¹⁶ 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. Roded 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, p. GL-32).

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.

Alternative 1 Environmental Consequences: 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.

Alternatives 2 and 3 Environmental Consequences: 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.

Alternative 1 Environmental Consequences: 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.

Alternatives 2 and 3 Environmental Consequences: 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 IV - 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 parties 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 will be posted on the Umatilla National Forest website. A letter announcing availability of the Environmental Assessment will be sent to the entire maillist, with a hard copy 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
- Nortwest Trailbikers Association, Norvel Arbogast
- Nortwest Trailriders Association, Curt Lavelle

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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

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

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 identified for consideration during cumulative effects analysis included the Tower Fire in 1996 (including suppression and correction of after effects such as trail blow-out), post-fire timber salvage logging, private harvest, thinning, other harvest prior to the Tower Fire, road construction, mining, mushroom collection, and grazing.

Ongoing activities included trail use and maintenance, road maintenance, tree planting, recreation use, personal firewood collection, mushroom collection, and residential use of Pearson Summer Home and Guard Station.

Known future activities included grazing, timber salvage, fencing Round Meadow, riparian planting, fish passage improvements on South Fork Cable Creek, fuel treatments, including prescribed burns, BLM management activities, and wildfire (a map of the locations of these activities is archived in the analysis file for this project).

