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Department of  
Agriculture

**Forest  
Service**

March 2007



# **Environmental Assessment**

## **Upper Middle Fork Watershed Road Stormproofing and Restoration Project**

**Middle Fork Ranger District  
Willamette National Forest  
Lane County, Oregon**

Legal Location: T 23 S, T 24 S, and T 25 S, R 4 E and R 5 E, W.M.

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## **SUMMARY**

The Middle Fork Ranger District of the Willamette National Forest is considering approximately 23 miles of road for placement in road maintenance storage for 10 or more years. Approximately 471 miles of road exist within this watershed. The greatest period of road construction was between 1964 and 1980. Many of the roads constructed prior to 1980 used sidecast construction methods and are now a risk for failure because of latent construction defects. In addition to construction techniques, a high percentage of roads were built on steep, erosive soils, conducive to mass failure. The objectives of this proposal are to minimize the down slope affects to other resources and improve the ability to perform adequate road maintenances activities within the existing budgetary constraints. While in a storage condition, roads would not be accessible to motorized vehicle traffic. This restricted access to motorized vehicles is necessary to protect the resource management work that would be done to the roads and to place them in storage.

The 24 miles of roads in the project area are located within sub watersheds (23-2, 23-3, 23-4, and 23-5) of the Upper Middle Fork Willamette Watershed on the Middle Fork Ranger District, Willamette National Forest, Oregon.

The proposed action may limit recreational and forest activities that require driving motorized vehicles to access areas of public interest.

In addition to the proposed action, the Forest Service also evaluated the following alternatives:

- Alternative 1 is the No Action alternative. We would not implement any restoration if this alternative is selected.
- Alternative 2 is the first action alternative. All 23 miles of roads identified for storage and closure in this proposal would be treated with a combination of water bars, ditching over some culverts, some drain ditch cleaning to correct drainage problems and we would block the roads with a berm to close them.
- Alternative 3 is the second action alternative. In this alternative we would repair 18.4 miles of the roads with poor drainage conditions with a combination of waterbars, ditching over some culverts and some drain ditch cleaning. We would block the roads with a berm closure. Six roads may have a combination of the above treatments plus some drivable structures, and the roads would not be blocked.
- Alternative 4 is the third action alternative. In this alternative we would treat 24 miles with drivable drainage structures and maintain all ditches and culverts. This treatment method would be the most expensive to implement and would require future maintenance dollars to maintain the drainage structures.

Based upon the effects of the alternatives, the responsible official will decide which alternative meet the needs of the forest users, government agencies and will best protect the forest resources.

The decision to be made by the District Ranger is whether or not to store the identified 24 miles of road in the Upper Middle Fork Watershed, and to determine what method of storage (number of road miles, which roads to store, and how to store roads) best addresses the resource, administrative and public use needs now and in the future. The decision will be compatible with multiple use objectives and meet the desired future conditions for the area as defined in the Forest Plan as amended by the Northwest Forest Plan.

# CHAPTER 1 - INTRODUCTION

## Document Structure

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The Forest Service has prepared this Environmental Assessment in compliance with the National Environmental Policy Act (NEPA) and other relevant Federal and State laws and regulations. This Environmental Assessment discloses the direct, indirect, and cumulative environmental impacts that would result from the proposed action and alternatives. The document is organized into four parts:

- *Introduction:* The section includes information on the history of the project proposal, the purpose of and need for the project, and the agency's proposal for achieving that purpose and need. This section also details how the Forest Service informed the public of the proposal and how the public responded.
- *Comparison of Alternatives, including the Proposed Action:* This section provides a more detailed description of the agency's proposed action as well as alternative methods for achieving the stated purpose. These alternatives were developed based on significant issues raised by the public and other agencies. This discussion also includes possible mitigation measures. Finally, this section provides a summary table of the environmental consequences associated with each alternative.
- *Environmental Consequences:* This section describes the environmental effects of implementing the proposed action and other alternatives. This analysis is organized by resource area. Within each section, the affected environment is described first, followed by the effects of the No Action Alternative that provides a baseline for evaluation and comparison of the other alternatives that follow.
- *Agencies and Persons Consulted:* This section provides a list of preparers and agencies consulted during the development of the environmental assessment.
- *Appendices:* The appendices provide more detailed information to support the analyses presented in the environmental assessment.

Additional documentation, including more detailed analyses of project-area resources, may be found in the project planning record located at the Middle Fork Ranger District Office in Westfir, Oregon.

## Background

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In August 1999, the Washington Office of the USDA Forest Service published Miscellaneous Report FS-643 titled "Roads Analysis: Informing Decisions about Managing the National Forest Transportation System." The objective of roads analysis is to provide decision makers with critical information to develop road systems that are safe and responsive to public needs and desires, are affordable and efficiently managed, have minimal negative ecological effects on the land, and are in balance with available funding for needed management actions.

A key feature of the road policy includes using a science-based road analysis process to better identify the minimum road system needed to meet forest plan goals and standards. (Forest Service Memo, File Code 1900/7700, October 18, 1999)

In October 1999, the agency issued Interim Directive 7710-99-1 authorizing units to use, as appropriate, the road analysis procedure embodied in FS-643 to assist land managers making major road management decisions. The Pacific Northwest Region of the Forest Service then produced a roads analysis guidance document as a supplement to Appendix 1 of FS-643. This document provides guidance concerning the appropriate scale for addressing the roads analysis.

In January 2001, the Forest Service adopted a new road management policy, the policy includes a science-based Roads Analysis Process (RAP) designed to help managers make better decisions on roads. The Willamette National Forest is in the process of modifying its forest-scale roads analysis, which is incorporated into the roads analysis for the Middle Fork Ranger District.

The current road system was developed to meet a different set of landscape management objectives than presently exist. With the advent of the Northwest Forest Plan much of the Forest previously identified for intensive forest management was changed to a reserve category. This change significantly reduced the miles of roads needed to manage the Middle Fork Ranger District. The existing transportation system is beyond the immediate needs of management activities. The proposed reduction would also better enable the District to meet goals and objectives that promote aquatic and terrestrial ecosystem values. In most situations both aquatic and terrestrial resources are enhanced by a reduction in the road system mileage.

The RAP was broad enough in scope to ensure that the revised transportation system will be sufficient to address the long-term needs of the District as well as those of the neighboring Districts, forest users, and owners of adjacent lands. Implementing the analysis recommendations would allow the remaining road maintenance funds to be concentrated on providing a safer, more environmentally sensitive transportation system that protects natural resource values.

## **Purpose and Need for Action**

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The purpose of this project is to implement the direction of the Land and Resource Management Plan of the Willamette National Forest (Willamette Forest Plan) as amended by the Record of Decision for the Final Supplemental Environmental Impact Statement (Northwest Forest Plan) on Management of Habitat for Late-Successional and Old-Growth Forest Related Species within the Range of the Northern Spotted Owl. These plans provide direction based on designated management areas (MA) and associated standards and guidelines (S&G) for numerous land use allocations. The allocations that are within the boundaries of this proposed project (sub watershed 23-2, 23-3, 23-4 and 23-5) are 9- Wildlife Habitat, 10- Dispersed Recreation, 11- Scenic, 14A General Forest, Riparian Reserve, and 16- Late Successional Reserve (LSR).

The Upper Middle Fork Watershed Analysis (USDA, 1996) identified the need to reduce the environmental effects of the road system. A majority of the roads were constructed prior to 1980 and used sidecast construction methods and are now at risk for failure as a result of latent construction defects. In addition, some portions of the roads were built on steep, erosive soils, conducive to mass failures (WA, page 26). The road system interrupts subsurface flow which expands the drainage network and delivers runoff to the stream systems within a shorter period of time. The roads system intersects the stream network providing a conduit to funnel water and creates potential to deliver fine sediment from the road surfaces into the stream network. This can contribute to adverse impact to fish and aquatic habitat functions. The high road densities contribute to disturbance of big game and can diminish the quality of habitat for other terrestrial species.

The Willamette National Forest Roads Analysis Report (USDA, 2003) addressed the challenge of managing an extensive forest road system with limited operating funding. The Forest Road Analysis identified the need to manage a minimum road system that is safe and responsive to public needs and desires, is affordable and efficient, has minimal adverse effects on ecological processes and health, diversity, and productivity of the land, and is in balance with available funding for needed management actions. The Forest Road Analysis provided recommendations for key roads to be kept open and maintained and for roads that should be considered for closure.

The Middle Fork Ranger District Supplemental Roads Analysis (USDA, 2004) provides specific road closure recommendations for roads within this project area. The District roads analysis evaluated each individual road segment on the District with criteria relating to terrestrial, aquatic, administrative, and public use factors. Based on the rating system, road closure recommendations for the Districts transportation system were made.

The desired future condition of the Forest and in this watershed is to have a road system that is environmentally sound, provides safe access for forest users, and can be maintained within the current and projected forest financial abilities. It is also important that we maintain and enhance wildlife habitat and protect soil and water resource values.

## **Proposed Action**

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The Middle Fork Ranger District of the Willamette National Forest proposes to close and store approximately 24 miles of roads in the Upper Middle Fork watershed. The action

would minimize adverse affects to the resources and improve our ability to perform adequate road maintenance activities within the existing budgetary constraints.

This action would close and rehabilitate 33 segments of roads in the Upper Middle Fork watershed. All roads would be hydrologically stabilized and stored. The method of treatment would vary by road and be determined by present road condition, location on the landscape, and location in relation to resource values requiring protection.

Road entrances would be blocked with a combination of an earthen berms, deep ditches, and possibly boulders. Most roads would have water bars cut into the road surface to direct water flow off of the road. Some roads would also have a water bar cut into the road on the downhill side of each culvert.

In the event culverts become plugged with debris, water bars direct the water across the road, helping storm proof the road from erosion. Many of the culverts would have deep ditches cut in the fill directly above the culvert. This would allow the stream to stay in the same watercourse in the event the culvert becomes plugged and overtops the fill. These actions stabilize the roads and can prevent mass failures.

The roads proposed for storage and closure are located within sub watersheds (23-2, 23-3, 23-4, and 23-5) of the Upper Middle Fork Willamette Watershed and are within the Middle Fork Ranger District, Willamette National Forest, Oregon.

Implementation would occur during the summer months from 2006 through 2010.

## **Decision Framework**

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The Responsible Official for this proposal is the District Ranger of the Middle Fork Ranger District on the Willamette National Forest. After completion of the EA, there will be a 30-day public comment period. Based on the response to this EA and the analysis disclosed in the EA, the Responsible Official will make a decision and document it in a Decision Notice. The Responsible Official can decide to:

- Select the proposed action, or
- Select an action alternative that has been considered in detail, or
- Modify an action alternative, or
- Select the no-action alternative, and
- Identify what mitigating measures will apply.

The scope of the project and the decisions to be made are limited to whether these roads in the project area should be closed and stored, what type of methods would be used, mitigation measures necessary to reduce the adverse affects of the project, and what monitoring will be done for the project.

## **Planning and Management Direction**

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Development of this EA follows implementing regulations of the Forest and Rangeland Renewable Resources Planning Act of 1974; Title 36, Code of Federal Regulations, Part

219 (36 CFR 219); Council of Environmental Quality, Title 40; CFR, Parts 1500-1508, National Environmental Policy Act (NEPA).

Many federal and state laws, including the National Forest Management Act (NFMA), Endangered Species Act, Clean Air Act, and Clean Water Act also guide this analysis. A summary of how this project and the design of alternatives comply with the federal and state laws can be found in Appendix A.

The project implements the direction of the Forest Plan as amended by the Northwest Plan. Northwest Forest Plan land allocations amended the Forest Plan Management Areas in 1994. The Northwest Forest Plan supersedes any direction in the Forest Plan, unless the Forest Plan Management Area and or standards and guidelines are more restrictive.

The project area is allocated to several Management Areas. The dominant allocations are: Scenic and General Forest, which make up a majority of the project area. The Diamond Peak Wilderness Area, Dispersed Recreation Semi-Primitive Non-Motorized Area and the Oregon Cascade Recreation Area cover the eastern portion of the project. There are also various smaller inclusions of Management Areas throughout the project area such as Wildlife Habitat allocations for Pileated Woodpecker and Martens; numerous 100 acre Late Successional Reserves, Special Interest Areas; and an Administrative Site associated with the Timpanogas Campground. All of these Management Areas are overlaid with the Riparian Reserves system which protects and creates a corridor network along all streams.

Management goals and objectives, descriptions of each area, and applicable standards and guidelines can found in the Forest Plan, Chapter IV, and the Northwest Forest Plan, Attachment A to the Record of Decision. Map 1 displays the location of the Management Areas and within the project area. Proposed activities would occur in the General Forest, the various Scenic allocations, and Riparian Reserves Management Areas.

