



ENVIRONMENTAL ASSESSMENT:

1900 Flood Repair Project

United States Department of Agriculture
Forest Service
Okanogan-Wenatchee National Forest

Naches Ranger District
January 2012

Environmental Assessment

The enclosed Environmental Assessment (EA) is a comprehensive analysis of the 1900 Flood Repair Project. This analysis is consistent with the National Environmental Policy Act of 1970 and other national and regional direction. For more information or components of the project file, please contact Michelle King, 509-653-1420 at the Naches Ranger Station.

Official Comment and Appeal Period

As per 36 CFR 215 regulations, the official comment period for the Environmental Assessment begins the first day after publication of the legal notice in the Wenatchee World newspaper and ends 30 calendar days later. It is imperative to understand that in order to have the eligibility to appeal the subsequent decision, one must provide the following information within the designated comment period: name and address, title of proposed action, specific substantive comments, signature or verification of identity, and evidence of timely submission. Please reference 36 CFR 215.6.

Written comments must be submitted to Responsible Official:

Irene L. Davidson
District Ranger
Naches Ranger District
10237 U.S. Highway 12
Naches, WA 98937

Oral comments must be provided at the Responsible Officer's office during normal business hours (Monday-Friday 8am-4pm). Electronic comments must be submitted in forms such as an email message, plain text, rich text, or word document to:

comments-pacificnorthwest-wenatchee-naches@fs.fed.us

An identifiable name or verification of identity is required on electronic messages.

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CHAPTER I

Proposed Action and Purpose and Need

Introduction

This Environmental Assessment (EA) in its entirety includes an outline of legislative requirements and relevant environmental documents. The environmental analysis completed finds its basis in the Wenatchee National Forest Land and Resource Management Plan (USDA Forest Service, Wenatchee National Forest, 1990) as amended. The decisions to be made, based on the proposed action analysis and possible alternatives, are also reviewed. The EA will include a summary of scoping and public involvement for this project. It will also describe anticipated effects associated with the proposed action. Chapter I describes the project area and background for the 1900 Flood Repair Project along with the original proposed action and the purpose and need.

The Naches Ranger District is proposing to repair two flood damaged sites on the Forest Service Road (FSR) 1900. Sites mile post 2.0 and mile post 5.1 were both damaged in a 2009 spring flood event. The Refined Proposed Action will allow the district to continue to provide safe access for the vehicles using this road while integrating repair structures that would contribute to the riparian habitat.

Project Area

Location

The 1900 Flood Repair Project is located on the Naches Ranger Station in Yakima County, Washington. Forest Service Road 1900 adjoins with State Highway 410 at the confluence of the Bumping River and the Little Naches River (See Figure I.1). The FSR 1900 follows the Little Naches River and the two proposed construction sites are at mile post 2.0 and mile post 5.1 (See Figure I.2). The project area at mile post 2.0 is located in section 32, T17N, R14E W.M. and mile post 5.1 is located in section 24, T17N, R13E W.M.

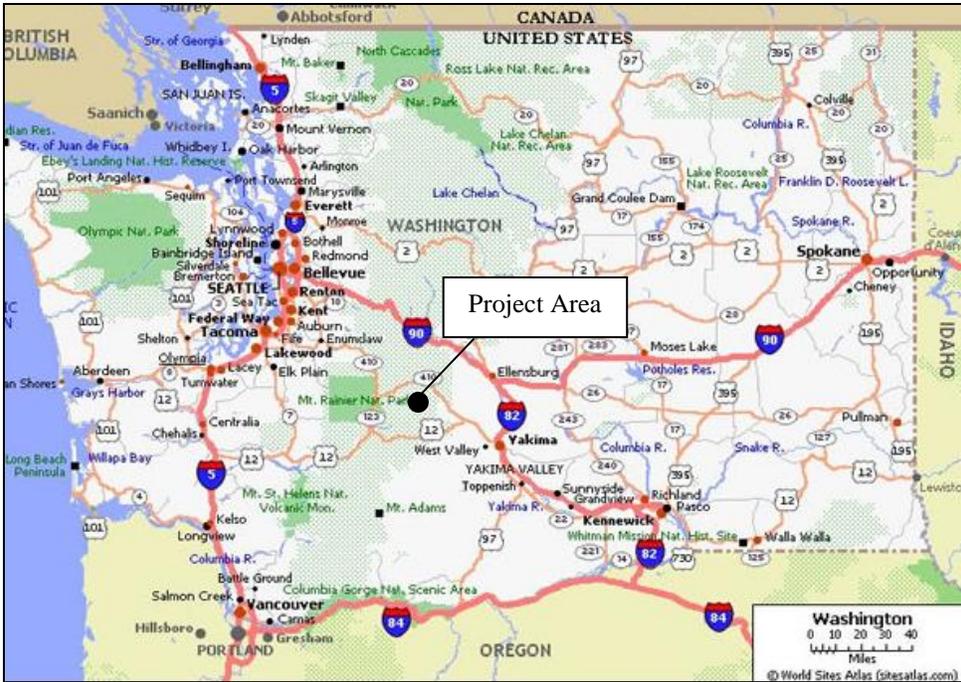


Figure I.1: 1900 Flood Repair Project Location

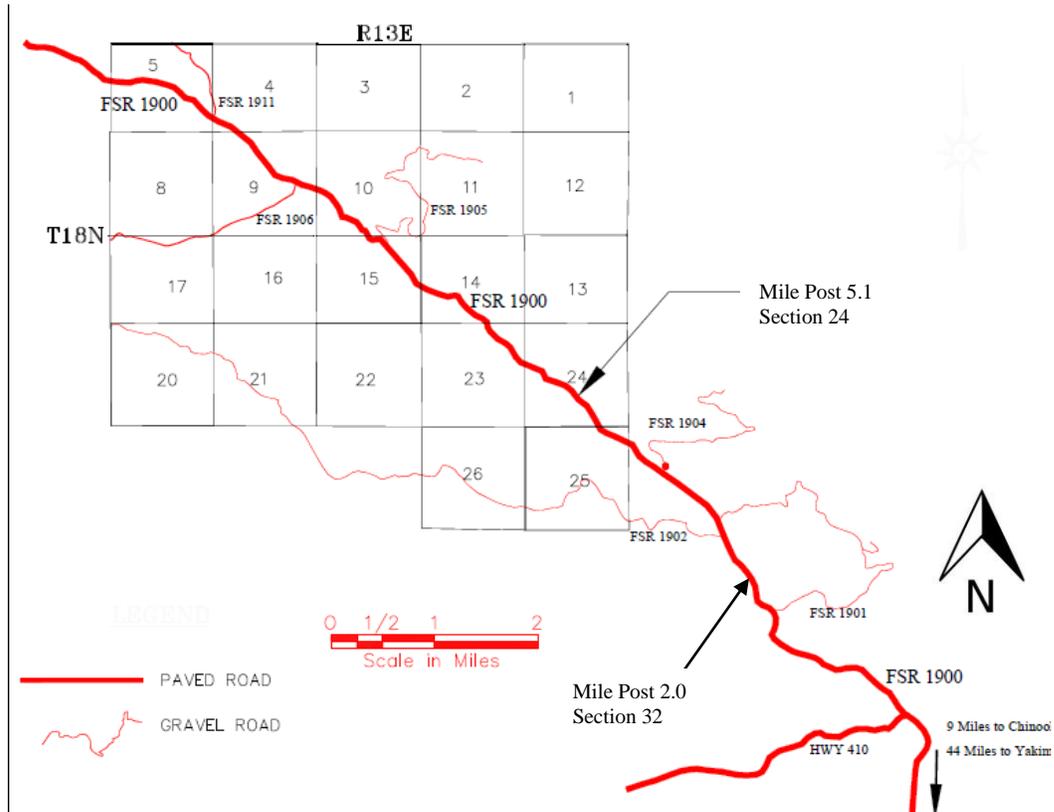


Figure I.2: Mile post locations in relation to other Forest Service Roads

Background

At the 2.0 site, the damaged area of the roadway is at a straight riffle on the Little Naches River. After the 2009 flood event, a large portion of the rip-rap armoring the road was washed away. Approximately 200ft of stream armoring eroded and 100ft of road shoulder was damaged (See Figure I.3). There was no direct damage to the road surface.

At the 5.1 site, the damaged area of the roadway comes in direct contact with the river bend, making it subject to high water impact. After a 2009 flood event, portions of the rip-rap, road shoulder, and road surface were damaged reducing the width of the road. The highly used road was reduced to one lane at mile post 5.1 with approximately 150 ft of damaged roadway (See Figure I.4). To ensure safe travel, a concrete barrier was placed in front of the damaged shoulder and two traffic signs notify travelers of the one-lane status and reduced speed limit.



Figure I.3: Damaged road shoulder at mile post 2.0, facing downstream

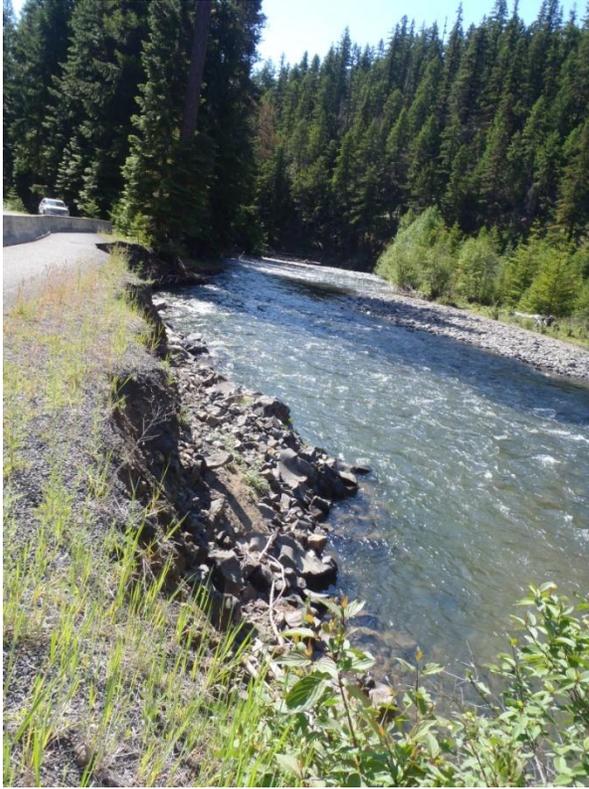


Figure I.4: Damaged road shoulder at mile post 5.1, facing downstream

Project Area Description

The project areas are entirely on Forest Service land, part of the Naches Ranger District. The 1900 Flood Repair Project lies within the Little Naches watershed. The road is a maintenance level 4 road and is in a high traffic area for recreation, vegetation management, and administrative use (See Figure I.2). It also provides primary access for fire initial attack response

The proposed project area at mile post 5.1 also encompasses a 300 ft wide corridor along the road segment and extends into the river. This includes, on the river-side of the road, the fill slope with riprap and the width of the river bed. At mile post 2.0 the project area will also encompass a 300 ft wide corridor along the road extending into the river.

Management Areas

The land allocations determined by the *Northwest Forest Plan* (USDA 1994) within the project area are Riparian Reserve and Matrix. All management activities tier to the most constricting designation. This project will tier to the Riparian Reserve. Riparian Reserves are portions of the watersheds where riparian-dependent resources receive primary emphasis and where special standards and guidelines apply. Standards and Guidelines prohibit and regulate activities in the Riparian Reserve that retard or prevent attainment

of the Aquatic Conservation Strategy (ACS) objectives. This project will be consistent with outlined ACS objectives, detailed in Chapter III page III-8.

Consistent with the *Wenatchee Land and Resource Management Plan* (USDA 1990), the Naches District also manages the project area as a Scenic Travel- Partial Retention area (ST-2). The goal of the Management Plan was to provide a management program reflective of a mixture of management activities that allow use and protection of the Forest resources. In ST-2, all development and permitted uses must meet partial retention of visual quality objectives in the foreground and middle ground viewed from the developed recreation sites and designated roads and trails. The 1900 Flood Repair project will also meet these scenic objectives explained in III-16. See Figure I.5 for map displaying land allocations within the project vicinity.