APPENDIX C - MAPS

Figure 1. Vicinity Map of Round Meadows Trail Reroute Project

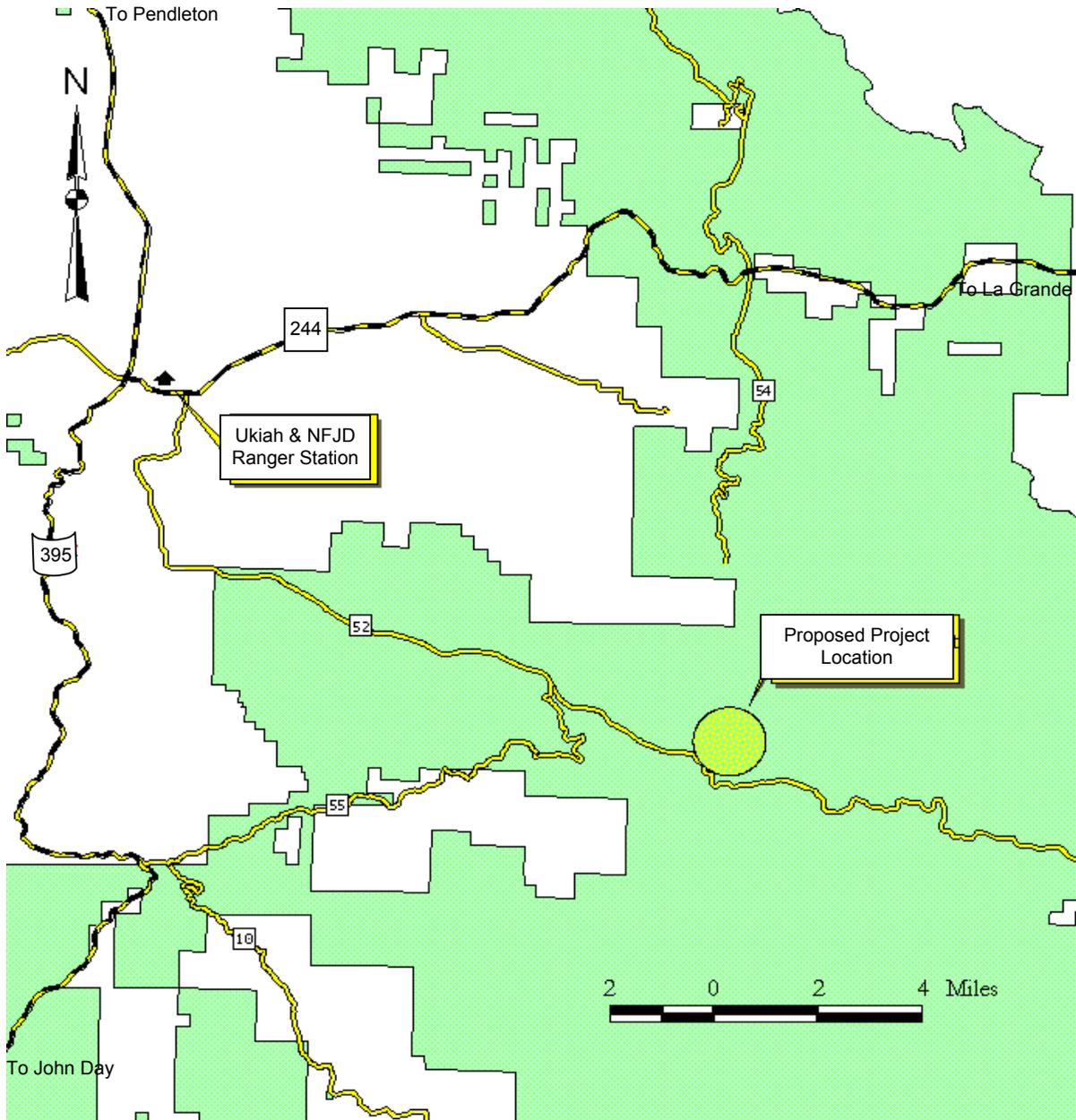


Figure 2. Round Meadows Trail Reroute Analysis Area

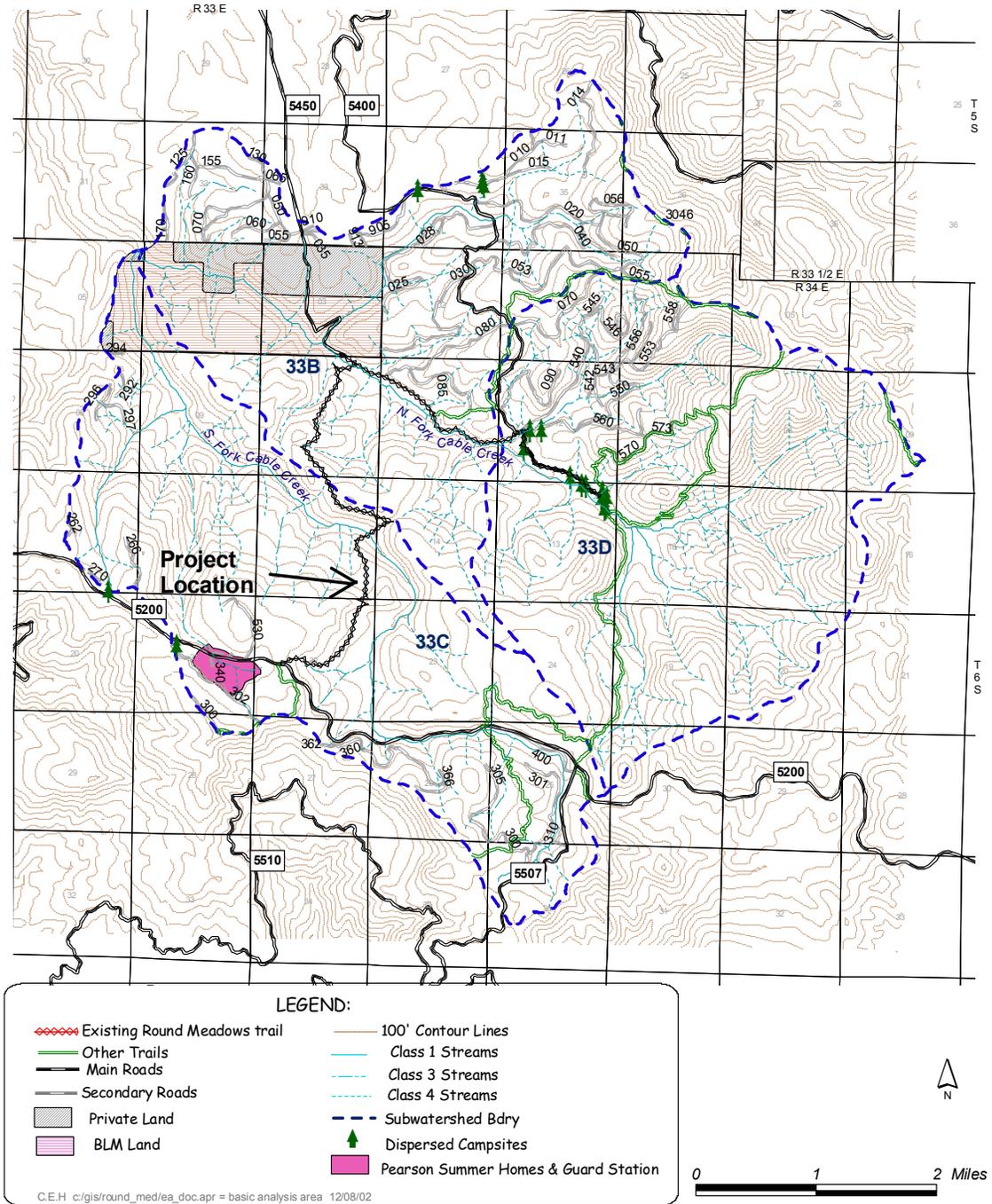