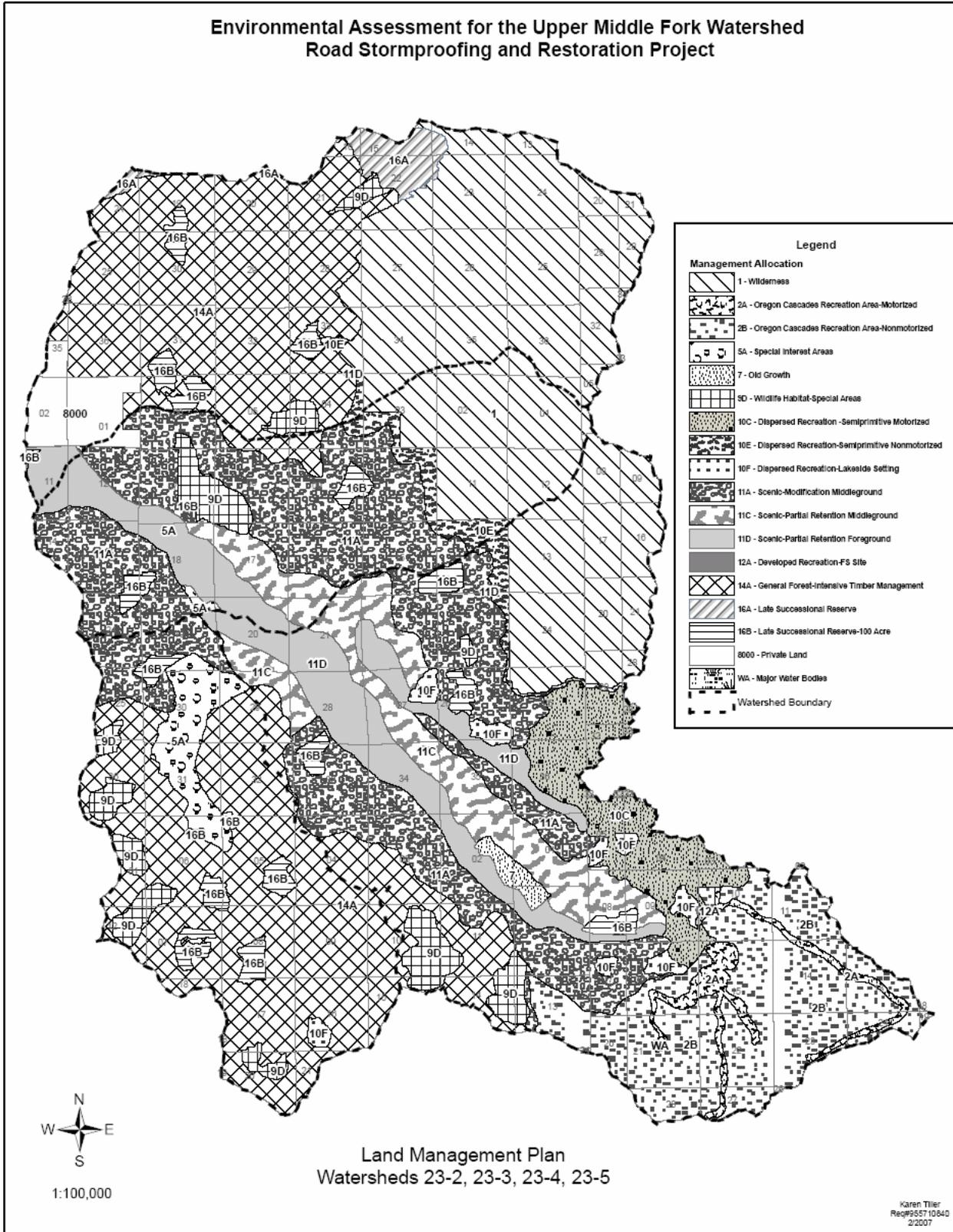


Figure 1 – Map of the project area and Forest Plan Management Areas

## **Tiered Documents and Local Assessments**

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This EA is tiered to the Final Environmental Impact Statement (FEIS) for the Land and Resource Management Plan –Willamette National Forest (USDA, 1990) and the Final Supplemental Environmental Impact Statement on the Management of Habitat for Late-Successional and Old-Growth Forest Related Species within the Range of the Northern Spotted Owl (USDA, USDI, 1994). The Willamette National Forest Land and Resource Management Plan (USDA, 1990) as amended by the Record of Decision for Amendments to Forest Service And Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl and S&Gs for Management of Habitat for Late-Successional and Old-Growth Forest Related Species within the Range of the Northern Spotted Owl (USDA, 1994) is incorporated by reference. The Willamette Forest Plan as amended provides a forest-level strategy for managing land and resources and the Northwest Forest Plan provides a regional strategy for management of old-growth and late-successional forest ecosystems on federal lands. The plans provide direction, land allocations or management areas, and S&Gs for the management of National Forest lands within the project area as summarized in the preceding chapter.

The Upper Middle Fork Watershed Analysis (USDA, 1996) and WA updates (USDA, 2002) are incorporated by reference. This document provides the Responsible Official with comprehensive information upon which to base land management decisions and establishes a consistent, watershed level context to project level analysis. The watershed analysis provides descriptions of the reference, historic, and existing conditions of the important physical, biological, and social components of the fifth field watersheds. The study analyzed activities and processes that cumulatively altered the NFMFWR landscapes over time and recommends watershed management activities based upon landscape and ecological objectives. The watershed analysis is used to characterize elements of the watersheds, provide background information for the cumulative effects analyses, and provide recommendations for management activities that move the systems toward reference conditions or management objectives.

The Willamette National Forest Road Analysis Report (USDA, 2003) and the Middle Fork Ranger District Supplemental Road Analysis (USDA, 2004) is incorporated by reference. The forest road analysis provides the responsible official with information needed to identify and manage a road system that is safe and responsive to public needs and desires, is affordable and efficient, has minimal adverse effects on ecological processes and ecological health, diversity, and productivity of the land, and is in balance with available funding for needed management actions. The District road analysis evaluated each individual road segment on the District with criteria relating to terrestrial, aquatic, administrative, and public use factors. Based on the rating system, road closure recommendations for the District's transportation system were made.

The Forest Road Analysis Report provided recommendations for key roads to be kept open and maintained and for non-key roads that should be considered for closure. The District Supplemental Road Analysis Report provides specific road management and closure recommendations for roads within the project area. Copies of these documents are available at the Middle Fork Ranger District office in Westfir, Oregon

## **Public Involvement**

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The public involvement process and planning for this project started in March of 2006. A Forest Service interdisciplinary team of resource specialists and Middle Fork Ranger District management staff defined the proposed actions elements, identified preliminary issues and project opportunities, identified potentially and interested and affected people. The results of the internal scoping were as used to guide the public involvement process, establish analysis criteria and explore possible alternatives and their probable effects.

The scoping information with the description of the proposed action and additional project area information was sent to a mailing list of individuals, interest groups, and organizations, elected officials, tribal representatives, and other federal and state agencies. The cover letter explained the purpose and need for the project, provided a map of the project area, and solicited comments on the proposed action.

The project has been included in the Annual Program of Work Review with the Confederated Tribes of the Grand Ronde and Siletz since 2002. No comments have been received specific to the project from the tribes.

The project was originally listed in the Willamette National Forest's Schedule of Proposed Action (SOPA) starting in the Winter Quarter of 2005. The SOPA is mailed out to a Forest mailing list of people interested in the management activities of the Forest. The SOPA provides one of the means of keeping the public informed of the progress of individual projects. The SOPA is also made available to the public on the Willamette Forest website.

The roads proposed for closure and storage were also posted in the field with a public notice of the proposed action. The notices described the proposed action and solicited comments on the proposal.

Nine written comment letters and several phone conversations were received as a result of these notifications. Copies of the letters and documentation of phone conversations can be found in the Public Involvement section of the Analysis File. The following is listing of individuals and organizations who submitted comments and a brief summary of the comments topics raised specific to the road closures:

**Table 1 - List of Commenters and Summary of Comment Topics**

<b>Individuals And Organizations</b>	<b>Comment Topic Summary</b>
<b>Raef Parmelee</b>	Concerned about maintaining access for disabled hunters.  End of Road #395 provides cell phone coverage in case of emergencies  Road #353 provides access from trail south of Timpanogas Lake in case of injuries to hikers.  Road #372 should be left open to access Pacific Crest trail.
<b>Betty Jean Keele</b>	Concerned about being able to cross a stream crossing where a culvert is removed while

<b>Individuals And Organizations</b>	<b>Comment Topic Summary</b>
	riding on a horse.
<b>Dee Lake</b>	Concerned about road access for seniors to recreation trails
<b>Aman Dwyer</b>	In favor of closing roads to decrease disturbance to big game
<b>Gordon Zimmerman</b>	Concerned about close road restricting access and recreation use
<b>Matt Holst</b>	Concerned about ripping the road surface which makes it difficult to ride horses on.
<b>Chandra LeGue of Oregon Wild</b>	Questioned why are we storing the road instead of permanently decommissioning or completely obliterating the road
<b>Della Webb</b>	Concerned about limiting recreation use and the cost of re-opening road if needed in the future.
<b>Becky Hope</b>	General concerns about effects to recreation

The interdisciplinary team reviewed the comments and incorporated the concerns into the issues where applicable. These concerns were either addressed in the discussion of the issues and environmental consequences or found throughout the other sections of the EA, Analysis File or Decision Notice.

A public notice will be published in the local newspaper requesting comments on the proposed actions and EA. The comment period will be for 30 days. A letter will also be sent to the individual and organizations who have previously submitted comments to notify them that the EA is available for review and a second chance to comment on the projects.

The responsible official will review all the comments along with their supporting reasons before making the final decision. The final decision on the selected alternative, along with the rationale for that decision will be documented in a Decision Notice. The notice of decision will be published in The Register Guard newspaper of Eugene, Oregon and sent out to the people who have submitted comments.

Additional information on public involvement can be found in the Chapter 4, Consultation and Coordination section of this document. Copies of these various documents and their attached mailing lists can be found in the Analysis File under Public Involvement.

## **Issues**

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Issues are points of concern about environmental effects that may occur as a result of implementing the proposed action. They are generated by the public, other agencies, organizations, and Forest Service resource specialists.

Significant issues describe a dispute or present an unresolved conflict associated with potential environmental effects of the proposed action. Significant issues are used to formulate alternatives, prescribe mitigation measures, and focus the analysis of environmental effects. Significant issues are determined based on the potential extent of their geographic distribution, duration of their effects, intensity of interest or resource conflict which would result, if not mitigated or otherwise addressed. The significant issues for this project were identified by the interdisciplinary (ID) team after scoping and preliminary analysis the project area and reviewing all the public comments. The significant issues were approved by the District Ranger Chip Weber.

Significant issues are tracked through issue identification (Chapter 1), alternative development and description (Chapter 2), and Environmental Consequences (Chapter 3). Measurement criteria have been identified for the all the issues and are used to compare alternatives (Chapter 2).

In addition to the significant issues other concerns or non-significant issues were raised by the public or Forest Service resource specialists. These issues were determined to be non-significant because they were; 1) outside the scope of the proposed action, 2) already decided by law or regulation, Forest Plan, or other higher level decision, 3) irrelevant to the decision to be made, or 4) conjectural and not supported by scientific or factual evidence. These issues are less focused on the elements of the Purpose and Need and did not influence the formulation of alternatives. Many of the non-significant issues are also included in the environmental effects analysis (Chapter 3) because of the relation to meeting Forest Plan S&Gs, laws, regulatory or policy direction, or relevant to resource analyses.

## **Significant Issues**

### ***Recreation and Public Access***

Closing and storing roads in the Upper Middle Fork watershed would limit access to the area for recreational and forest activities that are based upon driving motorized vehicles on roads. Decreased access to some roads in the project area could potentially affect such activities as camping, pleasure driving on the forest roads, hunting, firewood gathering, and recreation.

**Evaluation Criteria:** Miles of Road Closed

### ***Water Quality***

Allowing these roads to remain open and doing no maintenance would result in higher risks of slope failure, soil movement and sediment input into streams. These unmaintained roads have the potential to have adverse affects to water quality and fish habitat.

**Evaluation Criteria:** Miles of Roads Closed with High Aquatic Risk Rating

### ***Economics***

There are several different methods and treatments to close and put a road into a hydrologically stable and stored condition. Each of these methods has a cost related to the implementation of the project and a longer term cost to maintenance the closure, and then the cost of re-opening the roads when they are needed in the future.

**Evaluation Criteria:** Cost to implement road closure treatments, Cost to restore roads

### **Non Significant Issues**

***Big Game Habitat*** - This issue was not considered significant because the project could only influence one of the habitat variables for big game habitat. Alternatives 2 and 3 reduce open road densities and begin to establish a trend to improving habitat conditions and meeting the Forest Plan Standards and Guidelines. The brief discussion of this issue can be found in the Chapter 3 – Environmental Consequences under Big Game Habitat.

***Invasive Weeds*** - This issue was not considered significant for designing alternatives because specific mitigating measures would be used in all action alternatives to prevent expansion of existing invasive weed populations. See Mitigation Measures in Chapter 2. The affects of the proposed action and other alternatives on invasive weeds are discussed in Chapter 3 under Vegetation.

***Threatened and Endangered Species*** - This issue was not considered significant because all alternatives would meet the law (Endangered Species Act), regulations, and Forest Plan standards and guidelines. None of the actions that modify or disturb forest habitat would be required to follow conservation and protection guidelines provided by the Forest Plan and other consulted federal agencies. There will no effect on TE&S for all of the action alternatives. Potential disturbance impacts will be mitigated in the action alternatives with the same measures that have been commonly prescribed and used on other road management project for several years. These mitigation measures are listed in Chapter 2. The effects of the proposed action and the other alternatives on TES species are addressed in Chapter 3.

**Cultural Resources** - The issue was not considered significant because all alternatives would meet the state and federal law (National Historic Preservation Act and Programmatic Agreement (PA) between ACHP and Oregon State Historic Preservation Office. These activities are specifically addressed in the 2004 PA with the SHPO, under the road decommissioning activities described in Appendix B (5, 7, and 8). Since the proposed project activities would take place entirely in the road prism, it is recommended that it be excluded from case-by-case review, based on inspection and monitoring, as per the PA. In the event that heritage properties are located during the course of this project, all work in the area of the find shall be suspended immediately, while an archaeologist is notified to assess the find.