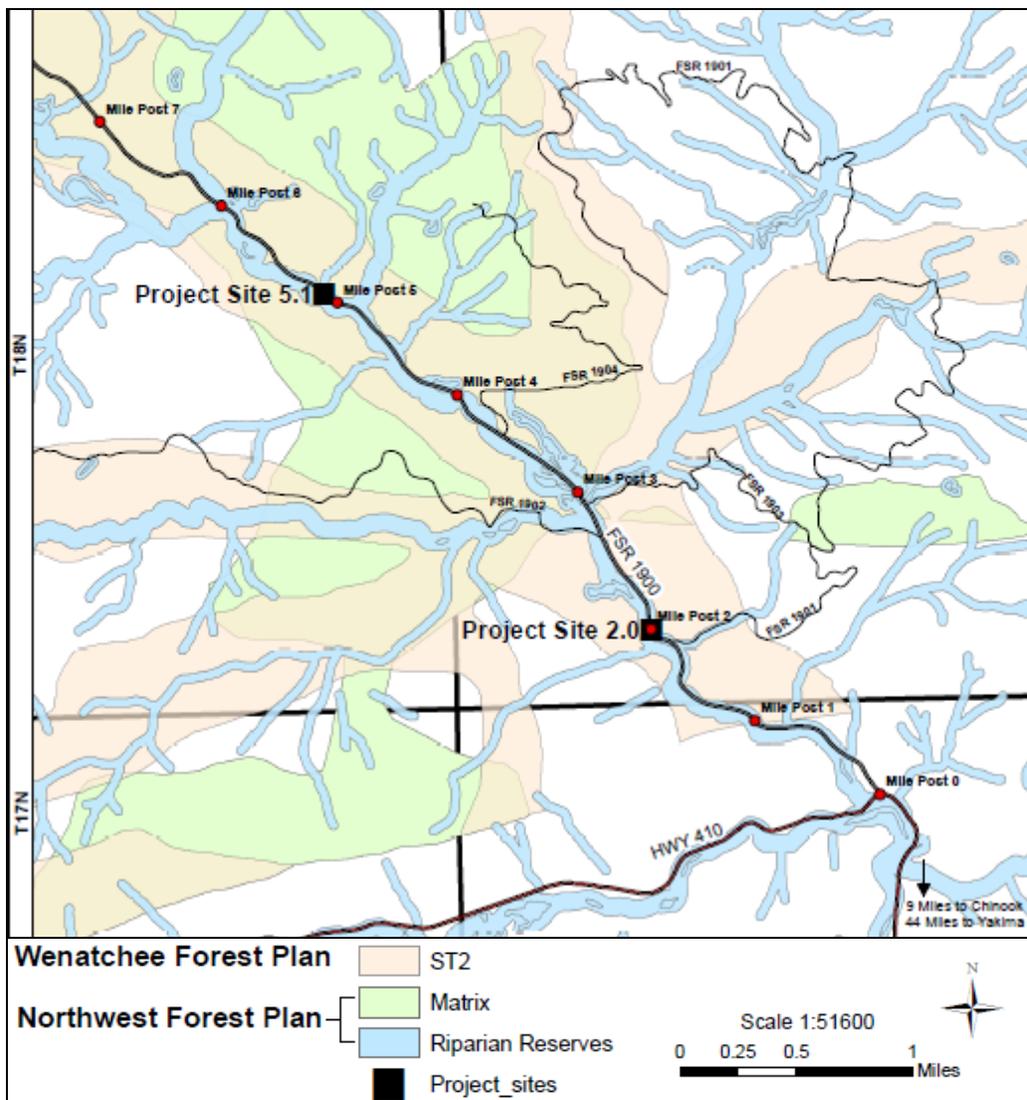


Figure I.5-Project Vicinity Land Allocations

Additional Management Direction

The following acts, laws, and decisions are some of the important documents that provide the Naches Ranger District resource specialist with guidance and direction in addition to our Forest Management Plans.

The Pacific Northwest Region Invasive Plant Program Record of Decision (USDA Forest Service, 2005) provides a framework for preventing invasive plant introduction, establishment and spread, protecting ecosystems and human health, and collaborating with our partners and the public.

The National Environmental Policy Act of 1969 establishes the basic process for conducting and documenting environmental analyses, including public participation. The Council on Environmental Quality (CEQ), 40 Code of Federal Regulation (CFR), Forest Service Handbook and Forest Service Manual are the implementing tools of NEPA that the Forest Service must follow. This Environmental Assessment meets the NEPA standards.

The Multiple Use Sustained Yield Act of 1960 (U.S. Cong. 1960) ensures that National Forests are established and administered for several purposes, including outdoor recreation purposes.

The Endangered Species Act of 1973 (USDI 1973) as amended (16 USC 1531) requires a Biological Assessment (BA) for review of activities for possible effects on endangered, threatened, and proposed species. A formal consultation process will be completed to adhere to the Act.

The Clean Water Act (US Cong. 1972), as amended (33 USC 1251) requires Federal agencies to comply with all substantive and procedural State water quality requirements.

The Little Naches Pilot Watershed Assessment (1994) was completed to meet the intent of the Final Supplemental Environmental Impact statement for Management of Habitat for Late-Successional and Old-Growth forest Related Species within the Range of the Northern spotted owl (USDA 1994). It addresses concerns on the decline of fish resources and protection and improvement of aquatic and riparian ecosystems. The Watershed Analysis is concurrent with the planning efforts of PacFish, Columbia River Basin Policy and Implementation Guide for Anadromous Fish, and the Yakima River sub-basin Plan.

Aquatic Restoration Plan for the Little Naches River Watershed (USDA 2011) tiers to the Regional watershed Restoration Strategy goals of restoring high priority water and fish watersheds with a combination of active and passive restoration strategies. The Plan identifies aquatic restoration opportunities on National Forest lands within the Little Naches River watershed for improvement and recovery of water quality, fish habitat, wildlife habitat, and forest health.

Existing Condition

Aquatic Ecosystems

The project areas are located in the Little Naches River 5th field watershed. A watershed assessment has been completed for the Little Naches watershed (USDA Forest Service, 1994). This watershed supports six salmonid species (coho salmon, Chinook salmon, summer run steelhead trout, bull trout, brook trout, rainbow/redband trout and cutthroat trout), and sculpin. See Table I.1 for salmonid fish distribution. Fish species and critical habitat listed under the Endangered Species Act (ESA) within the Little Naches watershed include Middle Columbia River (MCR) steelhead (*Oncorhynchus mykiss*) and Columbia River bull trout (*Salvelinus confluentus*). MCR steelhead in the Yakima River basin are part of the Mid-Columbia Distinct Population Segment (DPS), which were listed as Threatened by the National Marine Fisheries Service in 1999. Critical Habitat was designated in 2005. A final recovery plan for MCR steelhead in the Yakima River Basin was completed in 2009.

*Table I.1: Miles of Native Salmonid Fish Presence within Little Naches River Watershed**

Stream Name	Coho Salmon	Chinook Salmon	Steelhead/Rainbow Trout	Cutthroat Trout	Bull Trout
Little Naches River mainstem	14.1	14.1	14.1/14.1	14.1	14.1
South Fork Lit. Naches	0.9	0.1	0.1/1.0	10.1	0.0
Middle Fork Lit. Naches	0.1	0.0	0.7/2.5	2.5	0.0
North Fork Lit. Naches	0.6	0.0	2.6/4.0	4.0	0.0
Crow Creek	0.02	1.2	0.0/7.2	7.8	8.9
Quartz Creek		0.0	3.2/4.2	4.2	0.1
South Fork Quartz Creek				1.8	
Bear Creek		0.2	0.5/2.8	2.8	0.0
West Fork Bear Creek			3.7	3.7	

*Okanogan/Wenatchee National Forest Fish Distribution Database

The primary areas of degraded habitat in the watershed occur from the mouth of the Little Naches to Sand Creek (Little Naches reaches 1 to 5). In areas, the Little Naches has reduced channel complexity due to lack of streamside vegetation, lack of large woody debris (LWD), and channelization. Some effects of reduced complexity are a faster channel flow, less flood plain areas and a decrease in fish habitat. In the 1970's and 1980's, LWD was mechanically removed from the river. New data from a 2010 stream survey of reaches 1-5 of the mainstem Little Naches River shows increased LWD densities from previous surveys (1990, 1997, and 2001), through passive restoration. All reaches surveyed in 2010 showed an increase of the large and medium size class LWD densities.

Fine sediment levels have been monitored in the Little Naches watershed for nearly 20 years through a cooperative project with the Yakama Nation, Plum Creek Timber Company, and the Forest Service. Monitoring began due to concerns over effects from elevated levels of harvest and road construction on National Forest and private timber lands throughout the 1980's. Timber harvest levels have dropped dramatically since the late 1980's and road restoration projects have been completed on some areas in the headwaters of the Little Naches. As a result, fine sediment levels in the watershed have been trending downward, as shown in Figure I.6.

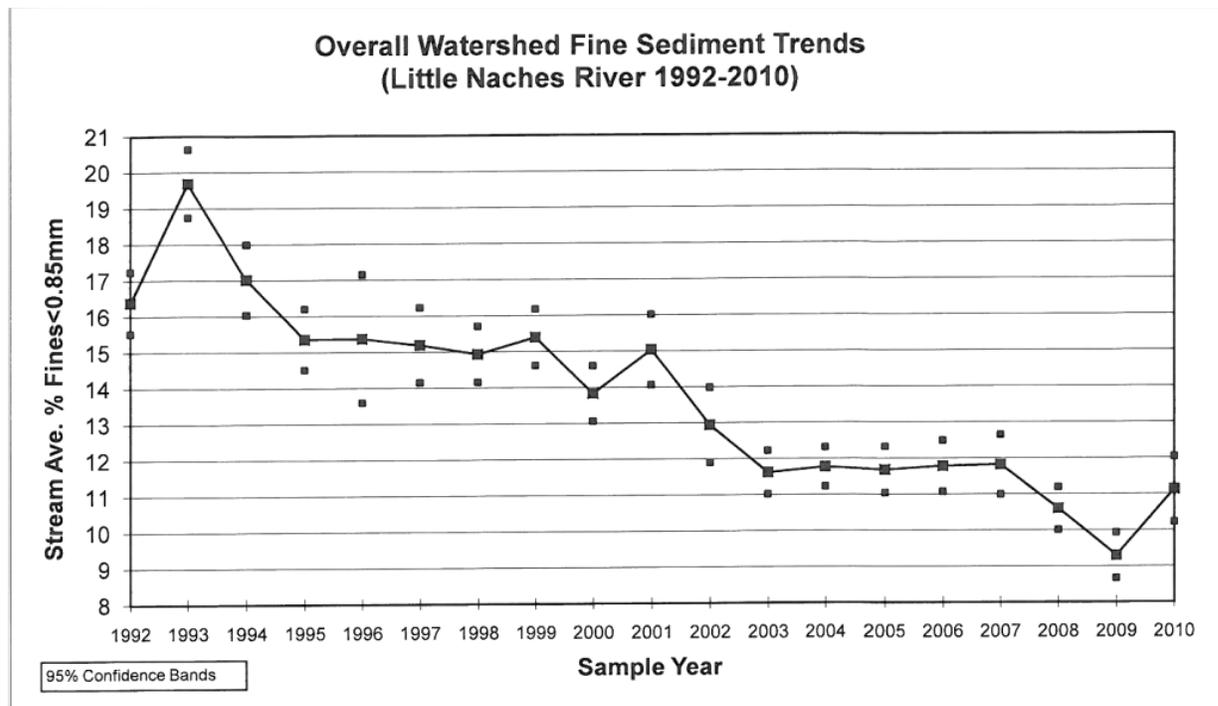


Figure I.6: Summary of Fine Sediment in Spawning Gravels, Little Naches Watershed

For more information on the existing aquatic condition and habitat, reference Chapter III and the Biological Assessment in the project file.

Current Access and Travel

Little Naches occupies a centralized location within Washington State, and is within two hours travel time of the Seattle/Tacoma metropolitan areas. Forest Service Road 1900 is the main access and travel route throughout the watershed. The road is used year-round for a variety of recreation uses. The Naches Ranger District has made an investment to maintain this Level 4 federal road. Road maintenance Level 4 is defined in FSH 7709.58 as “roads that provide a moderate degree of user comfort and convenience at moderate travel speeds” and are subject to requirement of the Highway Safety Act.

According to 2005 traffic counts along FSR 1900, the number of visitors recreating in the Little Naches drainage during the snow free season was estimated 122,360; an increase of approximately 12 percent from 1988. Estimates predict that annual visitation to the Little Naches during the snow free season could be nearly 130,000 by 2015 (Naches District Traffic Study 2006). The Little Naches Basin is regionally known for its extensive single tread motorized trail system, as well for as the Naches Pass National Historic Four Wheel Drive Trail. The area is heavily used for big game hunting in the fall. During the winter season, FSR 1900 is managed as a groomed snowmobile route past the junction of Road 1904, with access to the west-side of the state. The 1900 road also provides access to several non-motorized trails (Raven’s Roost, Cougar Valley, Crow Creek Lake, and Louisiana Saddle) in the Norse Peak Wilderness used by hikers and horsemen. Fishing, mushrooming, sightseeing, and exploring are also popular within the drainage. The road is a long-term constant service accepting all classes of vehicles and provides access for multiple uses in the drainage (See Table I.2).

Table I.2: Roads and Trail Systems associated with FSR 1900

Road or Trail System	Amount in use (miles)
Off-road vehicle roads (OHV)	10
Single tread motorized system trails	90
Pack and saddle trails	31

Forest Service Road 1900 also provides sole access to the popular campgrounds of Kaner Flat, Crow Creek, and Little Naches. Other popular camp sites with some amenities include Ponderosa, Longmire, Huckleberry, Sand Creek, Long, and Lost Meadows. The drainage is also known for its numerous and relatively unique dispersed camping opportunities, sought after by recreationists who prefer to camp with less regulations and less amenities. Over 244 dispersed areas were counted in 2005. They are scattered throughout the watershed. The highest use is on holidays, other summer weekends and during big game hunting.