Figure 3. Proposed Action (Alternative #2)

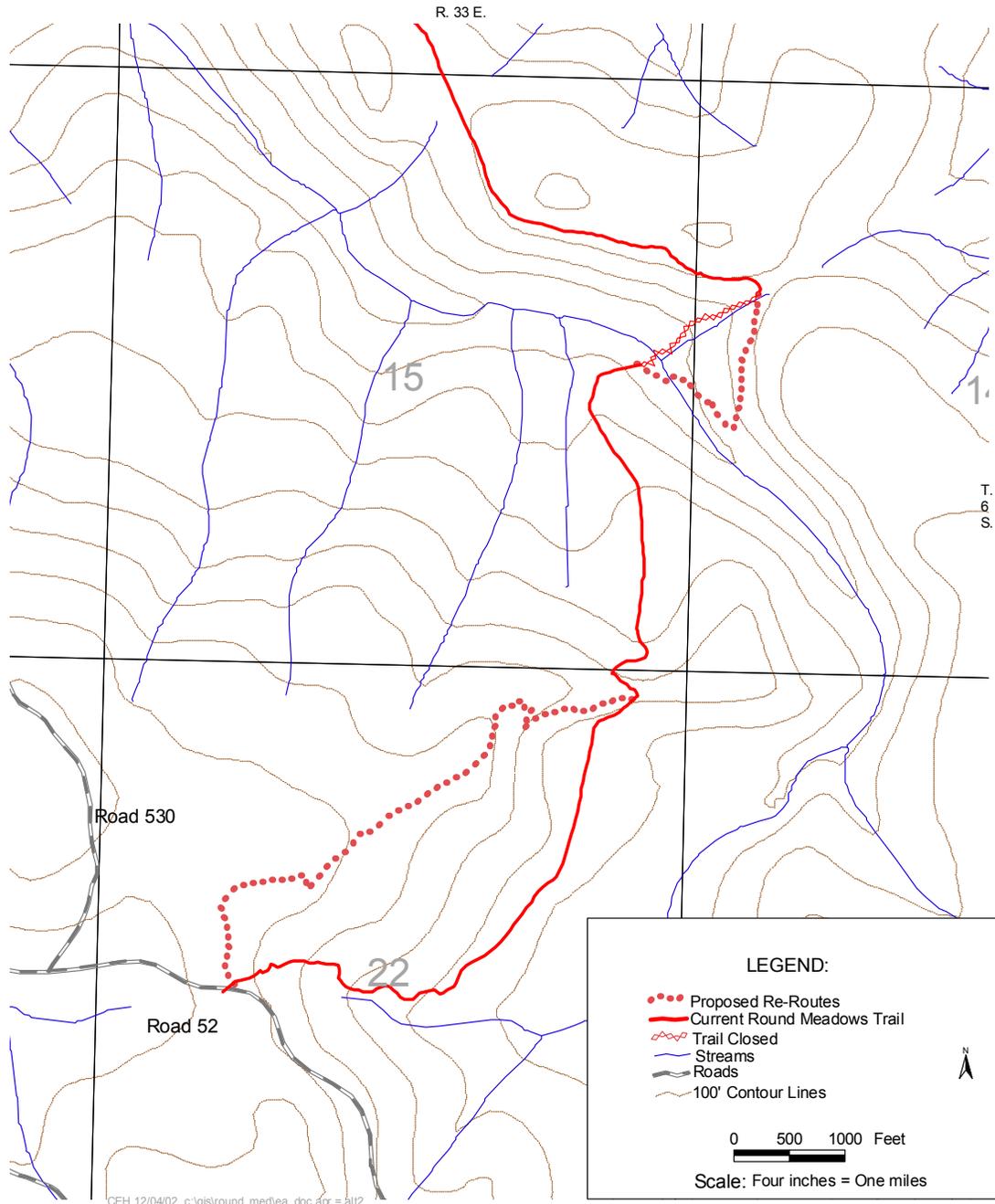


Figure 4. Management Area Boundaries within the Round Meadows Trail Reroute Project Analysis Area