## **CHAPTER 2 - ALTERNATIVES, INCLUDING THE PROPOSED ACTION**

This chapter describes and compares the alternatives considered for the Upper Middle Fork Road Storm Proofing and Restoration project. It includes a description and map of each alternative considered. This section also presents the alternatives in comparative form, defines the differences between each alternative and provides a clear basis for choice among options by the decision maker and the public. Comparison of the alternatives is based upon the design (i.e., type of road closure treatment or method) and the environmental, social and economic effects of implementing each alternative (i.e., the amount of erosion or cost of closure treatments).

### **Alternative 1- No Action**

Under the No Action alternative, current management plans would continue to guide management of the project area. The definition No Action in this process acknowledges that the natural landscape will change with time, even if no administrative changes or actions are prescribed. The current trend of reduced maintenance funding (which results in declining accessibility), reduced timber haul, and little additional recreation funding would result in changes to the transportation system which are not controlled or designed.

As considered here, No Action means that none of the roads considered in this proposed project would be put in storage at this time. Road densities would remain the same; some damaged roads would continue to receive little or no maintenance. The risk from roads proposed for closure would continue to increase for Bull Trout, resident fish, and other aquatic species in affected areas. Roads currently accessible by motorized vehicles would continue to be accessible, unless reduced maintenance of roads or damage from storm events limits access.

### **Alternative 2 - Proposed Action**

This alternative would store 33 roads segments that total approximately 23 miles in length within the Upper Middle Fork Watersheds. Alternative 2 would store all roads that are discussed in this EA. Treatment would vary by road and storage method needed, which is determined by present road condition, location on the landscape, location in relation to resource values requiring protection, and availability of funds. Table 2 displays the roads proposed for closure, the length of each road, and closure method. Each road was previously evaluated utilizing the Roads Analysis process. The process evaluated the impacts of leaving a road open or closing it and the effect it would have on the following use categories: administrative use, public use, terrestrial and aquatic wildlife. Also, personnel from the district watershed department conducted field surveys of the roads to verify resource needs.

**Table 2 - Roads closure treatment proposed in Alternative 2- Proposed Action**

Road Number	Miles	Road Analysis Prescription	Treatment Type
2100401	0.25	close	WB/DITCH/BERM
2100416	1.192	close	WB/DITCH/BERM
2100420	0.138	close	WB/DITCH/BERM
2120424	0.811	close	WB/DITCH/BERM
2120425	3.079	close	WB/DITCH/BERM
2120428	0.815	close	WB/DITCH/BERM
2144326	0.241	close	WB/DITCH/BERM
2143316	0.249	close	WB/DITCH/BERM
2144319	0.472	close	WB/DITCH/BERM
2144320	0.848	close	WB/DITCH/BERM
2149408	2.2	close	WB/DITCH/BERM
2149415	0.831	close	WB/DITCH/BERM
2149416	1.023	close	WB/DITCH/BERM
2149417	0.99	close	WB/DITCH/BERM
2149421	0.25	close	WB/DITCH/BERM
2153350	0.805	c.after sale	WB/DITCH/BERM
2153352	1.349	close	WB/DITCH/BERM
2153357	0.212	close	WB/DITCH/BERM
2153357	1.152	close	WB/DITCH/BERM
2153373	0.388	c.after sale	WB/DITCH/BERM
2153378	0.287	close	WB/DITCH/BERM
2153392	0.325	close	WB/DITCH/BERM
2153395	0.169	close-BGEA	WB/DITCH/BERM
2154367	0.528	close	WB/DITCH/BERM
2154241	0.533	close	WB/DITCH/BERM
2154382	0.383	close	WB/DITCH/BERM
2154382	0.306	close	WB/DITCH/BERM
2154395	0.76	Close	WB/DITCH/BERM
2160369	0.214	close-BGEA	WB/DITCH/BERM
2160403	0.362	close	WB/DITCH/BERM
2300417	0.117	close	WB/DITCH/BERM
2300417	0.342	close	WB/DITCH/BERM
2300419	0.239	close	WB/DITCH/BERM
2300425	1.35	Close	WB/DITCH/BERM
<b>TOTAL</b>	<b>23.21</b>		

BERM=Closing road with a berm or very large ditch to close road to motor vehicle access.

DITCH= Cutting large ditch in road above the culvert to keep overtopping stream in streambed

WB= Water bar-Small ditch and berm placed in road surface/below culvert to divert water

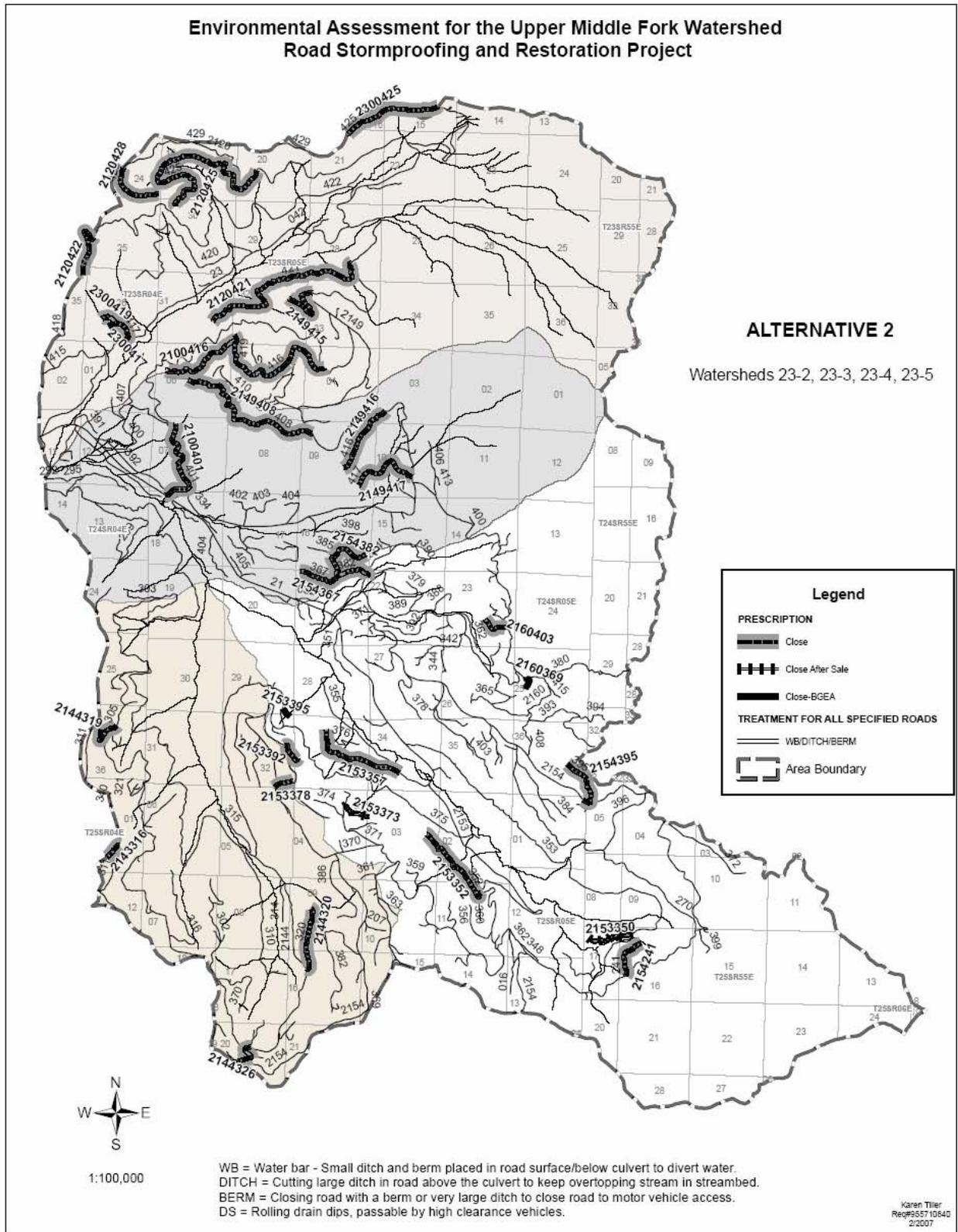


Figure 2 - Map of Alternative 2 - Road Closures

### **Alternative 3**

This alternative would store 28 roads which total approximately 18.4 miles in length. Six roads approximately 4.8 miles in length would have drainage structures constructed which would be passable by high clearance motor vehicles only. All of this work would be within the Upper Middle Fork Watershed. Method of closure would vary by road and closure method needed, determined by present road condition, location on the landscape, location in relation to resource values requiring protection, and availability of funds. Table 3 displays the roads proposed for closure, the length of the road, and closure method. Each road was previously evaluated utilizing the Roads Analysis process. This process evaluates the impact that leaving a road open or closing the road would have on the following use categories: administrative use, public use, terrestrial and aquatic wildlife.

This alternative incorporated several public comments to keep access to certain roads accessible. Forest Service Road 2154395 was identified as a road that has a strong signal for a couple different cell phone providers. It was also listed by our fire organization as an observation point for the Imigrant Butte area during heavy lightening activity.

Forest Service Roads 2300425 and 2154382 have quarries on them and it was requested by our engineering department that sections of these roads be maintained for high clearance vehicles. Forest Service Road 2154367 has a Remote Automated Weather Station (RAWS) at the end of it, and our fire organization requests that it be left open and maintained for high clearance vehicles. This alternative is designed to leave these roads open, install dips to mitigate the poor drainage and create a plan and funding for future maintenance.

**Table 3 – Road closure treatments proposed in the Alternative 3**

Road Number	Miles	Road Analysis Prescription	Treatment Type
2100401	0.25	close	BERM/DITCH/WB
2100416	1.192	close	BERM/DITCH/WB
2100420	0.138	close	BERM/DITCH/WB
2120424	0.811	close	BERM/DITCH/WB
2120425	3.079	close	BERM/DITCH/WB
2120428	0.815	close	BERM/DITCH/WB
2143316	0.249	close	BERM/DITCH/WB
2144319	0.472	close	BERM/DITCH/WB
2144320	0.848	close	BERM/DITCH/WB
2144326	0.241	close	BERM/DITCH/WB
2149408	2.2	close	BERM/DITCH/WB
2149416	1.023	close	BERM/DITCH/WB
2149421	0.25	close	BERM/DITCH/WB
2153350	0.805	close	BERM/DITCH/WB
2153352	1.349	close	BERM/DITCH/WB
2153357	0.212	close	BERM/DITCH/WB
2153357	1.152	close	BERM/DITCH/WB
2153373	0.388	close	BERM/DITCH/WB
2153378	0.287	close	BERM/DITCH/WB
2153392	0.325	close	BERM/DITCH/WB
2153395	0.169	close-BGEA	BERM/DITCH/WB
2154241	0.533	close	BERM/DITCH/WB
2154382	0.383	close	BERM/DITCH/WB
2160369	0.214	close-BGEA	BERM/DITCH/WB
2160403	0.362	close	BERM/DITCH/WB
2300417	0.117	close	BERM/DITCH/WB
2300417	0.342	close	BERM/DITCH/WB
2300419	0.239	close	BERM/DITCH/WB
<b>TOTAL MI</b>	<b>18.44</b>		
2149415	0.831	close	NO BERM/DRIVABLE STRUCTURES
2149417	0.99	close	NO BERM/DRIVABLE STRUCTURES
2154367	0.528	close	NO BERM/DRIVABLE STRUCTURES
2154395	0.76	Close	NO BERM/DRIVABLE STRUCTURES
2154382	0.306	close	BERM ABOVE QUARRY DITCH/WB
2300425	1.35	Close	NO BERM/DRIVABLE STRUCTURES
<b>TOTAL MI</b>	<b>4.76</b>		
<b>GRAND TOTAL</b>	<b>23.21</b>		

BERM=Closing road with a berm or very large ditch to close road to motor vehicle access.  
DITCH= Cutting large ditch in road above the culvert to keep overtopping stream in streambed  
WB= Water bar-Small ditch and berm placed in road surface/below culvert to divert water