Fire Occurrence and Hazard

Approximately 57% of the watershed is within a moderate fire occurrence zone. Human use in the area has accounted for over half of the ignitions, lightning ignitions account for the remainder. The FSR 1900 provides easy access to the concentrated areas of both human and lightening ignitions. The road also contains multiple preattack facilities and pump sites. Current roadway conditions may inhibit fire fighters a safe and timely response to these areas.

Historic Use and Social Values

The 1900 Flood Repair project area is located within the traditional use area of the Yakama Indian Nation. Trust responsibility is the U.S. Government’s permanent legal obligation to exercise statutory and other legal authorities to protect tribal land, assets, resources, and treaty rights, as well as a duty to carry out the mandates of Federal law with respect to American Indian and Alaska Native Tribes. A variety of surveys resulted in the documentation of numerous prehistoric site and isolated finds. In addition to the variety of resources the watershed offered for summer gathering and hunting, the Little Naches also served as a travel route for the Yakama people and other Native Americans crossing the Cascade Mountains. The trading network relied on travel routes that crossed through natural mountain passes, such as the Naches Pass trail, which followed the Naches and Little Naches. To date, 81 sites and isolates, such as single stone tools or flakes, related to Native American use of the watershed have been recorded. There are no known prehistoric or historic properties within the area of potential effect for the proposed action project area.

Hydrology

The Little Naches River is approximately 95,000 acres in area with headwaters at the Cascade Crest. Elevation ranges from 2550 feet at the mouth up to 6940 feet at the headwaters. The average annual precipitation is 70 inches for the Little Naches watershed. This watershed is held to the Class AA Extraordinary Washington standards. The highest designated use for the basin is “salmonid spawning and rearing” habitat. Temperatures in tributaries are meeting the State water quality standard of 61 degrees Fahrenheit, however, the mainstem has recorded temperatures higher than 61 degrees. Average monthly flows vary from a low of 47 cubic feet per second (cfs) in September to a high of 719 cfs during normal peak snowmelt in May. Historic peak flood events have occurred in the December through February period during rain-on-snow storms.

All waters on Okanogan-Wenatchee National Forest lands are classified by the Washington State Department of Ecology in WAC 173-201A-200 fresh water designated uses and criteria. Water quality standards are listed in WAC 173-201A-200 (and summarized below in Table I.3).

Table I.3: Water Quality criteria for waters on National forest, and in the analysis area

Category	Default Criteria for waters on National Forest	Criteria for waters designated as Char Spawning/Rearing
Temperature	16 C (60.8 F) (7-day average of maximum daily temperature)	12 C (53.6 F)
Dissolved oxygen (DO)	9.5 mg/L	Same
Turbidity	Turbidity shall not exceed: 5 NTU over background when the	Same

Category	Default Criteria for waters on National Forest	Criteria for waters designated as Char Spawning/Rearing
	background is 50 NTU or less; or 10 percent increase in turbidity when the background turbidity is more than 50 NTU.	
Total Dissolved Gas	Total dissolved gas shall not exceed 110 percent of saturation at any point of sample collection.	Same
pH	pH shall be within the range of 6.5 to 8.5, with a human-caused variation within the above range of less than 0.2 units.	Same
Fecal Coliform Criteria are based on the Water Contact Recreation Criteria – which is “Extraordinary primary contact recreation” on National Forest Lands, and applicable for all waters in analysis area.		
Fecal Coliform	Fecal coliform organism levels must not exceed a geometric mean value of 50 colonies/100 mL, with not more than 10 percent of all samples (or any single sample when less than ten sample points exist) obtained for calculating the geometric mean value exceeding 100 colonies/100 mL	

Water quality in Washington State is classified into five categories, in order to comply with the Clean Water Act, and category 5 waters are considered “impaired”, and are placed on the state 303(d) list. Within the analysis area the Little Naches River is listed on the current 303(d) list as impaired for stream temperature. Water temperature will be an important water quality parameter for this project. The water temperature impaired segments of the Little Naches River are downstream and adjacent to the project sites.

The major tributaries to the mainstem Little Naches River and the North Fork Little Naches River are transport channels and are confined, moderately confined, or unconfined, and have gradients ranging from two to eight percent. During the project planning of the 1900 Flood Repair, it was noted that the shoulder and roadway were actively eroding into the stream channel at mile post 5.1. For more detailed information, see project file for Hydrology Specialist Report.

Special Uses

Pacific Power manages a powerline near Forest Road 1900 and a buried cable to Raven’s Roost. The 1900 road provides access to the 1902 road, which the power company uses for maintenance. Several repeater installations are located on Raven’s Roost and owned by various entities. These would also be accessed via the 1900/1902 roads. It is not clear if any are active at this time.

Two active mining claims are accessed by the 1900 Road. The first lies in Township 18 North, Range 13 East, Section 23, and is held by the Northwest Gold and Gem Prospectors. The second lies in Township 18 North, Range 14 East, Section 30, and is held by the Yakima Prospectors.

Permitted recreation events in the Little Naches Basin which the 1900 Road provides access to include the Yakima Ski Benders' Little Naches Snowmobile Poker Run held in January, the Dust Dodgers' Father's Day Motorcycle Poker Run held in mid-June, the Pacific Northwest 4X4 ride held in July, and the Ship Crew's mid-evil re-enactment held at the 1904 Sno-Park each spring.

Vegetation

Approximately 88% of the plant communities occurring in the Little Naches watershed are forested climax plant communities (species dominant after a relatively long period of time without disturbance with stable composition). The remaining 12% are classified as non-forested community types. Pacific silver climax plant community accounts for 41% of the forested watershed. The FSR 1900 provides easy access for vegetation management. Current lane reduction makes the safe maneuverability of large vegetation management vehicles more difficult.

Visual Quality

The Visual Quality Objective along the 1900 Road is Partial Retention. The vegetation along most of the road corridor, including Mileposts 2.0 and 5.1, is natural appearing. Cement barriers along the damaged portions of the 1900 Road at Milepost 5.1 interrupt the "natural" appearance of the road. Recreation facilities such as toilets and traffic control barriers and heavily used, unvegetated camp areas are readily visible from the 1900 Road corridor. Although technically these are modifications to the natural appearing landscape, they appear to be largely unnoticed as unsightly by the recreating public.

Wildlife

Northern spotted owl suitable habitat is located within 0.25 mile of the two project sites. Habitat does not occur within or adjacent to the project sites for any other federally listed wildlife species. No late-successional habitat or habitat for Survey and Manage wildlife or neotropical migratory bird species exists within the project sites. Habitat and occurrence exists within the project area for two Regional sensitive wildlife species; the bald eagle and harlequin duck. Bald eagle-perch trees for wintering bald eagles occur within 0.25 mile of both project sites. Little Naches River provides foraging habitat, in the form of fisheries for eagles. Wintering bald eagles have been documented near the MP 2.0 project site. Little Naches serves as nesting and rearing habitat for Harlequin ducks. Harlequin brood sightings have been documented near both project sites. Concerning Management Indicator Species (MIS), habitat exists adjacent to the project sites for the beaver and ruffed grouse. Although beaver and ruffed grouse occurs within or adjacent to the Little Naches River (within the riparian reserve); habitat in the form of deciduous trees and shrubs are not located within the project area. For a list of wildlife species considered in effects analysis refer to Wildlife Specialist Report in the project file.

The project area is within the Naches Sheep Allotment. Resulting from the location and scale of the Refined Proposed Action, there will be no impacts related to grazing.

Desired Future Condition

Project objectives and the desired future condition for the 1900 Flood Repair project areas were derived from a variety of sources including federal and state laws and regulations. See highlighted management direction above (pages I-4-6). The desired future condition is one in which:

- Transportation system is maintained to be adequate for expected increases in all types of recreational use (*Wenatchee National Forest Plan*).
- Provide road access to developed sites to a service level comparable with their development level (*Wenatchee National Forest Plan*)
- Continue management of dispersed recreational areas in preparation of such areas become more popular and highly visited (*Wenatchee National Forest Plan*).
- Improve transportation systems to enable more visitors with a greater mix of activities to enjoy the Forest without conflict (*Wenatchee National Forest Plan*).
- Maintain and enhance long-term productivity to provide for riparian dependent resources including water quality, fish, wildlife and plant habitat (*Wenatchee National Forest Plan/ Northwest Forest Plan*).
- Minimize negative effects of permanent roads and facilities on aquatic and riparian habitats in the Little Naches watershed (*Aquatic Restoration Plan/ Northwest Forest Plan*).
- Supplement large wood and whole trees in the mainstem of the Little Naches River to help meet fish recovery plans (*Aquatic Restoration Plan*).
- Assist or not prevent the attainment of the recovery goals for Federal Lands in the Little Naches Basin (*Aquatic Restoration Plan*).

- Maintain and restore physical integrity of aquatic system, including shorelines, banks, and bottom configurations (*Northwest Forest Plan*).
- Maintain or restore the nine Aquatic Conservation Strategy Objectives (*Northwest Forest Plan*).
- Maintain safe access to ‘preattack’ and other fire administration sites along FSR 1900 (*Wenatchee National Forest Plan*).

Purpose and Need for Action

The Inter-disciplinary Team (IDT) compared the existing condition to the desired condition developed consistent with the amended Wenatchee National Forest Land and Resource Management Plan and other relevant guidance. Based on this comparison, the following purpose and need was developed (See Table I.4).

Table I.4: Need of the project area and subsequent purpose of the proposed action.

Need	Purpose
Allow safe motorized access to the variety of recreational, administrative, vegetation management, and fire personnel vehicles that frequent FSR 1900.	The project will restore FSR 1900 to the full two-lane capacity as a Level 4 federal road.
Repair flood damaged areas in a manner that will meet the long-term riparian habitat objectives and contribute LWD to the river ecosystem.	The project will include dissipation structures and integrated large tree and wood components to enhance aquatic organism habitat.
Protect the road area, to a reasonable extent, from future predicted flood events and additional erosion into the river.	The project will rebuild the fill slope with a rip rap foundation and it will expand the width of the existing floodplain.

The Proposed Action as Scoped

The Naches Ranger District, in a scoping letter to the public and interested agencies dated August 12th, 2011, proposed management activities on FSR 1900 at mile post 5.1. The proposed action for consideration under the 1900 Flood Repair project as originally proposed in the scoping letter included:

- Replace the lost fill sections and restore the road to the original two lanes
- Make the asphalt width 22 ft wide with 1 ft of gravel shoulder on each side. Total surface area would be 24 ft wide.
- Rebuild the fill slope with riprap including a toe trench.
- Incorporate engineered log jam into the river bank.

Figure I.7 on the next page shows a conceptual design presented in the scoping letter. The figure shows the project site and proposed bank shoulder and log jam design before the IDT made revisions.

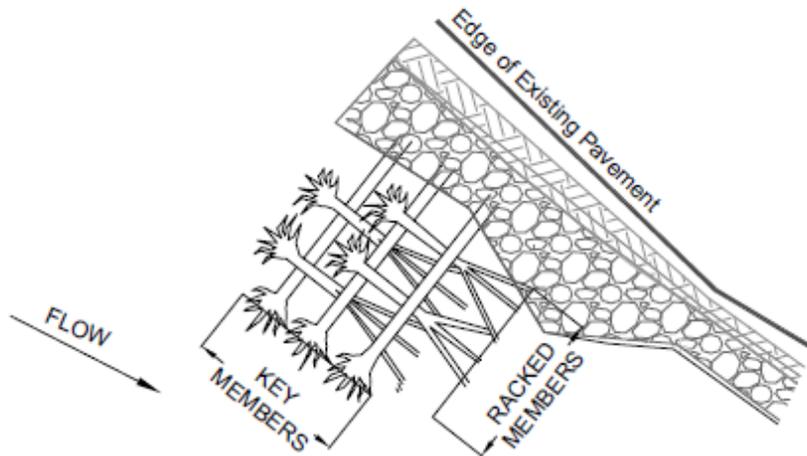


Figure I.7: Original conceptual design before revision, NOT CURRENT

The above describes the Proposed Action as it was presented in scoping. Chapter II will discuss the Revised Proposed Action, as it will be analyzed in Chapter III for effects. The original scoping letter also contained a proposed action for the Forest Service Road 1500. At this time the Naches Ranger District is still in the early planning phase for FSR 1500 and it is not connected to this analysis.

Decisions to be Made Based on this Analysis

Based on the information contained in this environmental assessment, the Forest Service District Ranger for the Naches Ranger District will make the following decisions:

- Whether or not to proceed with the 1900 Flood Repair project Refined Proposed Action
- If the project is to proceed, what design criteria, mitigation measures, and monitoring will be necessary to meet the project's purpose and need.

Scoping Summary and Public Involvement

Distribution of the project initiation letter to the Interdisciplinary Team (IDT) members occurred on June 27th, 2011. The IDT consisted of specialists in botany, hydrology, wildlife, fisheries, engineering and transportation systems, recreation, and heritage resources. After developing the purpose and need statements and the proposed action, scoping was initiated.

Government-to-government consultation letters were mailed to the Yakama Nation on August 11, 2011. A mailing of approximately 350 scoping letters went out to the public on August 12, 2011. Scoping letters were also displayed at the Naches Ranger station. Scoping efforts and responses can be found in Chapter IV.