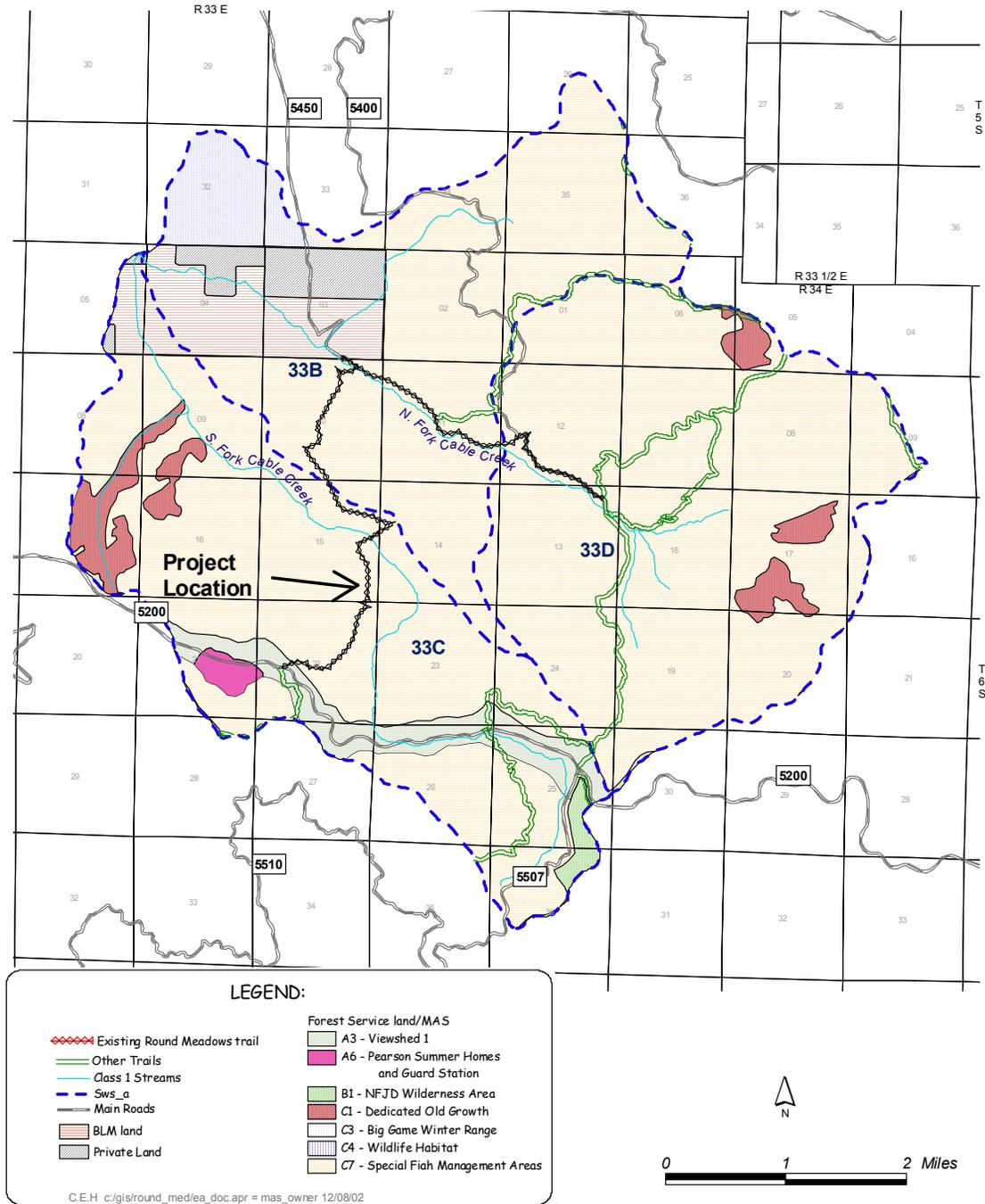


Figure 5. Existing Conditions and No Action Alternative (Alternative #1)