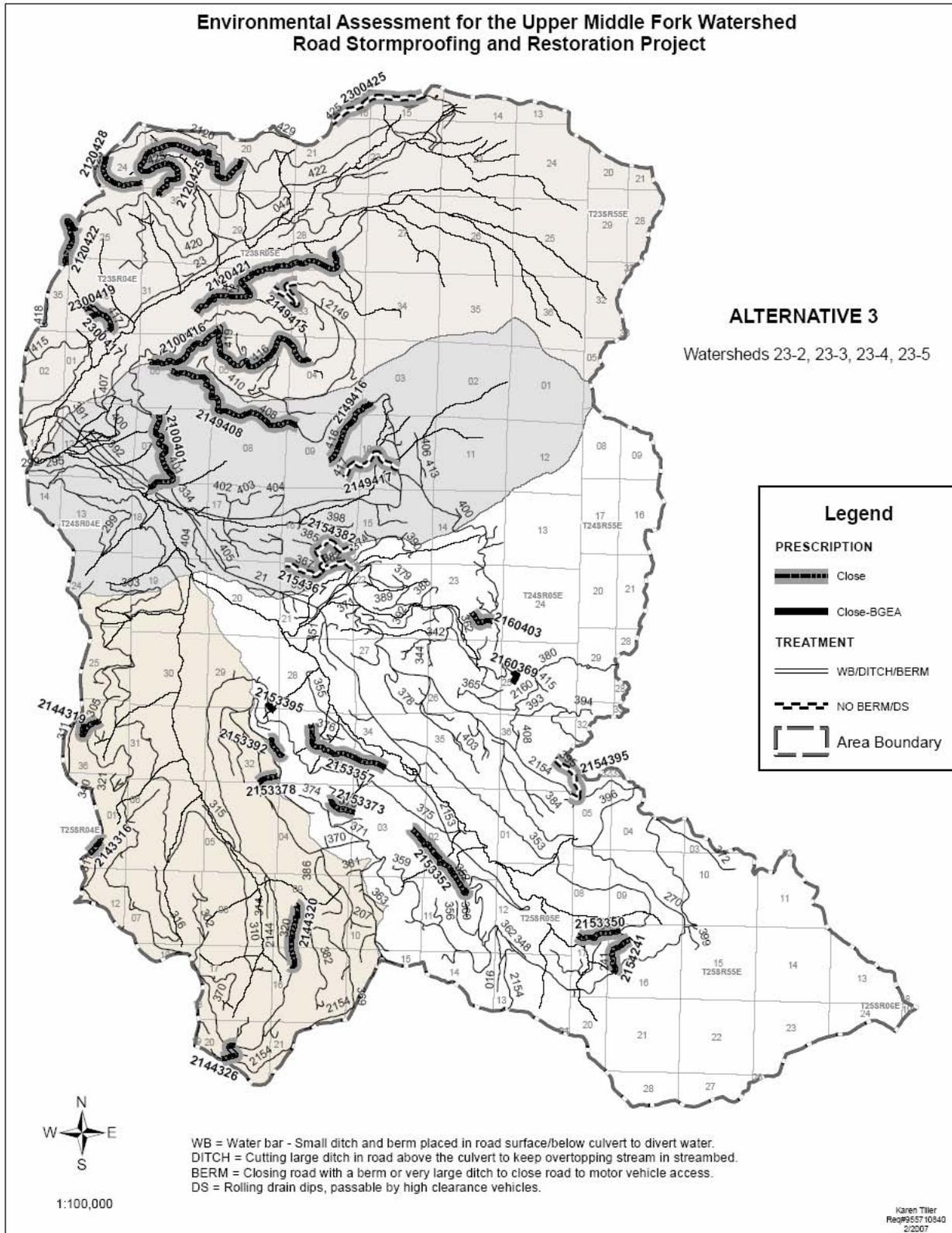


Figure 3 - Map of Alternative 3 - Road Closures

## **Alternative 4**

This alternative would treat 33 roads that total approximately 23 miles in length within the Upper Middle Fork Watersheds. This action would maintain all roads that are discussed in this EA. The method of treatment would be to install drivable drainage structures and maintain all ditches and culverts. This treatment method would be the most expensive to implement and would require future dollars to maintain the drainage structures. Table 4 displays the roads proposed for treatment, the length of the road, and treatment method. Each road was previously evaluated utilizing the Roads Analysis process. To evaluate the impact that leaving a road open or closing the road would have on the following use categories: **administrative use, public use, terrestrial and aquatic wildlife**. Also, the district watershed department conducted field surveys of the roads to verify resource needs.

**Table 4 – Road closure treatments proposed in the Alternative 4**

<b>Road Number</b>	<b>Miles</b>	<b>Road Analysis Prescription</b>	<b>Treatment Type</b>
2100401	0.25	close	Drivable Str
2100416	1.192	close	Drivable Str
2100420	0.138	close	Drivable Str
2120424	0.811	close	Drivable Str
2120425	3.079	close	Drivable Str
2120428	0.815	close	Drivable Str
2144326	0.241	close	Drivable Str
2143316	0.249	close	Drivable Str
2144319	0.472	close	Drivable Str
2144320	0.848	close	Drivable Str
2149408	2.2	close	Drivable Str
2149415	0.831	close	Drivable Str
2149416	1.023	close	Drivable Str
2149417	0.99	close	Drivable Str
2149421	0.25	close	Drivable Str
2153350	0.805	close	Drivable Str
2153352	1.349	close	Drivable Str
2153357	0.212	close	Drivable Str
2153357	1.152	close	Drivable Str
2153373	0.388	close	Drivable Str
2153378	0.287	close	Drivable Str
2153392	0.325	close	Drivable Str
2153395	0.169	close	Drivable Str
2154367	0.528	close	Drivable Str
2154241	0.533	close	Drivable Str
2154382	0.383	close	Drivable Str
2154382	0.306	close	Drivable Str
2154395	0.76	Close	Drivable Str
2160369	0.214	close	Drivable Str
2160403	0.362	close	Drivable Str
2300417	0.117	close	Drivable Str
2300417	0.342	close	Drivable Str
2300419	0.239	close	Drivable Str
2300425	1.35	Close	Drivable Str
<b>TOTAL</b>	<b>23.21</b>		

Drivable Str = Rolling drain dips, passable by high clearance vehicles.

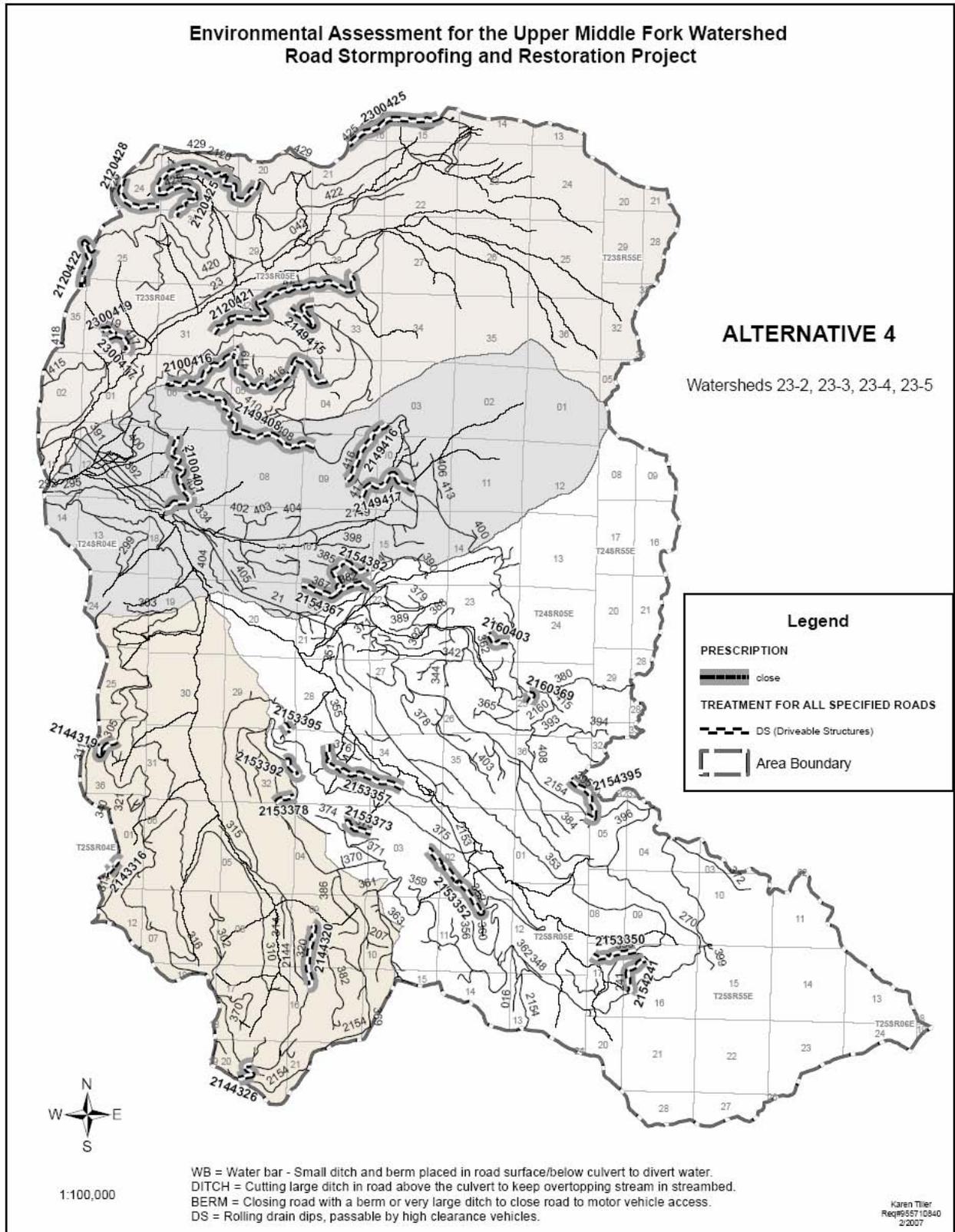


Figure 4 - Map of Alternative 4 - Road Closures

## **Alternative Considered But Eliminated from Detailed Analysis**

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**Road Obliteration** – A comment was received questioning why the roads were being put into storage instead of permanently decommissioning or obliterating them. An alternative was considered by the IDT that would decommission these roads. After evaluation the future need for road access to this area and the economic feasibility, it was determined that the roads may be needed for fire prevention and suppression, timber management, and administrative purposes. If the roads are obliterated, and reentry was needed in the future, decommissioning and then re-constructing these roads would be cost prohibitive.

## **Mitigation Common to All Alternatives**

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In response to public comments on the proposal, mitigation measures were developed to ease some of the potential any adverse impacts the various alternatives may cause. The mitigation measures may be applied to any of the action alternatives.

The following mitigation measures are part of the proposed action alternatives. The measures relate to the Northwest Forest Plan (USDA/USDI, 1994) and the General Water Quality Best Management Practices (BMP's) of Pacific Northwest Region (USDA, 1988). These measures would be practiced in each alternative to comply with management direction and environmental laws and to minimize any adverse impacts from the proposed forest management activities. The specific mitigation measures are discussed below.

- The road closures would be implemented during the dry season to minimize the potential for sediment delivery to streams. This period would be from July 15-October 30.
- Erosion control methods would be used on slopes adjacent to stream channels and roadside ditches within 200 feet of a stream crossing where bare soil has the potential to deliver excessive amounts of sediment. The erosion control methods could include but are not limited to mulching, erosion booms and re-vegetation. Other areas susceptible to erosion would be treated with a suitable erosion control seed mixture and fertilizer.
- Heavy equipment would be inspected for fuel, oil and fluid leaks before working near stream channels to protect water quality. In addition, absorbent pads and emergency phone numbers would be readily available on site in case a spill was to occur.
- Roads 2100401 and 2100420 are immediately adjacent to the primary nest zone for this known peregrine falcon nest site. No operations would occur on these roads from January 15<sup>th</sup> to July 31<sup>st</sup> for any given year. If the site is determined to be unoccupied or inactive in any year, the seasonal restriction may be waived for these roads. The project biologist would be consulted to assess status of this site in any given year.
- Heavy equipment would be inspected for noxious weeds in tracks, wheels, buckets, etc. to mitigate spread of weeds to other areas of landscape. Cleaning of equipment would be carried out as described in Executive Order 13112, dated

February 3, 1999: “Implementation Guidelines to Minimize the Spread of Invasive Plants on Timber Sales, and Road Construction and Reconstruction Projects”.

- For roads adjacent to the Late Successional Reserve (LSR), wildlife closures and restrictions would be followed and would limit time and duration of work activity. No operations would occur on these roads from March 1<sup>ST</sup> to September 30<sup>th</sup> for any given year.
- If any cultural sites are found during implementation the District Archeologist would be notified to allow for project monitoring for archeological concerns on that site.

## Comparison of Alternatives

This section provides a summary of the effects of implementing each alternative. 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 5 - Comparison of Alternatives.**

	<i>Alternative 1</i> <i>No Action</i>	<i>Alternative 2</i> <i>Proposed Action</i>	<i>Alternative 3</i>	<i>Alternative 4</i>
<b>Miles of Roads Closed</b>	<b>0</b>	<b>23.2</b>	<b>18.4</b>	<b>0</b>
<b>Miles of Roads Closed by Aquatic Rating</b>	<b>0</b>	<b>High - 4.6 Moderate - 13.4 Low - 5.1</b>	<b>High - 4.6 Moderate -10.7 Low - 3.1</b>	<b>0</b>
<b>Cost to implement road closure treatments,</b>	<b>\$96,000 (Future Maintenance 20 years)</b>	<b>44,739</b>	<b>90,712</b>	<b>278,780</b>
<b>Cost to restore roads</b>	<b>0</b>	<b>44,738</b>	<b>43,414</b>	<b>15,600</b>

## **CHAPTER 3- ENVIRONMENTAL CONSEQUENCES**

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

The cumulative effects discussed in this chapter include an analysis and a concise description of the identifiable present effects of past actions to the extent that they are relevant and useful in analyzing whether the reasonably foreseeable effects of the proposed action and its alternatives may have a continuing, additive and significant relationship to those effects. The cumulative effects of the proposed action and the alternatives in this analysis are primarily based on the aggregate effects of the past, present and reasonably foreseeable future actions. Individual effects of past actions have not been listed or analyzed and are not necessary to describe the cumulative effects of this proposal or alternatives (CEQ Memorandum, Guidance on the Consideration of Past Actions in Cumulative Effects Analysis, June 24, 2005).

### **Middle Fork District Road Analysis Process**

Middle Fork Ranger District completed a roads analysis that recommended which roads to retain, which roads to close and the appropriate level of maintenance.