Proposed Action Issues

During project planning, the IDT explored in depth certain resource issues in order to develop a comprehensive Refined Proposed Action. The key issues are summarized as:

- Creating a road repair design that would also serve as viable fish habitat for the listed and sensitive species in the Little Naches River. The team evaluated what construction materials and structures would enhance aquatic habitat.
- Understanding the effects to fish and other riparian species during certain construction activities. De-watering the stream may be a necessary measure.
- Evaluating the entire floodplain and the river function at the damaged areas. It was important to recognize the two sites are connected to the whole stream and the road's relationship would impact the stream characteristics below the sites.
- Creating a reliable engineered design that would be safe for travel and would reasonably withstand another flood event.

It was after identifying these resource concerns the IDT reconsidered the original site designs.

Collaboration and Site Assessment

The IDT correspondence with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, and Forest Fisheries Program Leader lead to a re-evaluation of the original designs over the resource issues discussed above. The improvements to the proposed action would have not been possible if it wasn't for the hours of collaboration the consulting agencies spent with the IDT team. This group re-visited the damaged sites and completed a detailed site assessment for multiple potential designs. A Regional Assessment Team also provided input on the Refined Proposed Action designs. The IDT is grateful for all of their hard work.

Unresolved Conflicts

Due to the high level of collaboration and site analysis, the Refined Proposed Action has no unresolved conflicts. Unresolved conflicts are defined as issues with the proposed action that influence the development of alternatives or have a bearing on the decision to be made. All resource concerns identified were resolved by development of design criteria, best management practices, or mitigation measures that minimize or eliminate the potential for adverse or significant effects. No alternatives needed to be developed in detail.

CHAPTER II

Alternatives Considered

Introduction

This chapter is intended to describe the alternatives and how they were formulated. It provides readers and the line officer with an executive summary of the entire project, displaying the alternatives, mitigation, and monitoring requirements. Alternatives considered, but eliminated from detailed study are also included.

Alternative Formulation

Issues identified during scoping are used to generate and analyze the need for alternative development. As this project is prepared under the most current Forest Service National Environmental Policy Act (NEPA) regulations and there are no unresolved conflicts concerning alternative uses of available resources, no alternatives to the proposed action are required [36 CFR Part 220, Section 220.7 (b)(2)(i)]. The IDT considered all of the comments made during scoping and where applicable adjusted the original proposed action to resolve those concerns. In some cases, they were addressed by design modification, adding project design criteria, and including mitigation measures (see page I-15). The Refined Proposed Action is a result of specific site knowledge gained through field reconnaissance by IDT specialist, correspondence with other agencies, and comments accrued during public scoping.

Alternatives Eliminated From Detailed Study

No Action

Under the No Action Alternative, no road shoulder or road construction would occur. This would result in the existence of the concrete barricades at mile point 5.1 and flagging at the edge of the road at mile point 2.0. This alternative was eliminated from detailed study as it would not meet the purpose and need of the project (See page I-13).

Purpose and Need Statement and No Action

P&N 1: Allow safe motorized access to the variety of recreational, administrative, vegetation management, and fire personnel vehicles that frequent FSR 1900.

No action would result in concrete barricades remaining at site 5.1, potentially limiting the safe travel through that site. The narrowed roadway at both sites may pose problems to trailers, vegetation management vehicles, fire fighting vehicles, and other large

traveling vehicles. This area is a premier location in Washington State for motorized recreational use and it is expected to increase in popularity.

P&N 2: Repair flood damaged areas in a manner that will meet the long-term riparian habitat objectives and contribute LWD to the river ecosystem.

No action would result in the road shoulder continuing to be exposed and rip-rap and road material would continue to slough into the stream. Within the planning period, the road had visibly eroded away. No forms of wood debris would be added to the ecosystem and no new fish habitat would be created.

P&N 3: Protect the road area, to a reasonable extent, from future predicted flood events and additional erosion into the river.

No action would leave the damaged road shoulder exposed and highly susceptible to more damage in the next flood season. Without a flood plain adjustment and strong foundation at this point, the river will continue to degrade the road.

It was clear to the project IDT that the No Action alternative would not meet the purpose and need and would not need a detailed analysis.

Refined Proposed Action

The Refined Proposed Action was formulated from interagency coordination and public scoping. Field trips and detailed site assessments with U.S. Fish and Wildlife and National Marine Fisheries Services enabled the IDT to create designs that met the District objectives and modern conservation standards. The District also received feedback on the design at the Forest and Regional level.

Addition of Mile Post 2.0 Site

The Naches Ranger District decided to include an additional flood damaged site on FSR 1900 at mile post 2.0. This site was also damaged in the 2009 Flood event. Both sites on FSR 1900 are at risk of more erosion and could in the future inhibit safe travel through the area.

Repair Design for Mile Post 2.0

To meet the project's purpose and need, the Naches Ranger district proposes to repair the damaged road shoulder, re-grade the floodplain, add vegetation to the site, and create a structure in the stream to dissipate flow energy. The objective of this design is to decrease channel interaction with the road by creating floodplain relief. The design will decrease velocity associated energy by both rolling water away from the bank and road margin and creating a pool. See Figure II-1. The pool functions as both energy dissipation and habitat for fish. Aspects of the proposed design are outlined below:

1. Repair damaged road shoulder
 - a. Road surface would remain at same location
 - b. Road fill would be used to restore shoulder width and angle
 - c. Rip-rap would be added to the road shoulder for armoring
2. Re-grade floodplain
 - a. At the level as bank full width, a floodplain would be created next to the road shoulder
 - b. Rock footers would line the bottom
 - c. Fill would make the surface flat
3. Add vegetation to exposed floodplain
 - a. Seeds, plants, and woody debris would be placed along newly graded plain
4. Dissipation structure
 - a. Vane boulder structure
 - i. Large boulders strategically place in stream (in a row) to decrease velocity of stream
 - ii. Placed above the rip-rap armoring
 - iii. Footed in to the bank with buried rocks and boulders

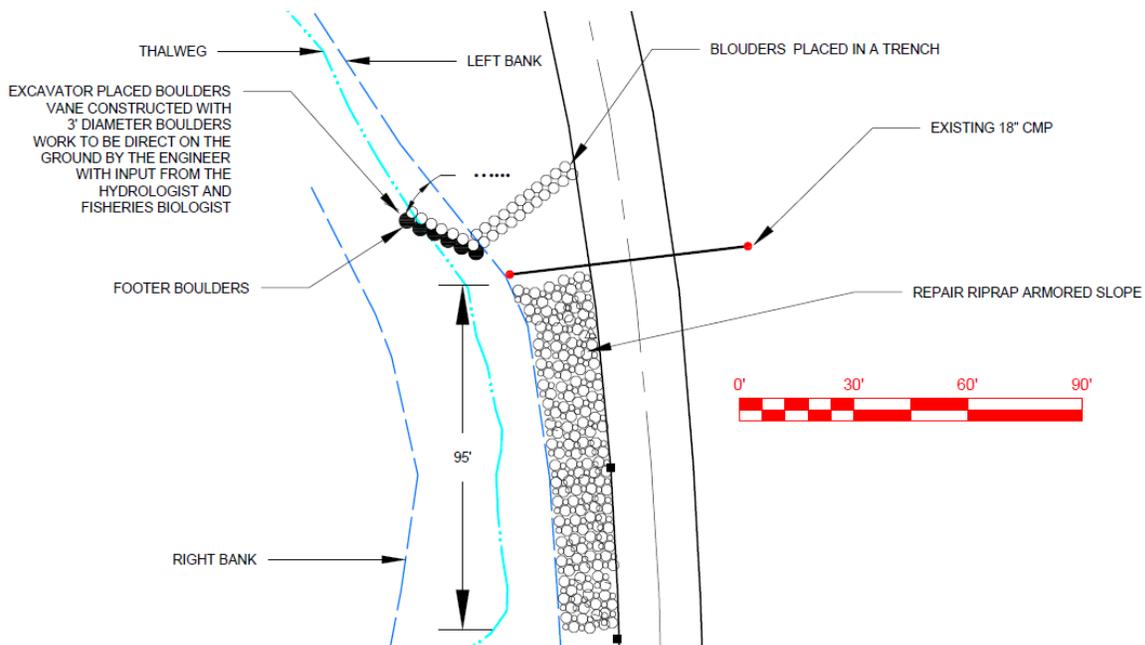


Figure II.1: Engineering design at milepost 2.0

New Repair Design for Mile Post 5.1

To meet the project's purpose and need, the Naches Ranger district proposed to repair the damaged road surface, repair damaged road shoulder, establish a new floodplain, and create a riverbank projection structure using wood material and boulders. The objective of this design would be to take velocity associated energy away from the road by creating a wood jam along the damaged road shoulder. This design would also create a potential for localized fish habitat improvement with cover and pool formation. See Figure II.2. Aspects of the proposed design are outlined below:

1. Repair road surface
 - a. Road surface would be restored to its original location and full width
2. Repair damaged road shoulder and create riverbank protection structure
 - a. Along the extent of the damaged area wood and boulder structure would be engineered into the bank and floodplain
 - i. Whole trees, large wood pieces and root wads would be placed throughout the rock slope
 - ii. Exposed wood would be below water level
 - iii. Boulders, rip rap, and other rock fill would complete road shoulder and slope
 - b. Create pools and vegetation growth along bank
3. Re-establish a flood plain
 - a. Reshape river bed (gravel bar) on opposite bank to accommodate adequate flood plain width
 - b. Vegetate where floodplain is exposed during reconstruction
 - i. Seeds, plants, and woody debris would be placed along newly graded plain
 - c. Would reside on top of foundation logs

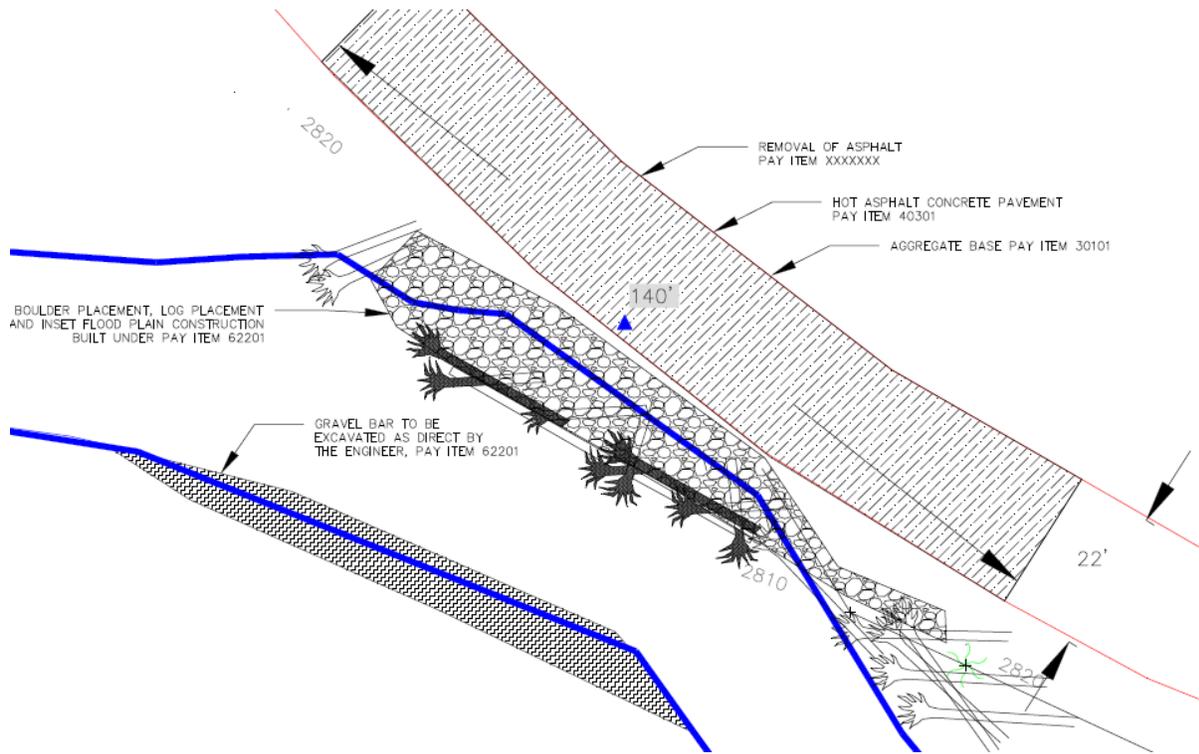


Figure II.2: Engineering design at mile post 5.1

Mitigation

Aquatic and Fisheries

Turbidity will be measured below the 1900 Road EFRO sites to assess the effects of in-channel excavation activities on water quality during riprap placement and barb construction. Turbidity will be measured with hand held equipment providing results available in real time during the periods of construction activities. Sample points will be selected upstream and downstream of the construction site and results compared to State of Washington water quality standards for turbidity.