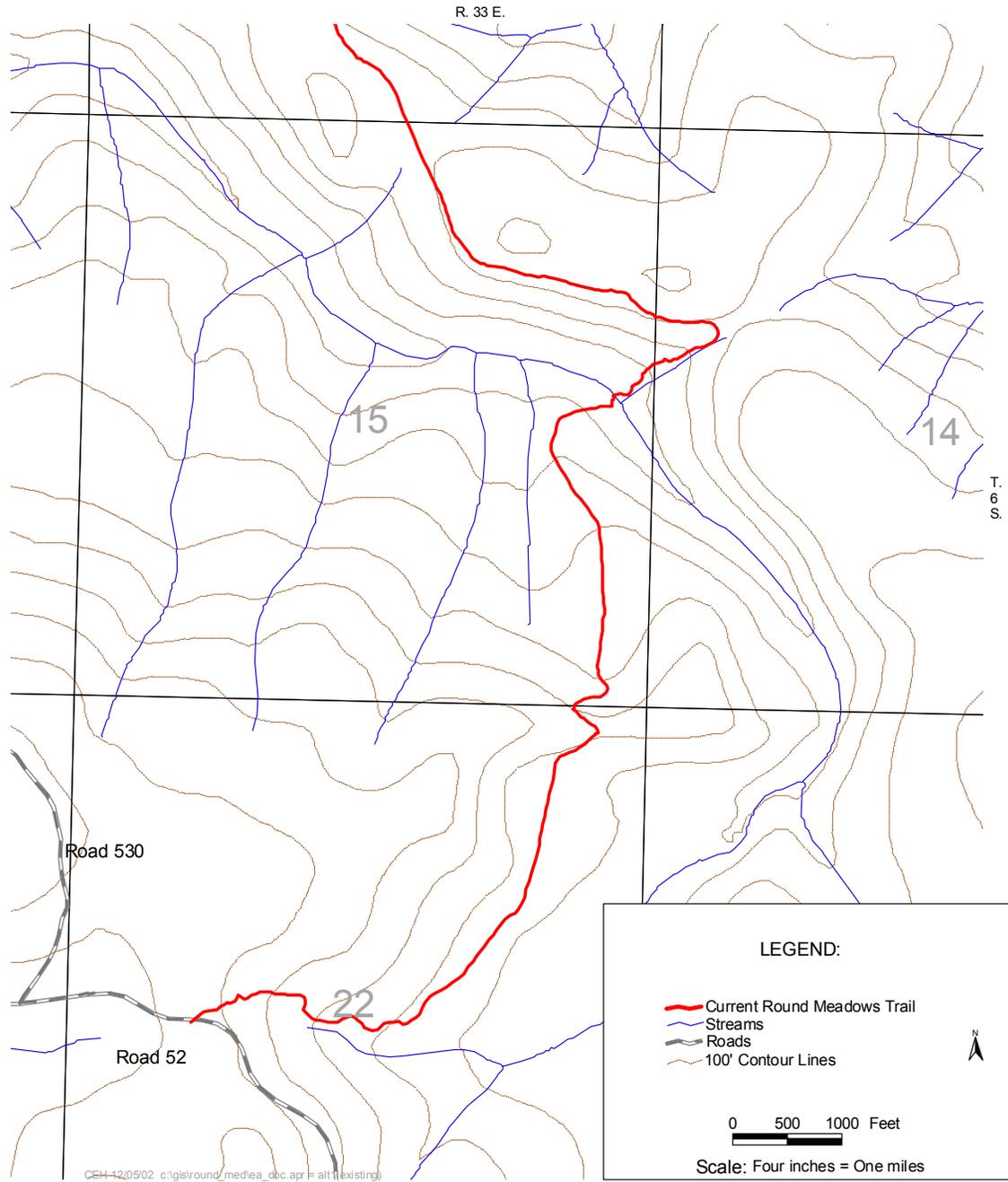


Figure 6. Map of Alternative #3