The objective was to balance funding levels available for road maintenance with needs for access in a manner that minimized road related effects to resources.

Each road segment was evaluated for its potential affects to the primary interests. When the ranking to close the road was equal to the ranking to keep it open the automated system highlighted the need for an interdisciplinary discussion. This discussion and a landscape look at the individual road segment resulted in a consensus recommendation for the road.

Once all recommendations were finalized, a visual landscape assessment of the road system was made to ensure that road recommendations were viable and complied with pertinent policy and direction.

Road use on the Middle Fork Ranger District can be considered from four primary interests; Public Use, Administrative Use, Aquatic Values and Terrestrial Values. These interests can be evaluated by answering the following questions. To further refine the analysis numerous subcomponent questions must also be answered.

#### ***Public Uses:***

Which roads are important to recreational uses?

Which roads are important for permitted uses?

Which roads are important for mineral uses?

Which roads are important to heritage uses?

***Administrative Uses:***

***Which roads are important to access silvicultural treatments?***

Which roads are important to access for fire suppression?

Which roads are important to access for management of the timber sale program?

Which roads are important for access to road maintenance developments?

Which roads are important to access other ongoing administrative needs?

***Terrestrial Values:***

Is this road undesirable to big game resources?

Is this road undesirable for threatened, endangered or sensitive species?

Is this road undesirable for survey and manage species as listed in the Northwest Forest Plan?

Is this road undesirable to botanical resources?

***Aquatic Values:***

Is this road undesirable to nearby fish stock?

Which roads have undesirable stream crossings and surface types for aquatic resources?

Which roads have a high failure risk that would impact the aquatic resource?

The Roads Analysis process considered that a decrease in maintenance funding over the past several years has allowed the National Forest road system to rapidly degrade and close itself through lack of maintenance. There is a need to complete an environmentally sensitive and comprehensive plan to systematically reduce the risk of continued and increasing damage to the associated resources. This approach was completed in an interdisciplinary manner analyzing road uses and needs of the land. The process was thorough enough to ensure that the revised transportation system is sufficient to address the long-term needs of the District as well as those of the neighboring Districts, forest users, and owners of adjacent lands. Implementing the analysis recommendations would allow the remaining road maintenance funds to be concentrated on providing a safer, more environmentally sensitive transportation system that protects natural resource values.

**Table 6 – Summary of Rating from District Road Analysis**

Road Number	Miles	Road Analysis Ratings				Road Analysis
		ADMN	PUBLIC	AQU	TERR	Prescription
2100401	0.25	M	L	H	M	close
2100416	1.192	M	L	H	H	close
2100420	0.138	M	L	M	M	close
2120424	0.811	M	L	M	H	close
2120425	3.079	M	L	M	H	close
2120428	0.815	M	L	M	H	close
2144326	0.241	L	L	M	L	close
2143316	0.249	H	L	L	H	close
2144319	0.472	M	L	L	H	close
2144320	0.848	M	L	M	M	close
2149408	2.2	M	L	M	H	close
2149415	0.831	M	L	M	H	close
2149416	1.023	M	L	M	H	close
2149417	0.99	M	L	L	H	close
2149421	0.25	M	L	H	H	close
2153350	0.805	H	L	L	M	c.after sale
2153352	1.349	M	L	H	H	close
2153357	0.212	H	L	H	H	close
2153357	1.152	H	L	H	H	close
2153373	0.388	H	L	M	H	c.after sale
2153378	0.287	H	L	L	H	close
2153392	0.325	M	L	M	H	close
2153395	0.169	H	L	M	L	close-BGEA
2154367	0.528	H	L	M	L	close
2154241	0.533	M	L	L	M	close
2154382	0.383	H	L	L	L	close
2154382	0.306	H	L	L	M	close
2154395	0.76	M	L	L	H	Close
2160369	0.214	L	H	M	L	close-BGEA
2160403	0.362	M	L	L	M	close
2300417	0.117	H	L	M	L	close
2300417	0.342	M	H	M	L	close
2300419	0.239	H	L	H	L	close
2300425	1.35	M	L	M	H	Close
<b>TOTAL</b>	<b>23.21</b>					

## **Recreation and Public Access**

Recreational use occurs over the general area of the watershed, but is concentrated in Riparian Reserves found along the Middle Fork of the Willamette River, its tributaries, and lakes. High use areas are the Middle Fork of the Willamette River, Diamond Peak Wilderness, and the Timpanogas Basin. However, timber harvest, hunting, hiking, mountain biking, driving for pleasure, and similar recreation or economic activities do take place in the remainder of the watershed.

**Significant Issue** - Closing and storing roads in the Upper Middle Fork watershed would limit access for recreation and forest activities that are based upon driving motorized vehicles on roads to access areas of public interest. Decreased access to some roads in the project area could potentially affect activities such as camping, pleasure driving on the forest roads, hunting, firewood gathering, and recreation.

### **Direct and Indirect Effects**

Three of the four alternatives formulated for this project would affect recreational use in the project area to varying degrees.

Under the No Action Alternative 1 none of the roads considered in this proposed project would be closed; there would be no immediate change to the recreational use. Travel would continue as long as road conditions permit and administrative and public access would become increasingly more difficult and unsafe.

Action Alternative 2 would close approximately 23 miles of road to motorized vehicle traffic. This alternative limits access for some recreation while it allows entry into the area by foot.

Action Alternative 3 would close approximately 18.4 miles of road to motorized vehicle traffic. Alternative 3 considers leaving some roads open for administrative purposes. This alternative would not impact recreation as much as Alternative 2; it would still limit some recreational access.

Alternative 4 would not block access to any of the roads being considered for treatment. The roads would have rolling dips installed to mitigate drainage structure problems and would be accessible to most vehicles.

Action Alternatives 2, 3 and 4 have varying degrees of impact to the public access, 2 and 3 would decrease motorized public access to the forest areas. Alternative 2 would close approximately 23 miles of road. Alternative 3 would close approximately 18.44 miles of road. Alternative 3 could potentially allow more area of the forest to be open to the public for motorized. Alternative 2 could decrease public access for motorized activities into the forest.

### **Cumulative Effects**

The cumulative effects analysis area was the project area defined by the Upper Middle Fork of the Willamette River fifth field watershed. Alternative 1 (No Action) would have no cumulative effect to recreation or public access because it would not close any roads. Alternative 2 would close 7.0% of the total roads in the watershed. Alternative 3 would

close 3.9 % of total roads in the watershed. Alternative 4 would have no cumulative effect to recreation or public access because it would not close any roads.

## **Soils, Water Quality and Fisheries**

### **Soils**

Alpine glaciations have extensively modified the topography of the Upper Middle Fork watershed. U-shaped valleys with wide, flat bottoms and steep side slopes dominate the landscape. Hanging valleys, alpine lakes, and cirque basins are common features in the upper stream reach channels.

The steep valley sidewalls are prone to debris slides, both naturally occurring and management related (road construction and timber harvest). Debris slides in this area generate frequent pulses of coarse soil and woody debris which may or may not be carried to the streams.

Approximately 50% of the project area is characterized by steep ground with shallow, erosive soils. Air photo reconnaissance indicates that approximately 77% of harvest related debris slides occur in this geomorphic setting.

The dominant erosion processes affected by road conditions, density, use, and location are mass movement from landslides and surface erosion from road ditches. Specifically, coarse sediment input to the stream systems has increased as a result of landslide activity. Likewise, fine sediment input to stream system has increased as a result of increased effective drainage density. Roads located in steep areas on highly erosive, shallow soils, and moderate to high storm response has exacerbated these conditions.

### **Water Quality**

Essentially, the history of streams temperatures reflects this cool glacial valley typical of the western Cascades. Water temperatures are generally less than 50 degrees Fahrenheit in the upper elevations and between 51 and 54 degrees in the lower main stem reaches. While many tributaries of the Middle Fork usually meet the summer temperature standard themselves, some of other tributaries of the Middle Fork probably contribute to the cumulative temperature increases which are occurring in the main stem.

Increases in stream temperature are usually associated with the riparian reserve conditions. Almost 35% of riparian stands have been harvested in the watershed. Stream shading will continue to improve over the next 25 years as previously harvested riparian reserves stands mature. Riparian vegetation is critical for stability of erodible banks and bars, maintaining side channels, and recruitment of coarse woody debris into the stream channels.

**Significant Issue** - Allowing these roads to remain open and doing no maintenance would result in higher risks of slope failure, soil movement and sediment input into streams. Un-maintained roads have the potential to have adverse affects to water quality and fish habitat.

## **Direct and Indirect Effects**

Alternative 1 – No Action would continue the current conditions. The road segments would continue to degrade from lack of maintenance. The environmental effects of allowing access to these roads and doing no maintenance would result in higher risks of slope failure, soil movement and sediment input into streams. The potential for mass failure would increase over time. Alternative 2, 3, and 4 would have positive benefits by improving current conditions and reduces the potential for road related sedimentation. Potential runoff problem areas and land stability problems would be improved with the proposed road restoration work. Sedimentation may be increased for a short term but would be reduced in the long term. No new detrimental soil conditions are anticipated from the action alternatives. No long term adverse soil and water effects are anticipated from the implementation of this project. Best Management Practices (BMP) practices would be used for erosion control and minimizing the road related sediment potential. The following are those BMPs considered for this project: R-2 Erosion Control Plan, R-3 Timing of Construction Activities, R-5 Road Slope and Waste Area Stabilization (Preventive), R-7 Control of Surface Road Drainage Associated with Roads;; and R-18 Maintenance of Roads. There would be no effects to stream temperature of the area or any change to the Middle Fork 303d listing for water quality limited stream temperatures. No streamside vegetation would be affected by the proposed road restoration work.

## **Cumulative Effects**

The cumulative effects analysis area was the Upper Middle Fork fifth field watershed. No detrimental cumulative soil and water effects are anticipated from the proposed actions alternatives or other projects in the area. Cumulatively reducing the miles of roads that could produce sediments would be positive for the soil and water resources and overall watershed conditions. .

The Upper Middle Fork Willamette Watershed Analysis was used to focus the work in the recommended areas and provided the approach to reduce the road related sediment input to the streams of the area which benefit aquatic habitat. The ACS objectives set forth in the NWFP have been met. The standard and guidelines of the NWFP are intended to focus the review of proposed projects to determine watershed scale compatibility with ACS objectives. This project would contribute to maintaining and restoring the 5th field watershed over the long term.

## **Aquatic Conservation Strategy Objectives**

The alternatives would have the following effects on the Aquatic Conservation Strategy objectives presented on page B-11 of the Northwest Forest Plan Standards and Guidelines (USDA/USDI, 1994).

Implementation of any of the action alternatives would be consistent with attainment of Aquatic Conservation Strategy objectives 4 (maintain and restore water quality) and 5 (maintain and restore sediment regime). Action Alternative 2 would stabilize a greater area and would therefore contribute more toward long-term attainment of ACS objectives than would Alternatives 3 and 4. Under the No Action Alternative, there would be a greater risk of road related failures in the future, potentially leading to adverse affects on

water quality, sediment regime, instream habitat, and distribution of sediment to the riparian areas.

## **Fisheries**

Fish species currently inhabiting the Middle Fork Willamette Watershed include spring Chinook salmon, bull trout, rainbow trout, cutthroat trout, sculpin, lamprey, mountain whitefish, large scale suckers, dace, red side shiners, and northern pike minnow. Spring Chinook salmon are indigenous to watershed, however upstream migration was blocked in the late 1950's and early 1960's by the construction of Dexter, Lookout Point, and Hills Creek Dams. Spring Chinook salmon are stocked in Lookout Point Reservoir by the Oregon Department of Fish and Wildlife (ODFW) to support a sport fishery. In 1993, ODFW began transporting pre-spawned adult spring Chinook salmon into the Middle Fork Willamette, upstream of Hills Creek Dam. These adult salmon successfully spawn and the juveniles spend approximately one year near the spawning grounds before emigrating towards the sea. Emigrating salmon effectively pass through the turbine and regulating outlets of Hills Creek and Lookout Point Dams and are assumed to pass through Dexter Dam. Spring Chinook salmon do occupy habitat downstream of the project area.

Historically, bull trout inhabited the Middle Fork Willamette River and associated tributaries. Since 1997, the Forest Service and ODFW have reintroduced more than 10,000 bull trout into several sites above Hills Creek Dam in the watershed. Bull trout occupy areas downstream of the project area.

The purpose of this project is to bring these roads closer to meeting specified resource direction and to increase the Districts ability to perform adequate road maintenance with existing budgetary constraints. Closure methods would include a combination of techniques that would stabilize and increase the overall integrity of the road network. Individual closure methods are site specific to each road and the surrounding circumstances, but could include the following techniques; 1) Berm, construct a berm or ditch at the entrance to close the road to prevent vehicular access, 2) Ditch over culverts construct a ditch in the road bed above a culvert to keep streams confined to the existent streambed, 3) Waterbar, construct a berm and ditch in the road bed to deflect water off the road and into a suitable area, 4) Culvert removal, remove existing culverts and re-contour stream banks to original integrity, Ditch cleaning, clearing brush from ditches so as they operate efficiently and effectively.