All waters on Okanogan Wenatchee National Forest lands are classified by the Washington State Department of Ecology in WAC 173-201A-200 fresh water designated uses and criteria. The general classification of WAC 173-201A-200 classifies all surface waters on National Forest system lands according to aquatic life uses and the Little Naches River within the project area is classified as char spawning and rearing habitat. Water quality standards are listed in WAC 173-201A-200. Water quality standards are established for temperature and turbidity. These standards allow increases over background levels. The water quality parameter (which has a Washington State Water quality criteria) most likely impacted by the proposed activities is turbidity (stream sedimentation).

The applicable standards from WAC 173-201A-200 for char spawning and rearing habitat state that turbidity shall not exceed: 5 nephelometric turbidity units (NTU's) over background when the background is 50 NTU's or less; or a 10 percent increase in

turbidity when the background is more than 50 NTU's. Samples will be taken upstream of the construction site to determine the background turbidity levels. The immediate downstream sampling point will be approximately 100 feet downstream of the construction site when streamflow levels are 10 cfs or less, 200 feet downstream when flows are from 10 cfs to 100 cfs, and 300 feet downstream when flows are greater than 100 cfs (the state standard mixing zone distances). Additional downstream sites may be located at approximately 300 foot intervals below the construction site to assess effects further downstream if state standards are not being met. Samples will be taken immediately after in-channel excavation begins and continuing during the normal daily work at approximately one hour intervals when excavation is occurring. Sampling may be discontinued earlier if turbidity levels are not exceeding state standards.

Based on professional judgment and monitoring of past projects, the measurable effects on turbidity are not expected to extend beyond 0.5 to 1.0 mile downstream of the construction site in the Little Naches River. There are no significant tributaries that enter the Little Naches River below the milepost 2.0 site until the Bumping and Little Naches Rivers join, approximately 3 miles downstream. Even without significant dilution, suspended sediments will be dispersed in time and space as water is routed downstream with different flow rates and resident time through pools and riffles in the channel. With implementation of proposed mitigation measures state water quality standards for turbidity are expected to be met downstream of the project site. For more information, see the project file for the Biological Assessment.

Hydrology

As Best Management Practices (BMP's) would be fully implemented, water quality standards and the anti-degradation policy (Chapter 173-201A WAC) are expected to be met with the Refined Proposed Action. The Refined Proposed Action is not expected to substantially alter the water quality. Full implementation of BMP's has been shown to be an effective method in preventing and controlling nonpoint source water pollution (Rashin, 2006), (USDA Forest Service, 2000). Monitoring would be conducted during the project in order to validate implementation and effectiveness of BMP's and assure compliance with the Clean Water Act, State water quality regulations and forest plan standards. For full Hydrology report, request the project file.

Recreation, Visual Quality, and Special Uses

Visual impacts would be reduced by designing the projects to blend into the surrounding landscape. Suggestions include using natural colors for the structures and weathering (non galvanized) steel. Changes in form, line color, and texture resulting from management activities should not be evident for more than two seasons.

Traffic access past the 750 Road would be open from Friday evening through Sunday during the Milepost 5.1 construction period to lessen the impacts to the recreating public from lost opportunities.

The public would be notified of proposed closures during project construction in a timely manner using appropriate media to reach the public state-wide and by providing on-site information.

Threatened, Endangered, Sensitive (TE&S), and Survey and Manage (S&M) Species and Invasive Species

To reduce the potential for invasive species to further increase and spread as a result of this project; Forest Plan Standards (2005) and Okanogan Wenatchee Weed Prevention Best Management Practices (2002) would be implemented as part of the proposed action. These prevention standards and best management practices would effectively minimize the likelihood that this project would result in the development of suitable invasive species habitat and subsequent infestation. Standards include:

- Standard #2: When operating outside the limits of the road prism, it is required that all heavy equipment (bulldozers, skidders, graders, backhoes, dump trucks, etc.) be cleaned prior to entering National Forest System Lands.
- Standard #3: The use of weed-free straw and mulch is required for this project. If State certified straw and/or mulch is not available, sources will be certified weed free using the North American Weed Free Forage Program standards or a similar certification process.
- Standard #7: Only gravel, fill, sand, and rock that is judged to be weed free by District or Forest weed specialists will be utilized.
- Standard # 13: Native plant materials will be the first choice for re-vegetation. Where timely natural regeneration of the native plant community is not likely to occur; non-native, noninvasive plant species will be used as an interim, non-persistent measure designed to aid in the reestablishment of native plants.

In addition to the above Standards, the following Best Management Practices (2002) would be required:

- Soil disturbance will be minimized.
- Disturbed soil (except the travel way on surfaced roads) will be revegetated in a manner that optimizes plant establishment for that specific site, -
- Contract provisions for weed prevention and cleaning equipment will be included in timber sale contract language (BMP).
- The success of re-vegetation efforts will be monitored.

Wildlife

The construction timeframe is outside of critical time of use for species that would inhabit the project areas. Therefore, there are no necessary wildlife timing restrictions. Any listed or special species found during project implementation would be managed according to the relevant management plans and direction . Construction will cease until further deliberation from proper resource specialist.

Implementation Timeline

The Naches Ranger District plans to complete road construction and stream work during the approved fish window July 16-August 15 in 2012.

Summary of Refined Proposed Action and Accomplishment of Purpose and Need

Table 2.1: Comparison of Purpose and Need to Refined Proposed Action

Need	Purpose	Refined Proposed Action
Allow safe motorized access to the variety of recreational, administrative, vegetation management, and fire personnel vehicles that frequent FSR 1900.	The project will restore FSR 1900 to the full two-lane capacity.	At both sites, the road surface will be at a safe width and surface for level 4 Federal Road standards.
Repair flood damaged areas in a manner that will meet the long-term riparian habitat objectives and contribute LWD to the river ecosystem.	The project will include dissipation structures and integrated large tree and wood components to enhance aquatic organism habitat.	At both sites, structure repairs would dissipate river energy, create pools, and add wood or vegetation to the river area. Structures would provide for fish and wildlife habitat.
Protect the road area, to a reasonable extent, from future predicted flood events and additional erosion into the river.	The project will rebuild the fill slope with a rip rap foundation and it will expand the width of the existing floodplain.	At both sites, structures would take velocity associated energy away from road and create a true floodplain. Structures would assist long term processes of redirecting river energy away from road at site. Armoring of road shoulder would protect from road damage.

CHAPTER III

Environmental Consequences

Introduction

This Chapter identifies the probable consequences of implementing the Refined Proposed Action to the resources affected. For more information on the existing condition, refer back to Chapter I. Chapter III summarizes the direct, indirect, and cumulative effects the Refined Proposed Action may have to a reasonably foreseeable extent. Although the No Action Alternative is not discussed in full detail as it clearly does not meet the project's purpose and need, some resource areas discuss the impacts of taking no action to more completely summarize the environmental consequences. Each resource will also emphasize the project's consistency with relevant environmental laws and guidance and outline if there are any impacts to Threatened, Endangered, Sensitive, or Survey and Manage species. For more information, the project record will contain Specialist Reports for each respective resource. The resource groups detailed in this section are: Aquatics, Hydrology, Botany and Invasive Species, Historic and Cultural, Recreation and Travel, and Wildlife.

The effects of past activities are represented in the baseline for issue area consistent with the President's Council on Environmental Quality's guidance on the Consideration of Past Actions in Cumulative Effects Analysis (June 24, 2005). This guidance states that "Generally, agencies can conduct an adequate cumulative effects analysis by focusing on the current aggregate effects of past actions without delving into the historical details of individual past actions".

Future foreseeable actions in the Little Naches Watershed include: a Spring Motorized Trail Closure, road and river crossing repairs and improvements (Pileup Creek Culvert Replacement 2012), trail maintenance, a landscape-level restoration analysis, and ongoing activities described in the Existing Condition in Chapter I.

Aquatics

Environmental Effects Analysis Method

To assess project effects to fishery populations and aquatic habitat, this analysis focuses on consistency with Wenatchee Forest Plan standards and the Northwest Forest Plan Aquatic Conservation Strategy Objectives.

Important Interactions of the Action Alternative

Forest road management activities that disturb riverbanks and river channels (such as river channel realignment, construction of instream hydraulic control structures, and re-construction of flood damaged road fill) can increase fine sediment mobilization within streams, cause temporary turbidity plumes, temporarily disrupt feeding activities of fish, and increase stress to fish species fleeing the disturbance area. Instream work periods are determined by Washington Department of Fish and Wildlife. The established instream work period for the Little Naches River is July 16 to August 15. Variances or waivers for instream work outside of this period can be granted by specific approval.

The principal water quality variables that may be affected by the proposed actions are a suspended sediment (turbidity) and chemical contamination.

Work activities within the wetted river channel during construction of instream J-hook hydraulic control structures, road shoulder armoring, and river channel re-alignment will cause short term increases of suspended sediment (turbidity). Most streams carry some sediment, and the amount varies seasonally, but we are most concerned about actions that substantially change the magnitude, timing, or duration of sediment transport and overwhelm the ability of salmonids to cope with or avoid the resulting stress (Chamberlin et al., 1991). In addition to in channel disturbances, activities near streambanks may destabilize channel margins, releasing sands that settle in and clog the streambed gravels (Chamberlin et al., 1991).

Sediment transport in forest streams involves the detachment and entrainment of sediment particles, their transport, and their deposition. The process repeats whenever flow velocities are high enough to move the streams available material. Short duration pulses of sediment mobilization within the Little Naches River are expected during and after construction activities. Sediment pulses are associated with; (1) construction of J-hook hydraulic control structures within the river channel, (2) construction of road shoulder/riverbank stabilization structures, (3) coffer dam installation/removal for worksite isolation, (4) river channel re-alignment construction (gravel bar shaping), and (5) the first high flow event capable of mobilizing sediment after project completion. Streambank erosion and lateral channel migration also contribute sediments through natural events if protective vegetation and living root systems are removed (Chamberlin et al., 1991). When sediment delivery to streams is increased, the intrusion or infiltration of some of the sediment particles into relatively clean or porous streambed gravel layers occurs. If the sediment source persists, increased amounts may settle deeper into the streambed and have longer-lasting effects on egg and fry survival (Chamberlin et al., 1991).

Confinement of the Little Naches River floodplain by FSR 1900 has altered floodplain connectivity for decades. Consequently, stream power has been accelerated in multiple reaches because the floodplain is confined, which reduces the capability for floodplain utilization and energy dissipation. The proposed vane hydraulic control structure is designed to sequentially roll the river thalweg (where the majority of the river is flowing at a certain time) away from the road

(erosion site), while creating scour pool habitat. To facilitate a thalweg shift at the bank stabilization site, gravel bar excavation (removal of gravel bar to lower the elevation) will occur to increase floodplain width on the opposite bank of the road. This should effectively shift the bankfull channel and floodplain away from the road approximately 20-30 feet. River channel length and sinuosity would decrease slightly because the thalweg will be shifted away from the road.

Riparian Reserves are portions of watersheds where riparian-dependent resources receive primary emphasis and where special standards and guidelines apply. Standards and guidelines prohibit and regulate activities in Riparian Reserves that retard or prevent attainment of the Aquatic Conservation Strategy objectives. Riparian Reserves include designated corridors in a watershed directly coupled to streams and rivers, which are those portions of a watershed necessary for maintaining hydrologic, geomorphic, and ecologic processes that directly affect standing and flowing waterbodies, stream processes, and fish habitats.

Effects of No Action Alternative

Aquatic Habitat and Fishery Resources:

No Action Alternative would result in no direct effects to fish from in-stream construction work, as the flood damaged road segments would remain in their current state, instream hydraulic control structures or riverbank stabilization structures would not be constructed, and river channel re-alignment construction would not occur. Over time average annual high flow levels would continue to erode fine grained fill material and the exposed road shoulder. Fine sediment input would increase and there would be a limited opportunity for riparian vegetation to begin growing.

Direct and Indirect Effects

This section reviews the direct and indirect effects of the Refined Proposed Action. Direct effects to fish are impacts that result in a direct loss of individuals. Instream construction activities utilizing large machinery within the active channel, combined with worksite isolation and fish removal techniques, would cause the greatest potential for direct effects to fish and their habitat. Specifically, stream diversion activities, worksite isolation and fish capture/release actions, and construction-related water quality concerns (turbidity and increased risk of exposure to petroleum contaminants) could result in injury or death to fish, including federally protected species.

Indirect effects are impacts that alter a resource or habitat conditions. Indirect effects can be beneficial or adverse to fish species and their habitat. Indirect impacts have delayed or unforeseen effects that occur in the future or in a different location than the original action (Chamberlin et al., 1991). Elevated sediment levels can impede the spawning process and lower the chances of salmonid egg survival. Increase in sedimentation as a result of project implementation could temporarily degrade fish habitat conditions. For purposes of this analysis, indirect effects from the Refined Proposed Action alternative are associated with: sediment

delivery and deposition within the Little Naches River from instream construction activities (coffer dam construction/removal, hydraulic control structures, riverbank stabilization, and river channel re-alignment); changes to stream morphology and pool habitat after construction bank stabilization and hydraulic control J-hook structures; and temporary loss of food prey availability (up to one year) within the river de-watering area.