## **Consultation**

Road decommissioning and obliteration activities are included in the Northwest Programmatic Biological Assessment for on-going activities affecting bull trout and Upper Willamette spring Chinook salmon. This category allows for the removal or stabilization of unnecessary, unstable, or poorly designed and constructed roads or portions of roads with an overall goal of restoring hydrologic function in the watershed. The effects determination for activities associated with the Upper Middle Fork Watershed Restoration Project is May Affect, Not Likely to Adversely Affect (NLAA) bull trout and spring Chinook salmon, because the project would not transmit sediment to stream channels and the work would largely be completed outside of riparian reserves.

The Middle Fork Ranger District began consultation with National Marine and Fisheries Service (NMFS) for spring Chinook salmon when critical habitat was listed upstream of an Ecologically Significant Unit (ESU) on February 16, 2000. On May 7, 2002 NMFS withdrew critical habitat designations for ESA listed Pacific anadromous salmonids. The project also occurs within the United States Fisheries and Wildlife Service (USFWS) designated Lower Columbia River bull trout Distinct Population Segment (DPS). The USFWS has not yet finalized designated critical habitat for bull trout within the DPS.

Consultation requirements for the Upper Middle Fork Watershed Restoration Project have been met through the Programmatic Biological Assessment with the US Fish and Wildlife Service and the National Marine Fisheries Service. Therefore no further consultation is necessary.

Essential Fish Habitat (EFH) provisions of the Magnuson-Stevens Act do not include habitat above Hills Creek Dam. The proposed project effects are short-term in nature with the long-term benefits outweighing short-term effects resulting from the project. It is further determined that the project would not exceed the "May Adversely Affect" EFH threshold and is therefore not subject to EFH consultation with NMFS.

The Regional Forester's Sensitive Species List was revised in November 2000 and currently there are no fish or aquatic macro invertebrates to address in Biological Evaluations. The purpose of this analysis is to review the project and address any concerns relating to fisheries.

### **Management Indicator Species and Best Management Practices**

Resident salmonids (rainbow and cutthroat trout) and other aquatic species are Management Indicator Species in the Willamette Land and Resource Management Plan. As Management Indicator Species, federal projects need to ensure the viability of these species when conducting activities on National Forest System land; therefore the following conditions must occur:

- 1) Ensure a professional fisheries biologist is involved in the design of the project.
- 2) Do not dispose waste on active floodplains (approximately 100 feet from the stream channel).
- 3) Leave vegetation in ditches, when possible.
- 4) Stabilize potential erosion areas and control sedimentation.
- 5) Maximize activities during dry season to avoid wet periods.
- 6) Follow ODFW guidelines for in-water work period.

### **Economics**

This project incorporates by reference the Willamette National Forest Road Analysis Report (USDA, 2003). One of the key findings the report is the dilemma of managing an extensive forest road system with limited operating funding. The Forest Road Analysis Report estimates \$3.4 MM per year is needed "on the ground" to perform the necessary annual maintenance. Total funding to the Forest is \$1.4 MM per year, leaving an estimated budget shortfall of \$2 MM per year. The direction in Forest Service Manual 7703 establishes policy to determine and provide for the minimum forest transportation

systems that best serves forest management objectives as identified in appropriate Land and Resource Management Plans. The policy also states that it is important that road analysis consider access needs in relation to realistic funding levels. Based on the funding levels and annual maintenance costs, there is more than \$1MM annual shortfall even if the network of Key Forest roads are fully maintained to their current objective maintenance levels.

Another key findings from the Forest Roads Analysis that pertains to the project is that economics alone (financial efficiency) do not support large scale road closures or decommissioning in spite of the current imbalance in funding available for forest roads. Road decommissioning is a capital investment, just as road construction was, and decisions regarding these investments must be based on a sound analysis of resource values.

**Significant Issue** - There are several different methods and treatments to close and put a road into a hydrologically stable and stored condition. Each of these methods has a cost related to the implementation of the project and a longer term cost to maintenance the closure, and then the cost of re-opening the roads when they are needed in the future.

**Direct and Indirect Effects**

An estimated \$96,000 would be needed to maintain the road for the next 25 years in Alternative 1 – No Action. This cost does not include the potential value of degraded water quality and aquatic habitat.

Alternative 2 would cost an estimated \$44,738 to implement the treatments prescribed in this alternative. If and when these roads are needed in the future, the estimated cost to restore and open these roads would be about \$44,738.

Alternative 3 would cost an estimated \$90,712 to implement the treatments prescribed in this alternative. If and when these roads are needed in the future, the estimated cost to restore and open these roads would be about \$43,414.

Alternative 4 would cost an estimated \$278,780 to implement the treatments prescribed in this alternative. If and when these roads are needed in the future, the estimated cost to restore and open these roads would be about \$15,600.

**Table 7 – Summary of Costs by Alternative**

<b>Cost</b>	<b>Alternative 1 No Action</b>	<b>Alternative 2 Proposed Action</b>	<b>Alternative 3</b>	<b>Alternative 4</b>
<b>Cost to Implement Treatments*</b>	\$96,000	\$44,738	\$90,712	\$278,780
<b>Cost to Restore &amp; Open Roads</b>	0	\$44,738	\$43,414	\$15,600
<b>Total</b>	\$96,000	\$89,476	\$134,126	\$294,380

\*Note: Cost to Implement includes costs of Best Management Practices (erosion control, etc)

## Vegetation

### Botany

Forest management activities that may impact populations of or alter habitat for PETS (Proposed, Endangered, Threatened, or Sensitive) species require a Biological Evaluation (FSM 2671.44) to be completed. The Biological Evaluation process (FSM 2672.43) is used to assist in determining the possible effects the proposed management activities have on:

- a) Species listed or proposed to be listed as endangered (E) or threatened (T) by the U.S. Fish and Wildlife Service (FWS).
- b) Species listed as sensitive (S) by the USDA Forest Service, Region 6. There are 71 organisms listed on the Regional Forester's Sensitive Botanical List that are documented or suspected to occur on the Willamette National Forest (Attachment 1).

The area was reviewed to determine the presence of known sites or habitat for 71 Region 6 sensitive species. Using the current list of potential PETS species (compiled from USFWS listings, Oregon Natural Heritage Program listings, Oregon Department of Agriculture listings, and the Regional Forester's sensitive species list), maps of known sensitive plant populations were checked for previously reported sites and aerial photos and topographical maps were scrutinized for potential habitat. The Interagency Species Management System (ISMS database) was queried to determine if any sensitive species previously categorized as survey and manage occur in or adjacent to project areas.

There are no documented sites of sensitive lichen, fungi and plant species in the vicinity of the proposed road storm proofing areas.

For the vascular plants *Iliamna latibracteata*, *Montia howellii* and *Cimicifuga elata*, listed as potentially occurring along road sides proposed for treatment, a potential direct effect could be localized disturbance of individual plants should they occur in the road prisms from road maintenance work. The lichen *Usnea longissima* is found in the branches of conifers and hardwoods; any disturbance to branches could also disrupt lichen populations. Though this species is currently listed sensitive in Region 6, it is not considered to be rare on the Willamette National Forest. No threats from new invader noxious weeds have been identified.

### Direct and Indirect Effects

We determined that activities associated with the proposed action "May Impact Individuals or Habitat, But Will Not Likely Contribute to a Trend Towards Federal Listing or Loss of Viability for the Population or Species". Implementation of this project is expect to result in a low likelihood of risk to the persistence of populations of sensitive plants listed on the Regional Forester's (Region 6) list of sensitive plant species that have the potential to occur in the project area.

**Table 8: Upper Middle Fork Watershed Restoration – Road Storm Proofing, Middle Fork Ranger District: Summary of Botany Effects**

Species/Functional Group	
<i>Iliamna latibracteata</i>	MIIH
<i>Cimicifuga elata</i>	MIIH
<i>Montia howellii</i>	MIIH
<i>Usnea longissima</i>	MIIH

## Wildlife

The following summarizes effects or impacts determinations to species that have suitable habitat identified as either known to occur, or suspected to occur within the project area.

## Threatened, and Endangered Species

**Table 9 – Summary of the Biological Evaluation process for Willamette TES (or Proposed) fauna associated with proposed Upper Middle Fork Watershed Storm Proofing/Restoration Project.**

	<i>Prefield Review</i>	<i>Field Recon.</i>	<i>Risk Assessment</i>	<i>Analysis of Significance</i>	<i>USFWS Review</i>
SPECIES	Habitat Present (B,R,F,D)*	Occupancy Status	Conflicts?	Effects / Impacts	Consultation BA <sup>1</sup> /BO <sup>2</sup>
Northern Spotted Owl <i>Strix occidentalis caurina</i>	No, All activities within road prism	Unknown	No Conflict	NoEffect Seasonal Restrictions 3/1-7/15	NA
Northern Bald Eagle <i>Haliaeetus leucocephalus</i>	No				
Canada Lynx <i>Lynx canadensis</i>	No				
Least Bittern <i>Ixobrychus exilis</i>	No				
Bufflehead <i>Bucephala albeola</i>	No				
Harlequin Duck <i>Histrionicus histrionicus</i>	No				
American Peregrine Falcon <i>Falcon peregrinus anatum</i>	No, All activities within road prism	Unknown	No Conflict	NoEffect- Seasonal Restrictions 1/15-7/31	NA
Yellow Rail	No				

	<i>Prefield Review</i>	<i>Field Recon.</i>	<i>Risk Assessment</i>	<i>Analysis of Significance</i>	<i>USFWS Review</i>
<b>SPECIES</b>	<b>Habitat Present (B,R,F,D)*</b>	<b>Occupancy Status</b>	<b>Conflicts?</b>	<b>Effects / Impacts</b>	<b>Consultation BA<sup>1</sup>/BO<sup>2</sup></b>
<i>Coturnicops noveboracensis</i>					
Black Swift <i>Cypseloides niger</i>	No				
Tricolored Blackbird <i>Agelaius tricolor</i>	No				
Baird's Shrew <i>Sorex bairdii permiliensis</i>	No				
Pacific Shrew <i>Sorex pacificus cascadenis</i>	No				
Wolverine <i>Gulo gulo</i>	No				
Fisher <i>Martes pennanti</i>	No				
Pacific Fringe-tailed Bat <i>M. thysanodes vespertinu</i>	No				
OR Slender Salamander <i>Batrachoseps wrighti</i>	No				
Cascade Torrent Salamander <i>Rhyacotriton cascadae</i>	No				
Foothill Yellow-legged Frog <i>Rana boylei</i>	No				
Oregon Spotted Frog <i>Rana pretiosa</i>	No				
Northwestern Pond Turtle <i>C. marmorata marmorata</i>	No				
Mardon Skipper <i>Polites mardon</i>	No				
Crater Lake Tightcoil <i>Pristiloma arcticum crateris</i>	No				
Great Gray Owl <i>Strix nebulosa</i>	No				

### Northern Spotted Owl

The northern spotted owl is a species strongly associated with old-growth forests containing a component of large diameter Douglas-fir. These forest stands commonly provide a variety of structural features such as large diameter trees having central cavities, dense canopies with a high level of vertical and horizontal diversity, and abundance of snags and down logs. Stands with all these characteristics provide the best suitable (nesting, roosting, foraging) habitat for spotted owls. However, all of the above characteristics may not need be present for spotted owls to make use of an area as nesting, roosting or foraging habitat. The owl's affinity to old-growth forest types also results from the adaptation of this species to foraging on prey animals commonly present in such stands and the lack of predation pressure and interspecies competition typical of more open areas. Nevertheless, spotted owls have been known to forage short distances into clearcut openings from a forested edge if a prey item is detected.

Dispersal-only habitat for the northern spotted owl generally consists of mid seral stage stands between 40 and 80 years of age with canopy closures of 40 percent or greater and trees with a mean DBHs of 11 inches or greater. Older stands lacking structural development that supports nesting may be considered dispersal habitat, and on some occasions may provide roosting or foraging opportunities for the species. Spotted owls generally use dispersal habitat to move between blocks of suitable habitat or, for juveniles, to disperse from natal territories.

A detailed account of the biology and ecology of the northern spotted owl may be found in the following documents: 1987 and 1990 U.S. Fish and Wildlife Service Status Reviews (USDI 1987 and 1990); the 1989 Status Review Supplement (USDI 1989); the conservation Strategy for the Northern Spotted Owl/Interagency Scientific Committee (USDA and USDI 1990); and the draft Recovery Plan for the Northern Spotted Owl (USDI 1992).

### **Direct, Indirect, and Cumulative Effects**

The Upper Middle Fork Watershed Storm Proofing/Restoration Project proposes no habitat modification that would affect spotted owls. Activities that may disturb spotted owls in suitable habitat would be restricted from occurring throughout the breeding season. Due to location and type of proposed activities, along with implementation scheduling there are no recognized direct, indirect, or cumulative effects to spotted owls or critical habitat from this project

Implementing the following recommendation would ensure effects or impacts on listed species from proposed activities would be no greater than those addressed in this document, and also would mitigate those impacts.

Seasonally restrict all action alternatives for road maintenance operations that may be proposed to occur within .25 mile of suitable spotted owl habitat so that activities do not occur between March 1 and July 15<sup>th</sup> unless located within or adjacent to a LSR/CHU, then March 1-September 30<sup>th</sup>.

No current spotted owl suitable or dispersal habitat would be modified by this proposal, and activities that may disturb spotted owls in any adjacent suitable habitat throughout the breeding season (March 1-July15<sup>th</sup> and WHERE the project occurs in or adjacent to an LSR/CHU the restrictions would be March 1<sup>st</sup> –September 30<sup>th</sup>) would be restricted from occurring.

### **Consultation**

This project is covered under the Programmatic Disturbance BA/BO and a Letter of Concurrence from USFWS dated March 1, 2006.

### **American Peregrine Falcon**

In the Pacific states, preferred peregrine falcon nesting sites are sheer cliffs 150 ft. or more in height with horizontal ledges (USFWS 1982). On the Willamette National Forest, cliffs with potential for nesting by peregrine falcons include those that are at least 75 feet high, have horizontal ledges, ledges with overhangs or cave-like openings, have sheer faces inaccessible to ground predators and within .5 miles of riparian habitat. Peregrine falcons feed almost exclusively on birds, many of which may be associated

with riparian zones, large bodies of water or an abundance of snag habitat. Other small birds on which peregrine falcons feed are present in drier open areas, particularly where hardwood shrubs and trees are abundant. Some avian prey species select for closed coniferous forest. Peregrine falcons can forage widely for prey and would hunt over closed coniferous forest canopies as well as in open areas and over hardwood patches - wherever prey is abundant.

There is no suitable peregrine nesting habitat in the immediate vicinity of the project area. Portions of the project area where activities are proposed ( all within the road prism) are within primary, secondary and tertiary management zones for one known nearby peregrine nest site (OE:23). The portions of road (see highlighted table attached) that fall within these areas are seasonally restricted from Jan 15<sup>th</sup>-July 31<sup>st</sup>. Unless determined by District Biologist to be in non-occupied status. See tables with appropriate restrictions.

Adult and young peregrines from the nearby nest sites are known to forage for avian prey in watersheds surrounding the project area. Young peregrines may linger in this type of habitat while dispersing from the nest site. Proposed road improvement activities would not affect peregrines at the nest ledge. Some activities associated with this project occurs in both primary, secondary and tertiary zones could result in indirect disturbance to peregrines by influencing prey behavior and foraging success. However, due to the scale of this project, the type of activities, and proposed scheduling, minimal risk of disturbance is expected by these project activities.

### **Direct, Indirect and Cumulative Effects**

Due to location, scale, and proposed project scheduling, there are no recognized direct or indirect effects to peregrine falcons as a result of this project. Although small and considered unquantifiable, cumulative effects to this species should be positive as overall biodiversity increases in response to these and future treatments within the planning area that encourage restoration of the former savanna habitat.

Management of this area under the Willamette Forest Plan, as amended by the the ROD should provide a long term increasing trend in the quality of suitable foraging and dispersal habitat for peregrine falcons. Activities as proposed under Upper Middle Fork Watershed Storm Proofing/Restoration Project would not result in modification of peregrine nesting habitat, and would avoid disturbance to the species during the breeding season.

There would be no effect to peregrine falcons or their habitat.

Seasonally restrict all action alternatives for road maintenance operations that are proposed within peregrine zones as defined in Table 10. (January 15<sup>th</sup> and July 31<sup>st</sup>).

### **Conclusions**

Direct, indirect, and cumulative effects of the action alternatives 2, 3, and 4 in conjunction with other projects in and adjacent to the project area are not expected to jeopardize the continued existence of any TES species or result in a permanent adverse modification of their essential habitat; nor would they likely contribute to a trend towards Federal listing or cause a loss of viability to populations of species designated as R-6 Sensitive or as Management Indicator Species on the Willamette National Forest.

Maintenance and restoration of intact dispersal corridors surrounding the area would ensure ongoing opportunities for movement of spotted owls and other late-successional forest related TES.

**Table 10 – Summary of road with Seasonal Restrictions**

Road Number	ID	Miles	Seasonal Restriction	Remark
2100401	414	1.35	1/15-7/31	Peregrines
2100420	153	0.13	1/15-7/31	Peregrines
2120425	44	3.07	3/1-9/30	LSR
2149408	301	2.20	1/15-9/30	LSR
2149415	125	0.83	1/15-9/30	LSR
2149416	356	1.02	1/15-9/30	LSR
2149417	384	0.99	1/15-9/30	LSR
2153357	785	0.21	3/1-9/30	LSR
2153357	814	1.15	3/1-9/30	LSR
2300425	7	1.35	1/15-9/30	LSR
<b>TOTAL</b>	<b>MILES</b>	<b>12.30</b>		

### **Survey and Manage Species**

The project area was assessed for habitat of the following Survey and Manage Species:

Crater Lake tightcoil - *Pristiloma arcticum crateris*,

Great gray owl - *Strix nebulosa*,

Red tree vole - *Phenacomys (Arborimus) longicaudus*,

Cavity Nesters, white-headed woodpecker, black-backed woodpecker, Pygmy nuthatch, flammulated owl

Bat roost sites – caves, mines, etc.

No habitat for any of the above listed species would be disturbed by the project. Therefore, all of the alternative would have no effect on any of these species.

### **Big Game Habitat**

The management objectives for deer and elk habitat are applied to specific mapped “Emphasis Areas” within the Forest. The project area encompasses all, or a portion of seven Big Game Emphasis Areas (BGEA). Emmigrant Beaver and Spider Plus are designated as high level emphasis area. Swift Head, Echo East and Paddy’s Valley are designated as a moderate level emphasis area, and two small area named Douglas Lane and Coulee Moss are designated as a low level emphasis area. Forest Plan Standards and Guidelines (S&G) (FW-137) directs the use of a model to evaluate the effects of projects on habitat within BGEAs.

High road densities in Spider Plus, Swift Head, Echo East and Paddy’s Valley all exceed the Forest Plan standard for open road densities.

## **Direct and Indirect Effects**

Alternative 1 (No Action) would not close any roads and current open road densities would remain the same. Big game would continue to be disturbed from motorized vehicle traffic on these roads.

Alternative 2 would close the most miles of roads and decrease the roads densities in these areas. The open road densities would result in lower levels of disturbance to big game habitat.

Alternative 3 would close the second most roads out of all the action alternatives and reduce the open roads densities.

Alternative 4 would not close any road and current open road densities would remain the same. Big game would continue to be disturbed from motorized vehicle traffic on these roads.

## **Cumulative Effects - Big Game Habitat**

The cumulative effect analysis area is also defined by the big game emphasis areas. Past, present, and foreseeable actions were considered in the analysis and model during the mapping of habitat conditions. In a general context, cumulative effects of the Project on deer/elk would be positive for both Alternative 2 and 3 by improving the trend of open road densities toward Forest Plan Standards and Guidelines. Alternative 1 and 4 do not close any roads. There is one foreseeable action that would modify habitat in a portion of some of these BGEAs. The Echo Staley Road Storage and Trash Sites Project would also reduce open road densities in the Spider Plus and Echo East BGEAs contributing toward the trend of reducing open road densities.

## **Cultural Resources**

These activities are specifically addressed in the 2004 PA with the SHPO, under the road decommissioning activities described in Appendix B (5, 7, and 8). Since the proposed project activity would take place entirely in the road prism, it is recommended that it be excluded from case by case review, based on inspection and monitoring, as per PA. Activities in the vicinity of the historic Oregon Central Military Wagon Road (along Forest road 21) should be monitored by the district archaeologist or cultural resource technician as previously discussed with the project manager. Hence, the district archaeologist should be notified when operations begin. In the event that heritage properties are located during the course of this project, all work in the area of this find shall be suspended immediately, while an archaeologist is notified to assess the find.

## **Air Quality**

Air quality would not be affected, as disposal of waste or slash by burning is not proposed.

## **Other Disclosure**

### **Short term Uses and Long term productivity**

NEPA requires consideration of the relationship between short-term uses of man's environment and the maintenance and enhancement of long-term productivity (40 CFR 1502.16). As declared by Congress, this includes using all practicable means and measures to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans (NEPA Section 101).

The Multiple Use – Sustained Yield Act of 1960 requires the Forest Service to manage National Forest System lands for multiple uses (including timber, recreation, fish and wildlife, range, and watershed). All renewable resources are to be managed in such a way that they are available for future generations. The harvest and use of standing timber can be considered a short term use of a renewable resource. As a renewable resource, trees can be re-established and grown again if the productivity of the land is not impaired.

Maintaining the productivity of the land is a complex, long-term objective. All alternatives protect the long-term objective of the project area through the use of specific Forest Plan S&Gs, mitigation measures, and BMPs. Long-term productivity could change as a result of the various management activities proposed in the alternatives. Management activities could have a direct, indirect, and cumulative effect on the economic, social, and biological environment. Those effects are disclosed in the analyses presented in this Chapter 3.

Soil and water are two key factors in ecosystem productivity, and these resources would be protected in all action alternatives to avoid damage that could take many decades to rectify. Sustained yield of timber, wildlife habitat, and other renewable resources all rely on maintaining long-term soil productivity. Quality and quantity of water from the analysis area may fluctuate as a result of short-term uses, but no long-term effects to water resources are expected to occur as a result of timber management activities.

All alternatives would provide the fish and wildlife habitat necessary to contribute to the maintenance of viable, well distributed populations of existing native and non-native vertebrate species. The abundance and diversity of wildlife species depends on the quality, quantity, and distribution of habitat, whether for breeding, feeding, or resting. The alternatives vary in risk presented in both fish and wildlife habitat capability.

None of the alternatives would have an effect on the long-term productivity of timber resources.

### **Irreversible and Irretrievable Commitment of Resources**

NEPA requires that environmental analysis include identification of “. . . any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.” Irreversible and irretrievable resource commitments are related to the use of nonrenewable resources and the effects that the use of these resources have on future generations.

Irreversible effects primarily result from use or destruction of a specific resource (e.g., minerals) that cannot be replaced within a reasonable time frame. Irrecoverable resource commitments involve the loss in value of an affected resource that cannot be restored as a result of the action (e.g., disturbance of wildlife habitat); or is lost as a result of inaction (e.g., failure to monitor and treat forest vegetation to prevent infestation of insects).

The anticipated effects for all action alternatives described in this document are the same as those discussed in the FEIS for the Forest Plan (USDA, 1990b) on page IV-178. Some erosion and soil movement would result from road work.

The analysis revealed no significant irreversible or irretrievable commitment of resources associated with implementing the alternatives that are not already identified in the Willamette National Forest Plan FEIS

## **Unavoidable Adverse Effects**

Several expected adverse effects, including some that are minimal and/or short term, were identified during the analysis. Resource protection measures or mitigations were identified and considered for each of these as a means to lessen or eliminate such effects on specific resources. See mitigation measures starting on Chapter 2. Resource areas determined to have potential adverse effects (resulting from any of the alternatives – including No Action and the Action Alternatives) are documented within the appropriate Environmental Consequences sections of each resource in this chapter. See the following sections:

Recreation and Public Access

Water Quality and Stream Conditions

Fisheries

Wildlife - Threatened and Sensitive Species

Wildlife - Survey and Manage Species

Wildlife – Management Indicator Species

Wildlife - Big Game Habitat

Vegetation: Invasive Weeds

## **Effects on Recreational Fisheries (Executive Order 12962)**

This 1995 order's purpose is to conserve, restore, and enhance aquatic systems to provide for increased recreational fishing opportunities nationwide. It requires federal agencies to evaluate the effects of federally funded actions on aquatic systems and document those effects relative to the purpose of this order.

There is a potential short term impact of sediments into the streams as a result of the road management activities. This short term impact would not threaten fish species. The short term impacts are outweighed by the long term benefits to the water quality and fisheries resource. Mitigating measures have been applied in the action alternatives to maintain anadromous fish and resident fish populations and habitat. These mitigating measures

include best management practices during road work activities. Road closures have been proposed to reduce the risk of sedimentation to water quality and fisheries resources.

All action alternatives including associated mitigation actions and BMPs are consistent with current management direction including Willamette Forest Plan Standards and Guidelines, Aquatic Conservation Strategy (ACS) Objectives (at the watershed analysis level) and the Federal Clean Water Act. Implementation of required BMPs would insure protection of water quality and beneficial uses under all alternatives.

## **Effects on Consumers, Civil Rights, Minority Groups and Women**

Implementation of any alternative may not by itself have any effect upon consumers, but in combination with other projects may have an effect upon the local economy, especially on communities of Lowell, Oakridge, Springfield and Eugene. The Forest Plan FEIS addresses social and economic effects on pages IV 119-128.

Implementation of this project has not been planned to either favor or discriminate against any social or ethnic group. Contracting procedures would ensure that projects made available through this project would be advertised and awarded in a manner that gives proper consideration to minority and women-owned business groups and meet Equal Employment Opportunity requirements. Because of this consideration, there would be no direct, indirect, or cumulative effects to consumers, minority groups with implementation of any of the alternatives

## **Effects on Minorities, Low-Income Populations, or Subsistence Users (Environmental Justice – Executive Order 12898)**

The project is located near the cities of Oakridge and Westfir, in Lane County, Oregon. These communities have minority populations of 8 percent, 7 percent and less than 1 percent, respectively. Lane County, in its entirety, has a minority population of 9 percent, (U.S. Census Bureau, 2000).

For the City of Oakridge, approximately 14.5 percent of the population is at or below poverty level; approximately 12.2 percent of the population of the City of Westfir is at or below the poverty level. (U. S. Census Bureau, 2000). According to information from the Oregon Economic and Community Development Department (OECDD), Lane County, (excluding areas within the city limits of Eugene, Springfield, Coburg and Dunes City), is rated 1.30, (threshold 1.20), on the distressed area index.(OECDD, 2002). These Cities, as well as much of Lane County, have experienced a significant decline in timber-based jobs over the past decade, contributing to factors used to determine a distressed community.