Effects to Water Temperature, Suspended Sediment, Stream Sedimentation, Channel Morphology, and Riparian Reserves

Water temperatures would not be affected because no tree or vegetation cutting would occur. Indirect chronic sedimentation effects would continue to occur at road damage sites during high flow periods, as the river continues to erode the road fill. No effect to channel morphology or Riparian Reserves is expected, as no actions within the floodplain that affect vegetation (trees), instream large wood, or pool habitat will occur.

Effects to Fish Habitat

Fish habitat conditions in the Little Naches River (which are degraded by reduced LWD and pool habitat, compared to the American River) would remain unchanged. The action alternative would improve pool habitat and LWD densities in the river channel.

Effects Common to Construction

Construction activity with large machinery within the active river channel, combined with fish salvage (fish capture and removal of de-watered of work area) from worksite areas, would cause short term direct effects to fish and aquatic habitat in the Little Naches River. Fish salvage, and excavation disturbance within the river channel (turbidity and increased risk of exposure to petroleum contaminants) is expected to cause injury or death to fish in the Little Naches River. Alteration of the river channel would modify channel fish habitat condition, and disrupt food prey availability at the site scale. Temporary de-watering of work areas will also disrupt food prey availability to fish species after project completion. It could take up to one year for aquatic insect populations within channel dewatering and excavation areas to fully re-colonize (Gislason, 1985).

Effects to Water Temperature, Suspended Sediment, Stream Sedimentation, Channel Morphology, and Riparian Reserves

Tree canopy shade to streams would not be affected because minimal tree and vegetation removal would occur (only brush and sapling trees in the road fill), so no effect to water temperatures is expected. In the long term, vegetation (trees and shrubs) would fill in along the re-contoured riverbank, increasing stream shade.

Constructing hydraulic control vane structure, engineered log jams, river channel re-alignment, or bank stabilization structures (LWD and boulders) in the river channel will cause short term

increases of suspended sediment. Varying levels of turbidity from in-channel construction would occur for 2-3 days at each project site. Turbidity pulses should diminish within 2-3 hours after each disturbance ceases.

Short duration pulses of turbidity and fine sediment mobilization within the Little Naches River are expected during and after construction activities. These pulses would occur (1) during each channel excavation period within the river channel, (2) and during the first high flow event capable of mobilizing sediment after project completion. The project would mainly redistribute sediment and bedload that is already in the bankfull channel of the river. Accelerated sediment delivery from streambanks is expected to be negligible through use of silt fences, re-vegetation and seeding. Streambank erosion and lateral channel migration also contribute sediments through natural events if protective vegetation and living root systems are removed (Chamberlin et al., 1991).

In the long term, pool habitat would increase at each project site, as a hydrologic response to the instream habitat structures and LWD/bank stabilization placement. J-hook structures are designed to turn the river thalweg (space where majority of the river occupies at one time) away from a point of lateral scour (the road prism, in this case), and create pool scour. Stabilizing the river bank by placing LWD is likely to enhance pool habitat quality by increasing complexity and cover within one pool at the site scale. Increasing pool habitat in the long term would benefit fish populations by improving rearing, foraging, and resting habitat for juvenile and adult steelhead, salmon, and other salmonids.

To roll the river channel away from the damaged road segment, a hydraulic control J-hook vein would be constructed. In combination with LWD construction for bank protection, gravel bar excavation would occur to increase floodplain width on the opposite bank of the road (removal of gravel bar to lower the elevation). This should effectively shift the bankfull channel and floodplain away from the road approximately 20-30 feet. River channel length and sinuosity would decrease slightly because the river bend that scoured the road prism will be straightened away from the road.

Riparian Reserves would be minimally affected from current conditions at the site scale. Project excavation and construction disturbance would occur largely within the river channel, on gravel bars, and on mostly un-vegetated riverbanks. In the long term riparian condition should improve within Riparian Reserves because floodplain areas formed during river channel re-alignment would be planted for re-vegetation.

Species of Interest

Effects to ESA listed Fish Species (MCR steelhead and Columbia River bull trout), Designated Critical Habitat for steelhead and bull trout

Short term increases in turbidity may cause steelhead to be temporarily displaced to less turbid areas, and cause short term (3-4 hours) physiological stress and modifications in feeding behavior and success. Juvenile steelhead may be crushed by heavy equipment maneuvering and excavation in the river channel. Since the project area is within spawning habitat of MCR steelhead, fine sediment mobilized by the project may deposit into potential spawning gravels within 100-200 feet downstream of the project sites directly after project work. Steelhead, however, will not be spawning for approximately eight months after the project disturbance occurs. When steelhead excavate spawning nests below the project sites, they likely will successfully cleanse the gravels of most project-related fine sediments, thereby reducing the effect of project-related fine sediment on egg survival. If deposited in high enough concentrations, fine sediment may cause temporary adverse effects to rearing habitats through loss of interstitial space (gap between spaces full of structure or matter) or streambed complexity in the short term. Increased sedimentation will cause disruptions to normal behavior patterns of steelhead, including reduction in food item availability, and loss of interstitial and streambed habitat for juvenile life stages (age 0+ and 1+).

A secondary pulse of mobilized sediment (indirect effect) is expected to occur between December-January, when the first high water event normally occurs. While this would be months before steelhead spawning, egg survival below the project sites may be effected by increasing the amount of fines within gravels prior to spawning. However, this secondary pulse is expected to cause negligible effects to incubating steelhead eggs, because the magnitude of mobilized sediment from the project will be diluted with high flows, fines will likely be cleansed from gravels during redd construction, and current fine sediment levels (in spawning gravels) within the Little Naches River are considered properly functioning.

Bull trout are unlikely to spawn in the mainstem Little Naches River because of degraded water quality and habitat conditions. Therefore the project would not affect bull trout during egg incubation and juvenile rearing life stages. Sub-adult bull trout have been infrequently observed throughout the mainstem Little Naches River. The likelihood that bull trout (foraging sub-adults) would be utilizing habitat directly affected by project is low, but not discountable. Therefore, there is a greater than negligible probability that bull trout would be adversely effected from instream construction disturbance, turbidity, diminished food prey, injury during fish salvage, and stranding during channel de-watering.

The project will cause negative effects to MCR steelhead and Columbia River bull trout Designated Critical Habitat in the short term because of excavation disturbance in the river channel, channel dewatering. Food availability (aquatic insects) to MCR steelhead and bull trout may be reduced for up to one year, at the site scale, due to river de-watering and excavation disturbance. In the long term, the project will have a positive effect on MCR steelhead and bull trout critical habitat at the site scale, by increasing the LWD densities and pool habitat.

Effects to Management Indicator Species, and Essential Fish Habitat for Chinook and coho salmon

This project is expected to cause negative effects (site scale) to approximately 500-600 feet of habitat occupied by cutthroat trout in the short term. This represents approximately 0.007 percent of the 1,350 miles of cutthroat trout habitat on the forest. In the long term, habitat conditions for cutthroat trout at the site scale will be improved by increasing the area of pool habitat and the addition of LWD to the river channel.

Similarly, short term negative effects to Essential Fish Habitat for Chinook and coho salmon would occur during river channel re-alignment, river channel de-watering, and excavation in the river channel to construct hydraulic control and streambank stabilization structures. Adult Chinook salmon may be delayed in migrating to spawning areas in the short term due to excavation and river channel de-watering disturbances. At the site scale, Chinook salmon spawning nests may be negatively affected from sediment mobilized during in channel construction. Chinook salmon have been observed spawning in the mainstem Little Naches River in early/mid August. In the long term, habitat conditions for salmon at the site scale will be improved by increasing the area of pool habitat and the addition of LWD to the river channel.

Food availability (aquatic insects) for these fish species may be reduced for up to one year, at the site scale, because of river de-watering and excavation disturbance.

Cumulative Effects

As discussed in Chapter I Existing Conditions and in the Aquatic Biological Assessment, the Little Naches Watershed and subsequently the project areas have incurred considerable negative effects over the years. The combination of logging operations, road building, large woody debris removal, stream relocation, and other activities since the FSR 1900's existence have contributed to the current aquatic habitat.

Presently, the Naches Ranger District has been implementing passive and active restorations projects in the Watershed. General improvement in forest management practices and permitted uses has also greatly contributed to a healthier river ecosystem. A watershed aquatic restoration plan for the Little Naches watershed was completed by the district in 2011, and submitted to NMFS and USFWS for review. The plan identified a host of restoration actions that may be proposed in the next 10-20 years. Recent road culvert failures during flooding in May, 2011 indicates that there are a number of stream crossings in the Little Naches watershed that need to be improved with larger structures, and potentially be assessed for road decommissioning. There is a documented history of the Little Naches River washing out segments of FSR 1900. Because FSR 1900 continues to constrict the floodplain of the Little Naches River with riprap in many locations, road washouts are expected to occur during future flood events. Un-managed recreation use (camping and off highway vehicle use) within the Little Naches River floodplain is could potentially continue degradation of riparian vegetation, LWD supply to the river channel, and streambank stability.

Future foreseeable actions in the Little Naches Watershed include a Spring Motorized Trail Closure, potential road and river crossing repairs and improvements (Pileup Creek Culvert Replacement 2012), trail maintenance, and a landscape-level restoration analysis. Restoration and other stream crossing upgrades, are expected to cause short term sediment and turbidity affects to steelhead and bull trout habitat, but provide long term benefits to both species by reducing larger pulse sediment risks from complete stream crossing failures, and improving aquatic organism passage conditions.

Based upon the available information and the evaluation of direct, indirect and cumulative effects it has been determined that implementation of the Refined Proposed Action “may affect, and is likely to adversely affect” MCR steelhead and MCR steelhead Designated Critical Habitat in the Little Naches River watershed. The project “may affect, and is likely to adversely affect” Columbia River bull trout and Columbia River bull trout Designated Critical Habitat in the Little Naches River watershed. The project will adversely affect EFH for Chinook and coho salmon in the Little Naches River watershed.

Aquatic Conservation Strategy Consistency

The NWFP identifies nine Aquatic Conservation Strategy Objectives (NWFP, ROD) on page B-11 that need to be reviewed for each project. The following discussion states the objective, describes relevant effects, and determines if the project would maintain the existing conditions or lead to improved conditions in the long-term (NWFP, ROD pg. B-10).

1. *Maintain and restore the distribution, diversity, and complexity of watershed and landscape features to ensure protection of aquatic systems to which species, populations, and communities are uniquely adapted.*

Repairing flood damaged segments of FSR 1900 will maintain or slightly improve current aquatic habitat conditions in the Little Naches River at the site scale by increasing pool habitat and LWD densities. At the watershed scale, this objective would be maintained.

2. *Maintain and restore spatial and temporal connectivity within and between watersheds.*

The project will maintain spatial and temporal connectivity within and between watersheds. Aquatic organism passage connectivity between the Little Naches River and Naches River will remain unchanged.

3. *Maintain and restore the physical integrity of the aquatic system, including shorelines, banks, and bottom configurations.*

Repairing flood damaged segments of FSR 1900 would maintain or slightly restore current riverbank conditions in the Little Naches River at the site scale supplementing LWD into a riverbank protection structure. This objective would be maintained at the watershed scale.

- 4. Maintain and restore water quality necessary to support healthy riparian, aquatic, and wetland ecosystems.*

Although there will be short term effects to water quality (turbidity), this project will maintain this objective because no reduction of canopy shading would occur that could affect water temperature in the Little Naches River at the site or watershed scale.

- 5. Maintain and restore the sediment regime under which aquatic ecosystems were formed.*

Although there will be temporary effects to sediment regime at the site scale, this project will maintain this objective in the long term at the site and watershed scale by stabilizing eroding road shoulders with LWD and boulders. Only sediments already within the bankfull channel will be disturbed during construction activities. Within one year of being mobilized in the river, the fines will re-deposit and stabilize.

- 6. Maintain and restore instream flows sufficient to create and sustain riparian, aquatic, and wetland habitats and to retain patterns of sediment, nutrient and wood routing.*

The project will not affect forested canopy cover conditions in the watershed, so this objective will be maintained at the site and watershed scale.

- 7. Maintain and restore the timing, variability, and duration of floodplain inundation and water table elevation in meadows and wetlands.*

This project would maintain this objective at the site and watershed scale. To maintain balance of the bankfull cross sectional area and floodplain access, channel shaping would occur on the opposite bank (cobble point bar) of the proposed riverbank LWD stabilization structure.

- 8. Maintain and restore the species composition and structural diversity of plant communities in riparian areas and wetlands to provide adequate summer and winter thermal regulation, nutrient filtering, appropriate rates of surface erosion, bank erosion, and channel migration and to supply amounts and distributions of coarse woody debris sufficient to sustain physical complexity and stability.*

This objective would be maintained at the site and watershed scale. Additional LWD would be added to the bankfull channel, but future LWD potential in the project area is not expected to be improved. Riparian vegetation may be degraded at the site scale in the short term for equipment access, but this would effect a very small area (<1/10th acre). Objective would be maintained at the watershed scale.

9. *Maintain and restore habitat to support well distributed populations of native plant, invertebrate and vertebrate riparian-dependent species.*

Riparian habitat may be degraded at the site scale in the short term for equipment access, but this would effect a very small area (<1/10th acre). Objective would be maintained at the watershed scale.

Consultation was re-initiated with USFWS and NOAA Fisheries on January 31, 2012. Consultation will be complete prior to a decision being reached on the 1900 Flood Repair Project. For more information or clarification, see project file for Biological Assessment.

Botany and Invasive Species

Direct, Indirect, and Cumulative Effects

Threatened, Endangered and Sensitive Plants and Survey and Manage Plants

An assessment for Threatened, Endangered, and Sensitive plant species (TES) and Survey and Manage plant species has been completed. The proposed activity areas primarily support large rock and rip-rap, river bedload, and roadside gravels. Much of the area identified for activity has been previously disturbed and does not provide suitable habitat for TES or Survey and Manage plant species. There is little to no vegetation along the roadway at either location. Existing vegetation is composed primarily of infrequently spaced seeded, non-native grasses and invasive species. Previously conducted surveys in multiple habitat types in the vicinity of the proposed repair activities have not identified the occurrence of TES or Survey and Manage plant species (Wheeler 2008, Wheeler 2007, Wheeler 2006, Ianni 2004, Engle 1997, Engle 1991, Lindhorst 1990). Therefore, the 1900 Flood Repair project will have no direct or indirect effect on TES or Survey and Manage plant populations or potentially suitable plant habitat; or have cumulative effects on TES or Survey and Manage plant species.

For projects with signed Records of Decision, Decision Notices, or Decision Memoranda from December 17, 2009, through September 30, 2012, the Agencies will use either of the following Survey and Manage Species lists: a) The list of Survey and Manage species in the 2001 ROD or b) the list of Survey and Manage species and associated species mitigation, Attachment 1 to the Settlement Agreement. The Forest Road 1900 Flood Repair Project applies the Survey and manage species list in the 2001 ROD (Table 1-1, Standards and Guidelines, pages 41-51) and

thus meets the provisions of the 2001 *Record of Decision and Standards and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines*, as modified by the 2011 Settlement Agreement.

Invasive Species

A noxious weed risk assessment has been completed for this project. Invasive species are well documented from the Little Naches watershed. Invasive species occur predominantly along the shoulders of roadways, in heavily utilized recreation sites, in borrow locations, and on landings in previously harvested timber stands throughout the drainage. Infestations are common in the area immediately adjacent to the roadway on both sides of FR 1900 (Wheeler 2008, Wheeler 2007, Wheeler 2006, Ianni 2004, Engle 1997, Engle 1991, Lindhorst 1990). Several species have been observed, including, but not limited to: diffuse knapweed (*Centaurea diffusa*), spotted knapweed (*Centaurea maculosa*), oxeye daisy (*Leucanthemum vulgare*), Canada thistle (*Cirsium arvense*), bull thistle (*Cirsium vulgare*), St. John's wort (*Hypericum perforatum*), Dalmatian toadflax (*Linaria dalmatica*), and common mullein (*Verbascum thapsus*).

To reduce the potential for invasive species to further increase and spread as a result of this project; Forest Plan Standards (2005) and Okanogan Wenatchee Weed Prevention Best Management Practices (2002) would be implemented as part of the proposed action. These prevention standards and best management practices would effectively minimize the likelihood that this project would result in the development of suitable invasive species habitat and subsequent infestation. Standards and Best Management Practices can be found in Chapter II within the Mitigation section.

Standards #2, 3, and 7 are designed to prevent invasive species establishment and spread by reducing the potential for weed dispersal and the introduction of new invasive species via equipment (e.g., carried in or out on the equipment or moved around by the equipment such as by road blading), plant materials (e.g., mulch, straw) and restoration supplies (e.g., rock, gravel). Standard #13 further mitigates the potential for adverse impacts by providing for a revegetation strategy which re-establishes native or desirable non-native vegetation on these sites. The Best Management Practices would further reduce the risk that invasive species would become established and continue to spread by requiring additional prevention measures such as monitoring (see Chapter II Mitigation section).

At the watershed scale, the actions proposed at Mile Post 2.0 and Mile Post 5.1 along FR 1900 would have immeasurable effects on invasive species, either directly or indirectly. However, at the site-specific scale, the project would result in an indirect positive impact on invasive species by ultimately stabilizing the riverbank and roadway and re-establishing desirable vegetation on the site, consequently, reducing the potential for establishment and spread of invasive species. Given the small scale and short duration of the effects of the proposed activities, no cumulative impacts are anticipated as a result of this project.

Heritage Resources

Regulatory Framework

The National Historic Preservation Act (NHPA: the Act) of 1966 established the Federal government's policy and programs on historic preservation, including the establishment of the National Register of Historic Places (NRHP: the National Register). Section 106 of the Act (36 CFR 800) requires Federal agencies having direct or indirect jurisdiction over a proposed Federal or Federally assisted or permitted undertaking to take into account the effect an undertaking may have on historic properties listed on or eligible for the National Register, and it affords the Advisory Council on Historic Preservation (ACHP) an opportunity to comment on such undertakings (16 U.S.C. 470f). The Washington State Department of Archaeology and Historic Preservation (DAHP) and the ACHP are the respective state and federal agencies responsible for overseeing the management and protection of historic properties in compliance with the NHPA. Historic properties are cultural resources that are listed on or eligible for listing on the National Register. Historic properties, and cultural resources that have not been formally evaluated against National Register criteria (E.O. 11593), are given consideration in planning for licensed, approved or funded Federal undertakings.

Forest Service Trust Responsibility

The 1900 Flood Repair project area is located within the traditional use area of the Yakama Indian Nation. Trust responsibility is the U.S. Government's permanent legal obligation to exercise statutory and other legal authorities to protect tribal land, assets, resources, and treaty rights, as well as a duty to carry out the mandates of Federal law with respect to American Indian and Alaska Native Tribes. For the Forest Service, fulfillment of trust responsibility requires consultation with tribes.

The Yakama Nation was consulted about the 1900 Flood Repair project. A government-to-government letter was sent to the tribe describing the project and soliciting concerns and information regarding resources of interest to the tribe within the project area. No specific concerns or issues have been brought forth.

No Action Alternative

Historic Properties and Forest Service Trust Responsibility

Naches Ranger District cultural resource site and survey records were reviewed. There are no known prehistoric or historic properties within the area of potential effect for this project. NHPA Section 106 consultation for the 1900 Flood Repair Project was completed in accordance with the terms of the programmatic agreement regarding management of cultural resources on Washington State National Forests (1997). An Appendix A was completed due to the project area having been previously disturbed by original construction of the 1900 road. It was determined the project would have "no effect" as there were no cultural resources within or in close proximity to the project area (Buchholz 2012: Report 2012061708009). By not implementing the project, there would be no new risk of effects to any unknown historic properties as a result of project activities. Effects to unknown cultural resources would be limited to impacts from natural processes and current human use patterns. Anticipated impacts

would include natural deterioration, decomposition, erosion, breakage, and displacement related to such causal factors as exposure to elements, natural catastrophes, storm events, and animal and human activity.

Effects to tribal use and practices in the 1900 Flood Repair project area would be limited to impacts from natural processes and current human use patterns. By not implementing proposed project activities, there would be no new risk of impacting or impeding Tribal use patterns and practices.

Direct, Indirect and Cumulative Effects on Historic Properties

As there are no known historic properties there would not be any direct or cumulative effects. Contract(s) for the project will include the Standard Clauses BT6.24 (Protection of Cultural Resources) and CT6.24 (Site Specific Protection Measures for Cultural Resources). These clauses allow the Forest service to modify or cancel portions of the contract to protect any newly discovered cultural resources. In the event that cultural resources are discovered as a result of project activity, all work in the vicinity of the discovery would cease until professionally assessed.

Direct, Indirect and Cumulative Effects on Indian Practices

The project area is considered the boundary for effects analysis with respect to Indian practices. No direct, indirect or cumulative effects to tribal customs or practices are anticipated. The U.S. government maintains a permanent legal obligation to exercise statutory and other legal authorities to protect tribal land, assets, resources, and treaty rights, as well as a duty to carry out the mandates of Federal law with respect to American Indian and Alaska Native Tribes. The Forest Service will continue to fulfill its trust responsibility through consultation with tribes. Adjustments to project implementation strategies could be made in order to eliminate or minimize impacts as appropriate when the Forest Service is made aware of activities and practices within their control that are impeding Tribal activities and practices.

Hydrology

No Action

With the No Action Alternative, continued erosion of fill material would occur at both project sites. Average annual high flow levels would continue to erode fine grained fill material, increase the undercutting of existing pavement and further reduce the width of the travelway. Fine sediment input to the Little Naches River would increase and opportunities to improve habitat features and streamside vegetation would not occur.

Direct and Indirect Effects

Refined Proposed Action

The Refined Proposed Action Alternative would restore safe travel access while including design and habitat features which should reduce the risk of future road fill erosion at these sites. At both sites the log and rock structures are designed to shift the channel thalweg away from the road prism and thus reduce the stream energy along the base of the fill slope. At the MP 5.1 site the removal of gravel bar material will widen the channel cross-section and reduce stream velocities through the damaged area. The addition of LWD to the fill slope and the jam structure will add complexity to channel resulting in pool creation and increased roughness along the road reducing stream velocities and energy.

Summary of Effects

Increases in fine sediment levels are expected to be minimized by de-watering of in-channel work areas during construction activities. Short term turbidity increases will occur during construction of coffer dams or diversion channels and when streamflows are restored to the repaired reaches. Turbidity increases are not expected to be measurable beyond a distance of approximately 1000 feet or less below a particular work site and only for the period of time when actual in-channel work is occurring. If both sites on the 1900 system are being constructed at the same time, measurable turbidity increases are not expected to overlap because of the more than 3 miles of stream length between sites. Dissipation and settling of fine sediment will occur between sites so that increases in turbidity would still not be measurable more than 1000 feet below the lowest site (MP 2.0). In the short term during higher flow events, some increase in fine sediment levels may occur until vegetation is established on newly constructed fill slopes.

In the long term, sediment increases are expected to be reduced due to the improved floodplain capacity and LWD habitat structure planned for the repair sites.

In the short term, stream temperature increases are not expected to be measurable due to construction activities. In the long term, stream temperatures may slightly decrease due to improved riparian vegetative shading following planting and shifting of the road prism away from the Little Naches River.

Risk of future flood damage to road systems is expected to be reduced with the design features planned at these sites. Stream channel structures are designed to meet the 100 year flood event with associated debris which will reduce the risk of future failures.

Groundwater can potentially be impacted by changes in timing and flows resulting from management activities. At the micro-site level, the road repair design features are expected to increase floodplain inundation and thus improve groundwater recharge. At the watershed scale the Refined Proposed Action is not expected to cause any measurable change in hydrologic timing or flow levels there is not expected to be any measurable change in groundwater resources.

Cumulative Effects

Cumulative effects from past, current and foreseeable future activities are an important concern in the Little Naches Watershed and can be affected by actions on private lands as well as National Forest System lands. The cumulative effects analysis boundary for this project is the 5th field watershed scale. For the 1900 Flood Repair Project there are no private lands within or immediately adjacent to the analysis area and only very minimal private lands where the 1900 Road is adjacent to the Little Naches River within the entire watershed. The time scale for cumulative watershed effects is considered the time required for vegetation to achieve hydrologic recovery. For riparian vegetation, this is achieved when greater than 90 percent ground cover is established typically within 10 to 15 years.

The improved road fill stabilization designs with this alternative would result in an incremental benefit to overall watershed condition and improvement to water quality. However, at the 5th field watershed level the incremental change in sediment yield or stream temperatures due to this project would most likely be not measurable either as a short-term (1 to 5 years) increase or long-term (10 to 15 year) decrease.

Consistency Findings

The Little Naches River within and downstream of the planning area has exceeded the state temperature standard of 61 degrees daily maximum for several days during the summer sampling period. This has resulted in the Little Naches River being designated as water quality limited (category 5) for temperature on the current Washington State 303(d) list as required by the Clean Water Act. This project would have no effect on the stream temperatures within the planning area or the downstream segments of the Little Naches River. With design features for re-vegetating disturbed areas, none of the treatments will effect streamside vegetation or shading to measurable levels and therefore treatments will not affect this parameter or exacerbate the 303(d) listings downstream. Re-vegetation has potential to improve cover conditions. This will ensure compliance with the Clean Water Act.

Implementation of design features for Riparian Reserves will ensure compliance with EO 11988 Floodplain Management (11988, 1977), and EO 11990 Wetland Protection (11990, 1977). Design features are expected to improve and restore the function of this area and will meet the intent of these executive orders.

For the full Hydrology Resource Report, see project file.

Recreation, Visuals, and Special Uses

No Action Alternative

With the No Action Alternative, continued erosion of fill material would occur at both project sites and increase the undercutting of existing pavement and further reduce the width of the travelway. If not addressed, the decreased road width may at some point necessitate closing access to larger recreation vehicles or possibly to all types of vehicles. Such a closure at Milepost 2.0 would directly impact all motorized and nonmotorized trail users and campers by limiting their ability to access all existing campgrounds (except for the Little Naches); approximately 200 dispersed sites; and all motorized staging areas, trailheads, and Sno-Parks. Vehicle access to most of the fishing, berry picking, mushrooming, sightseeing, and exploring opportunities within the drainage would also be eliminated. The area would increase in desirability for those recreationists who desired more area and longer trail distances in which to practice nonmotorized activities.