Implementation of any alternative that provides the opportunity for employment may positively affect low-income families who are either unemployed or underemployed. Implementation of any alternative is not expected to impose a disproportionately high or adverse effect to those populations.

Subsistence and cultural use levels are difficult to quantify and differential patterns of subsistence consumption are unknown at this time. However, the Forest provides access

to firewood, Christmas trees, mushrooms and other consumables through a personal-use permit system. Middle Fork Ranger District sells and issues permits for about 800 cords of firewood; about 2,000 Christmas tree permits; and about 300 personal-use mushroom permits per year.

Effects on fisheries are mitigated in all action alternatives to maintain anadromous fish and resident fish populations and habitat.

Road closures may impact subsistence in the immediate project area, but these impacts would be mitigated by the availability of other access routes throughout the area.

The Willamette National Forest has Memorandums of Understanding (MOU) with the Confederated Tribes of the Grand Ronde, the Confederated Tribes of Warm Springs, and the Confederated Tribes of Siletz. These MOUs provide the mechanism for regularly scheduled consultations on proposed activities. Beyond this, the Forest notifies and consults with tribal governments in a manner consistent with the government-to-government relationship on any matters that ripen outside of the meeting schedule. Any potential impacts are discussed and mitigated through these processes.

All alternatives comply with Executive Order 12989 “Federal Action to Address Environmental Justice in Minority Populations and Low-Income Populations”.

## **Effects on American Indian Rights**

The Confederated Tribes of the Siletz, Grand Ronde, Coos, Lower Umpqua, Siuslaw and Warm Spring, Klamath Tribe, Coquille Tribe and Cow Creek Band of Umpqua Indians were notified of the project during the scoping of issues as part of the public participation process.

The project has been included in the annual Program Review of Work with the Conferated Tribes of the Siletz and Grand Ronde for the last couple of years. Assorted presentation was given on the major Forest’s timber sale planning efforts. No specific comments were received from these tribes as a result of scoping letters and annual Program Review meeting. No specific sacred sites have been identified in the proximity of the proposed units. No impacts, as outlined in the American Indian Religious Freedom Act, are anticipated upon American Indian social, economic or subsistence rights.

All alternatives comply with Consultation and Coordination with Indian Tribal Governments Executive Order 13084 and Indian Sacred Sties Executive Order 13007.

## **Effects on Farmlands, Rangelands, Forest Land, and Floodplains**

Executive Orders 11988 and 11990 direct Federal agencies to avoid, to the extent possible, both short-term and long-term adverse impacts associated with the modifications of floodplains and wetlands. None of the alternatives have specific actions that adversely affect wetlands and floodplains. Wetlands and streams with associated riparian reserves (includes adjacent floodplains) have been delineated for the project area. All of the wetlands and streams near treatment areas would protect the natural and beneficial values and minimize any detrimental effects to those wetlands and streams. Proposed activities are compliant with the orders and USDA Departmental Regulation

9500-3. See discussions related to this topic in the water quality and stream conditions, fisheries and soils resource sections in Chapter 3 for more information.

## **Monitoring**

Based upon the purpose and need for the action, the issues identified during the scoping process and used in the design of the alternatives, the following Forest Plan S&Gs are recommended to be used as a guide for monitoring key components of the project.

### **Road Closure (Purpose and Need)**

Did the project meet the recommendations in the District's and Forest's Road Analyses?

Did the road closures or access restrictions consider the effects on developed and dispersed recreation sites and trailheads (FW-313)

### **Recreation and Public Access**

Does the project meet the recreation access and travel management guides developed by the District (FW-023)?

Did the proposal contribute to the diversity of off-road vehicle recreational opportunities across the Forest and is consistent with criteria specified in FSM 2355.12 (FW-024)?

Did the area closed or restricted to off road vehicle use get posted with a brief explanation of the reasons for the closure (FW -026)?

### **Water Quality**

Were the BMPs used to mitigate effects to water quality (FW-090, 092)?

## CHAPTER 4 - CONSULTATION AND COORDINATION

The Forest Service consulted the following individuals, Federal, State, and local agencies, tribes and non-Forest Service persons during the development of this environmental assessment:

### **ID TEAM MEMBERS:**

Team Leader/Hydro	Tech Ernie Ledbetter
Wildlife Biologist	Deborah Quintana
Botanist	Kim McMahan
Fish Biologist	Doug Larson
Soil and Water Sciences	David Murdough
Fire	Dennis Sullivan
Archaeologist	Cathy Lindberg
Recreation	Dave Tangen
Engineering	Dawn Pozzani

### **FEDERAL, STATE, AND LOCAL AGENCIES:**

US Fish and Wildlife Service  
Oregon Dept. of Fish and Wildlife  
Oregon Dept. of Environmental Quality  
City of Oakridge  
City of Westfir  
Lane County Board of Commissioners  
Douglas County Board of Commissioners  
US Rep. 4<sup>th</sup> District Peter Defazio  
US Sen. (Oregon), Honorable Ron Wyden  
USFS Regional Office

ODOT

<b><i>TRIBES</i></b>
Confederated Tribes of the Warm Springs
Confederated Tribes of the Grand Ronde
The Klamath Tribe
Confederated Tribes of the Siletz Indians
Cow Creek Band of the Umpqua Indians
Confederated Tribes of Coos, Lower Umpqua & Siuslaw
Coquille Tribe

<b><i>OTHERS</i></b>	
Cascadia Wildlands Project	Dead Mountain Echo Editor
Rocky Mountain Elk Foundation	John M. Moran
Oregon Natural Resources Council	Dick & Marcie Klocko
Sierra Club-Many Rivers	Dave Black
The McKenzie Flyfishers	Jon Devorak
OOHVA	Drum Evens
Cascade Flyfishers	Mary O'Brien
American Forest Resource Council	Randy Zustiak

***OTHERS***

American Lands Alliance                      J Davidson & Sons

NPSO    Scott Keep

Lane County Audobon Society              Alan Bennett

South Willamette Earth First              Dennis Chappa

Emerald Trail Riders Assoc                      Jim Claffin

Northwest Trail Riders                              Jim Person

Back Country Horsemen of  
America    Terry Peters

The Obsidians    Jack Watson

Jeff Ammon    John Koenig

Joanne Vinton    Betty Jean Keele

Becky Hope    Della Webb

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## **APPENDICES**

### **Appendix A - Federal and State Laws, Regulations, and Executive Orders:**

#### **The National Environmental Policy Act (NEPA) of 1969, as amended**

The purposes of this Act are "To declare a national policy which will encourage productive and enjoyable harmony between man and his environment, to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the Nations; and to establish a Council on Environmental Quality" (42 U.S.C. Sec. 4321). The law further states "it is the continuing policy of the Federal Government, in cooperation, to use all practicable means and measures, including financial and technical assistance, in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of the present and future generations of Americans. This law essentially pertains to public participation, environmental analysis, documentation and appeals.

NEPA establishes the format and content requirements of environmental analysis and documentation such as the Niner project analysis. The entire process of preparing an environmental assessment was undertaken to comply with NEPA requirements, as codified by 40 CFR 1501 and the Forest Service Handbook 1909.15, Chapter 40.

#### **The National Forest Management Act (NFMA) of 1976**

This Act guides development and revision of National Forest Land Management Plans and addresses a range of activities from required reporting that the Secretary must submit annually to Congress to preparation requirements for timber sale contracts. There are several important sections within the act, including Section 1 (purpose and principles), Section 19 (fish and wildlife resources), Section 23 (water and soil resources), and Section 27 (management requirements that relate to perspective project planning).

All alternatives were developed to be in full compliance with NFMA via compliance with the Willamette National Forest Land and Resource Management Plan, as amended. This EA contains references as to how this project complies with Forest Plan and Northwest Forest Plan standards and guidelines.

#### **The Endangered Species Act of 1973, as amended**

The purposes of this Act are to "provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved, to provide a program for the conservation of such endangered species and threatened species, and to take such tests as may be appropriate to achieve the purpose of the treaties and conventions set forth in subsection (a) of this section." The Act also states "It is further declared to be the policy of Congress that all Federal departments and agencies shall seek to conserve endangered species and threatened species and shall utilize their authorities in furtherance of the purposes of this Act."

Field surveys and Biological Evaluations for all listed endangered, threatened, or sensitive species have been conducted to determine possible effects of any proposed activities in the project area (see the Wildlife and Plant Biological Evaluations in the Analysis File).

### **The Clean Water Act, as amended in 1977 and 1982**

The primary objective of this Act is to restore and maintain the integrity of the Nation's waters. This objective translates into two fundamental national goals: 1. Eliminate the discharge of pollutants into the nation's waters; and 2. Achieve water quality levels that are fishable and swimmable. This Act establishes a non-degradation policy for all federally proposed projects. Under Section 303(d) of the Clean Water Act, the State has identified water quality-limited water bodies in Oregon. Fall Creek is the only water body in the project area that is on the 303(d) list due to elevated temperatures.

All action alternatives including associated mitigation actions and BMPs are consistent with current management direction including Willamette Forest Plan Standards and Guidelines, Aquatic Conservation Strategy (ACS) Objectives (at the watershed analysis area) and the Federal Clean Water Act. Implementation of required BMPs would insure protection of water quality and beneficial uses under all alternatives.

### **The Clean Air Act, as amended in 1990**

The purposes of this Act are "to protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare and the productive capacity of its population; to initiate and accelerate a national research and development program to achieve the prevention and control of air pollution; to provide technical and financial assistance to state and local governments in connection with the development and execution of their air pollution prevention and control programs; and to encourage and assist the development and operation of regional air pollution prevention and control programs."

The action alternatives are designed to meet the National Ambient Air Quality Standards, as direction by the Oregon Smoke Management Act, through avoidance of practices which degrade air quality below health and visibility standards.

### **National Historic Preservation Act of 1966, as amended**

This Act requires Federal agencies to consult with American Indian Tribes, and various State and local groups before nonrenewable cultural resources, such as archaeological and historic structures, are damaged or destroyed. Section 106 of this Act requires Federal agencies to review the effects project proposals may have on the cultural resources in the Analysis Area.

As described in Chapter 3, these activities are specifically addressed in the 2004 PA with the SHPO, under the road decommissioning activities described in Appendix B (5, 7, and 8). Since the proposed project activity would take place entirely in the road prism, it is recommended that it be excluded from case by case review, based on inspection and monitoring, as per PA. Activities in the vicinity of the historic Oregon Central Military Wagon Road (along Forest road 21) should be monitored by the district archaeologist or cultural resource technician as previously discussed with the project manager. Hence, the district archaeologist should be notified when operations begin. In the event that heritage

properties are located during the course of this project, all work in the area of this find shall be suspended immediately, while an archaeologist is notified to assess the find.

### **Executive Order 13186 (Migratory Bird)**

On January 10, 2001, President Clinton signed an Executive Order (E.O. 13186) titled "Responsibilities of Federal Agencies to Protect Migratory Birds." This E.O. requires the "environmental analysis of Federal actions, required by NEPA or other established environmental review processes, evaluates the effects of actions and agency plans on migratory birds, with emphasis on species of concern."

Current science applied to S&Gs governing management of this area provide direction that would ensure the long term maintenance of amount and distribution of suitable habitat for native residents and migratory land bird species. The spatial and temporal extent of proposed activities that would result in disturbance to nesting birds in a small portion of the project area would mitigate the overall potential for disturbance and provide protection for nesting birds as intended under the Migratory Bird Treaty Act.

### **Prime Lands**

The Secretary of Agriculture issued memorandum 1827 which is intended to protect prime farm lands and rangelands. The project area does not contain any prime farmlands or rangelands. Prime forestland is not applicable to lands within the National Forest System. National Forest System lands would be managed with consideration of the impacts on adjacent private lands. Prime forestlands on adjacent private lands would benefit indirectly from a decreased risk of impacts from wildfire. There would be no direct, indirect, or cumulative adverse effects to these resources and thus are in compliance with the Farmland Protection Act and Departmental Regulation 9500-3, "Land Use Policy".

### **Executive Order 13112 (Invasive Species)**

This 1999 order requires Federal agencies whose actions may affect the status of invasive species to identify those actions and within budgetary limits, "(i) prevent the introduction of invasive species; (ii) detect and respond rapidly to and control populations of such species... (iii) monitor invasive species populations... (iv) provide for restoration of native species and habitat conditions in ecosystems that have been invaded;... (vi) promote public education on invasive species... and (3) not authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species... unless, pursuant to guidelines that it has prescribed, the agency had determined and made public... that the benefits of such actions clearly outweigh the potential harm caused by invasive species; and that all feasible and prudent measures to minimize risk of harm will be taken in conjunction with the actions."

The action alternatives implement the direction from the Willamette Forest Plan and the Integrated Weeds Management EA. The action alternatives include mitigating measure (see Chapter 2 – Mitigation Common to All Alternative – Invasive Weeds) which would limit the spread of invasive weeds. Mitigating measures include the cleaning of off road equipment between infested work sites, pre-treating roads before road maintenance and reconstruction, re-vegetating all disturbed areas with weed-free mulch and native seed, and monitoring weed infestations following treatments..

## **Energy Requirement and Conservation Potential**

There are no unusual energy requirements for implementing any of the alternatives

## **State Laws**

Oregon State Best Management Practices (BMPs) - State BMPs are employed to maintain water quality and are certified by the Environmental Protection Agency for meeting the Clean Water Act.

The Oregon Smoke Management Plan - The Oregon State Implementation Plan and the Oregon State Smoke Management Plan are not applicable because the project would not dispose of waste or wood slash by burning.