The ROS Classification of Roaded Natural would not be met. Depending on the type of public access allowed, the ROS classification would change to Semi-Primitive Motorized or Semi-Primitive Nonmotorized.

The visual quality along the 1900 road would become more natural appearing in the long-term (ten to fifteen years) as heavily used recreation areas along the road slowly revegetated from due to less use.

Existing special use permit holders would be limited to whatever was deemed reasonable by the Forest Service.

Staging areas for the permitted recreation events would not be accessible by typical motor vehicles, necessitating changes to event locations.

Direct and Indirect Effects

Short term direct effects of the Refined Proposed Action to the recreating public and Special Use Permittees would include traffic delays for approximately one week between mid-July and mid-August at Milepost 2.0 during construction. In addition, one popular dispersed camp site at the 1900/1901 road junction would be closed to recreation use during construction as the site would be used to stage equipment.

Short term direct effects to the recreating public during project implementation at Milepost 5.1 would be loss of access on Road 1900 past the 750 Road during the week (Monday through Friday evening) for approximately one month from mid-July through mid-August. Inaccessible recreation opportunities during the closure would include the Lost Meadow dispersed camping area, approximately and access to all trailheads and staging areas past the closure point, including the Naches Pass Four Wheel Drive Trail. One popular dispersed site before Milepost

5.1 would be closed to recreation use and used as a staging area during construction. Vehicle access to the Greenwater area, and the fishing, berry picking, mushrooming, sightseeing, and exploring opportunities past the 750 Road turnaround would also be inaccessible during the closure period.

Once construction is complete at Milepost 2.1 and 5.0, safe travel access to the existing recreation opportunities for larger vehicles would be restored for the recreating public. In the long term, existing access to the area's recreation opportunities would be retained.

The area's ROS classification of Roded Natural and Visual Quality Objective of Partial Retention would be met.

Cumulative Effects

Cumulative effects of the Refined Proposed Action to recreation opportunities from road closures on the Naches District are of concern to the recreating public as indicated by the response to the 2011 road closures. The cumulative effects analysis boundary is the Naches Ranger District. Several road systems have been closed to public motorized vehicle access across the District within the past decade, primarily due to safety issues from flooding. Several of these road systems provided access to a variety of recreation opportunities. For example, the 1800 and 1808 Roads in the Bumping drainage and the 1207 Road in the North Fork Tieton Drainage provided access to popular Wilderness trailheads, but washed out in 2006 and 2011 respectively. Although the 1800 road has reopened in October 2011, the 1808 will not reopen until some time in 2012, and the 1207 Road is not scheduled to reopen in the foreseeable future. The 1702, 1703, 1707, 1708, 1501 and 1601 road systems provided access to motorized trails and/or dispersed camp sites, and other recreation activities such as snowmobiling and hunting – they all were closed to motorized traffic after spring flooding in 2011. These road systems will be analyzed within the next one to three years to determine if and/or how they should be fixed and reopened to public motorized traffic. If the decision is made to reopen these roads, construction and reopening may take up to five years to complete. The loss of access from these road systems has cumulatively affected access to traditional recreation opportunities substantially for the next several years.

If some road systems are not reopened, portions of the areas along the corridors will most likely begin to revegetate due to less public use, and the resulting cumulative effects to the visual quality on the District would probably be more natural appearing area.

Cumulative effects to Special Use Permits may include a change in the type of reasonable access permitted by the Forest Service if some road systems are not reopened.

Consistency Findings

The Management Prescription for the project area is ST-2 (Scenic Travel –Retention). The goal of this area is to “provide a near natural appearing foreground and middleground along scenic travel corridors” (Plan IV-215). Forest Plan standards and guidelines include “reducing the

visual impacts of roads” (Plan IV-221). Design criteria would be implemented under the refined proposed action to meet the goal of the ST-2 management prescription.

Wildlife

No Action Alternative

In Summary, the No Action Alternative would not alter habitat or create disturbance for any wildlife species of concern. Therefore no direct, indirect or cumulative effect on any Proposed Endangered or Threatened Species (PETS), Management Indicator Species (MIS) or Survey and Manage (S&M) wildlife species or migratory bird species would result from the no action alternative. There would be “no effect” on the northern spotted owl.

Direct and Indirect Effects

Refined Proposed Action

The Refined Proposed Action has the potential for the following direct and indirect effects:

- “May affect, not likely to adversely affect” the northern spotted owl due to direct effects from disturbance only. Unsurveyed spotted owl habitat occurs within 0.25 miles of both project sites. Project would occur outside of nesting period and fledglings would be highly mobile during project implementation period. Potential negative effects resulting from disturbance would be of short term, low intensity and limited in extent.
- Potential for disturbance to harlequin ducks. No disturbance to nesting harlequin ducks but a low potential to disturb ducklings. Potential for disturbance would be minimal since ducklings are highly mobile by July 15th & able to avoid project sites. Potential negative effects from disturbance would be short term, low intensity and limited in extent.
- Potential for disturbance to beaver in the Little Naches River. Because of the small scale of project, potential for disturbance would be limited to a few individuals near the site. Potential negative effects from disturbance would be short term, low intensity and limited in extent.

The Refined Proposed Action Alternative would not alter habitat of any PETS, MIS or S&M wildlife species. Both alternatives would have “No Effect” on the gray wolf, grizzly bear, marbled murrelet, Designated Critical Habitat for the Northern Spotted Owl and Canada lynx; and “No Jeopardy” to the North American wolverine, Pacific fisher and Mardon skipper. The no action and refined proposes action would not affect the future viability of any sensitive species. Both alternative would not contribute to a negative trend in viability of any Wenatchee National Forest MIS and are consistent with the Wenatchee LRMP Standards and Guidelines. Neither alternative would impact survey and manage species. Both alternatives meet LSR/MLSA objectives; neutral to late-successional species and their habitat. Therefore the Refined Proposed Action is consistent with the Northwest Forest Plan.

Cumulative Effects

The Refined Proposed Action has the potential for the following cumulative effects:

- It is unlikely that the refined proposed actions would contribute to northern spotted owl, harlequin ducks and beaver negative effects when added to other federal and non-federal activities because the proposed action creates minimal effects from disturbance and no effects to habitat. The spotted owl, harlequin duck and beaver may be temporarily disturbed by project implementation activity, and equipment noise. Other activities, such as recreation and road maintenance could also create some disturbance or modify habitat. The flood damage repair work could add to the disturbance, but project is such a low magnitude, short duration, and low intensity that no significant cumulative effect is likely to occur.

The full Wildlife Specialist Report can be found in the project file.

Consistency Findings

Snag Analysis

No snags occur in the project area and project will not impact snag density in the area.

Forage and Cover Analysis

The project does not occur in forest or cover habitat for deer, elk, or other cover dependent terrestrial species.

Migratory Bird Treaty Act

The Refined Proposed action will not alter habitat for any migratory bird species, therefore has no impact on species within the Migratory Bird Treaty Act.

Other Required Disclosures

Areas with Unique Characteristics or Uncertainty

It was found that no parklands, Inventoried Roadless Areas (IRAs), Potential Wilderness Areas (PWAs), or Wilderness Areas were within the project area, adjacent to the project area, or would be measurably impacted by the Refined Proposed Action. There were also no areas or effects with highly uncertain results or impacts.

Clean Air Act

The Refined Proposed Action will not include any burning or more than incidental dust. The project will not compromise air quality and is therefore consistent with the Clean Air Act of 1963 as amended.

Establishment of Precedent

The Refined Proposed Action does not establish a precedent for future actions. The decisions made and analysis completed was site and temporal specific. The purpose and need are only relevant to the specific affected environment.

Social Groups and Civil Rights

The 1900 Flood Repair project will not disproportionately affect any social groups or civil rights. This project includes purchaser work, Forest Service contracted work, and Forest Service employee accomplished work. Under Executive Order 11246 (1965), companies with the Federal contracts or subcontracts are prohibited from job discrimination on the basis of race, color, religion, sex or national origin. The U.S. Department of Agriculture prohibits discrimination in its employment practices based on race, color, national origin, gender, religion, age, disability political beliefs, sexual orientation, and marital and family status.

The Refined Proposed Action would not have any disparate effects on any consumers, minority groups, women, civil rights, or social/ethnic groups. All contracts would meet Equal Employment Opportunity requirements.

Prime Rangeland, Farmland, and Forest Land

The Refined Proposed Action complies with the federal regulations for prime land. None of the project area is within “prime” forest, rangeland, or farmland; therefore there is no effect on any prime land.

Roads Analysis

The Okanogan-Wenatchee National Forest completed a Naches Sub-Basin Watershed Roads Analysis as part of a forest-wide analysis in 2001. This included an analysis on roads within the Little Naches Watershed and their impacts on human use, aquatics, and wildlife. The Refined Proposed Action meets the Forest Service Handbook 7710 criteria for travel management as it only improves an existing road within its current road prism. In May 2010, the Naches Ranger District completed a Minimum Roads Analysis within the Little Naches (Naches Ranger District, 2010). This was a non-decision document which inventoried all roads within the watershed and made suggestions for future management activities. The FSR 1900 was designated to be a maintenance level 4 road to meet the recognized forest needs. For more information, see roads information in project file.

CHAPTER IV

Public Involvement Summary

Public Scoping

After the IDT developed a purpose and need statement and the proposed action, public scoping and consultation began. Government to government consultation letters were mailed to the Yakama Nation on August 11, 2011. The Naches Ranger District was not notified of any issues or objections. On August 12, 2011, approximately 350 scoping letters went out to the Naches Mailing list. Copies of the scoping letter were also displayed at the Ranger Station and were distributed upon request. NEPA Planner Michelle King also attended multiple TWIG (Trails and Wilderness Interest Group) meetings to introduce the proposed action and answer public questions.

Comment Analysis

Table IV-1: Summary of Comments Received

Commenter	Date Received	Comment or Questions
WA State Department of Ecology, Gwen Clear	9/15/2011	May need to obtain Construction Stormwater General Permit.
Public Commenter 1	8/15/2011	Support Project. Sites could be evaluated to be a fire engine/tender fill station.
Public Commenter 2	8/23/2011	Older and handicapped citizens need motorized access, hopes roads are fixed promptly.
Public Commenter 3	9/3/2011	Agrees with repairs.
Public Commenter 4	9/12/2011	Agrees with proposals.
Public Commenter 5	9/14/2011	Site is currently difficult to travel around.

In general, the public showed support for the project and were eager to see the repairs completed as soon as possible. After speaking with WA State Department of Ecology, it was determined that as a federal project no Stormwater permit is necessary. The complete comment analysis information can be found in the project file.

Collaboration History

- August 4, 2011- First Level 1 ESA consultation occurred to discussed original proposed action
- August 8, 2011- Naches District Ranger meets with NMFS and USFS to discuss alternative options and general plans for FSR 1900
- September 2011- IDT incorporates mile post 2.0 into Refined Proposed Action

- October 5, 2011- IDT goes on field trip with NMFS, USFWS, and Forest Fisheries Program Leader to discuss multiple options at each site
- November 7, 2011- IDT, NMFS, USFWS, and Forest Fisheries Program Leader begin detailed site analysis for multiple engineering designs. Discussed in detail how to meet engineering objectives and riparian habitat objectives.
- November 2011- USFS Regional Assistance Team reviewed conceptual project sketches group came up with. IDT reviewed and elaborated on site assessment charts and shared charts with NMFS and USFWS.
- January 2012- IDT Fish Biologist and Engineer adapted and reviewed in detail Biological Assessment and conceptual engineering designs.
- January 31, 2012- Fish Biologist re-initiated consultation with completed BA

CHAPTER V

Organizations, Agencies, and Persons Consulted

Forest Service Naches Ranger District Interdisciplinary Team (IDT)

Michelle King	Team Leader, NEPA Planner
Gary Torretta	Fisheries Biologist
Barry Collins	Engineer
Kathryn Buchholz	Heritage Resources
Bill Garrigues	Soils, Hydrology
Doug Jenkins	Public Information
Jodi Leingang	Botany, Invasive Species
Chris Ownby	Geographic Information Systems
Jennifer Chowning	Geographic Information Systems
Sue Ranger	Recreation, Visual Quality
Joan St. Hilaire	Wildlife

Agencies Consulted

NOAA Fisheries
US Fish and Wildlife Service

Agencies Notified

WA Department of Fish and Wildlife
WA State Parks and Recreation
WA Department of Ecology
Yakima County Planning Department
Yakima County Sheriff's Office
Yakima Regional Clean Air Agency

Various other Non-profit organizations and User-group organizations

Other Participants

Irene Davidson	Naches District Ranger, Okanogan-Wenatchee N.F.
Richard Vacirca	Forest Fisheries Program Leader, Okanogan-Wenatchee N.F.
Regional Assistance Team	U.S. F.S. Region 6

CHAPTER VI

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