Environmental Assessment:

1700 SYSTEM FLOOD REPAIR PROJECT

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

Naches Ranger District
May 2013

The 1700 System Flood Repair Environmental Assessment (EA) is now available. The United States Forest Service, Okanogan-Wenatchee National Forest is proposing to address damage sustained from the May 2011 flood along Forest System Roads (FSRs) 1700-416C, 1703, 1704, and 1708. This analysis is consistent with the National Environmental Policy Act of 1970 and other national and regional direction. The EA is also available online at: http://www.fs.usda.gov/projects/okawen/landmanagement/projects under **Okanogan-Wenatchee National Forest Current and Recent Projects**. For more information or components of the project file, please contact Michelle King, 509-653-1420.

Official Comment and Appeal Period

As per 36 CFR 215 regulations, the official comment period for the EA 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 eligibility to appeal the subsequent decision, one must provide the following information with the designated comment period: name and address, title of proposed action, specific substantive comments, signature or verification of identity, and evidence of timely submission. It is the responsibility of all individuals and organizations to ensure their comments are received in a timely manner. Please reference 36 CFR 215.6 for more information.

Written comments must be submitted to the Responsible Official:

Irene 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– 12:00pm, 12:30pm-4:30pm). Naches Ranger District phone (509) 653-1401, fax (509) 653-2638.

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, Existing Condition, 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, 1990) as amended. The decisions to be made, based on the proposed action analysis and range of 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 proposed action, the existing condition, and the purpose and need.

In June 2011, the Okanogan-Wenatchee National Forest was granted Federal Lands Highway funding. The Emergency Relief for Federally Owned Roads, known as ERFO, has made it possible for the Naches Ranger District to plan and implement multiple flood repair projects. The intent of the ERFO program is to pay the unusually heavy expenses in the repair and reconstruction of Federal roads as a result of damaged sustained by a natural disaster over a wide area or by a catastrophic failure (Federal Highway Administration, 2013).

Proposed Action

The Naches District is proposing to address flood damaged along multiple Forest System Roads (FSR) within the 1700 System. The following roads and mile posts are being assessed within this EA:

- FSR 1700-416 C mile post 0.1 (summer home tract)
- FSR 1703 mile post 2.0 (Gold Creek Road)
- FSR 1704 mile post 1.3 (Lower River Road)
- FSR 1708 mile post 0.6-0.8, 1.9, and 3.9 (Milk Creek Road)

The range of proposed actions includes repairing the road to pre-flood conditions or decommissioning the damaged area or crossing. The original scoping letter can be found in its entirety in Appendix A.

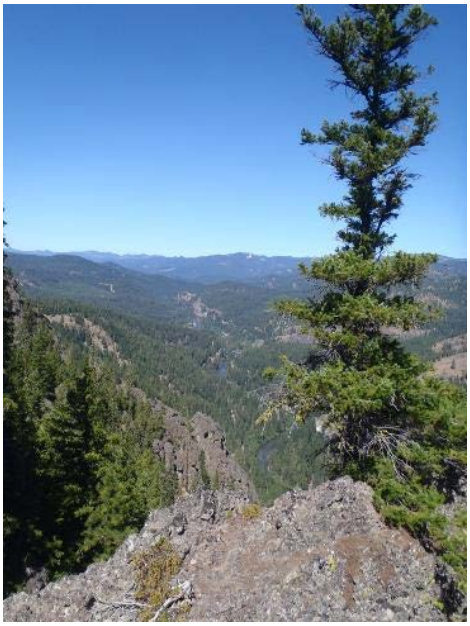

Figure I-1: Naches River Drainage

These sites were analyzed together because they are all near the Naches River or near a tributary of the Naches River. These roads are inter-connected and provide access to the same road system on the Forest. Analyzing these sites as one project allows the analysis team to be able to better measure the total effects of all of the

potential repairs or closures. Decisions made on one road, could impact the travel and use of the other roads near-by. This analysis will provide information about each damaged site but will also include a summary of the effects to the entire system.

Please note that FSR 1702 mile post 1.0 and FSR 1702-550 were originally scoped as part of this project. These two roads will now be a separate environmental analysis titled 1702 System Flood Repair Project.

Background

The May 2011 flood event resulted from approximately three to four inches of rainfall occurring within a 24 hour period. The peak stream flow was estimated to be at a greater than 100 year return interval. Several of the damaged sites are along Forest System Roads that adjoin with State Highway 410 on the Naches Ranger District and they became part of the 1700 System Flood Repair project. The general project vicinity can be seen below in Figure I-2.

Figure I-2: 1700 System Flood Repair Project Vicinity

Project Area

FSR 1700-416C mile post 0.1

This damaged site is located in the Gold Creek drainage on the Naches Ranger District. The road is a connector road within a summer home tract. The site is in Township 17N, Range 14E, Section 36 within Yakima County. This road is classified as a Maintenance Level II road (USDA 2005).

Figure I-3: FSR 1700-416C. Original road surface level is shown with yellow line.

In the 2011 flood, Gold Creek washed out a 30 foot section of FSR1700-416C at the location of two 48 inch culverts. The culverts did not fill with debris, but were unable to handle the large amount of water flowing through. A significant amount of road, road fill and road shoulder was washed downstream. There are summer homes on both sides of the washout and both tracts can be accessed by State Highway 410.

FSR 1703 mile post 2.0, Gold Creek Road

This damaged site is located along Gold Creek and is known as Gold Creek Road on the Naches Ranger District. This road is a portion of a loop that connects with FSR 1705. The site is located in Township 17N, Range 14E, Section 25 within Kittitas County. This road previously was a snowmobile route in the winter and now is a Maintenance Level III road (USDA 2005). The road is currently closed from mile post 0.0 to the FSR 1705 junction.

Figure I-4: FSR 1703 mile post 2.0. Original road location is shown with yellow line.

Gold Creek washed out approximately 300 feet of roadway. Figure I-4 shows the space where the road washed away and where debris and boulders filled in. During the 2011 flood event, the 60 inch culvert filled with rocks and debris and allowed the stream to overtop the road. The washout changed the course of the stream channel and created a large log jam.

FSR 1704 mile post 1.3, Lower River Road

This damaged site is located next to the Naches River. Lower River Road is classified as a Maintenance Level III road (USDA 2005). The site is located in Township 17N, Range 14E, Section 26 within Yakima County. This is a connecter road between two summer home tracts and is currently open with a narrowed capacity.

During the 2011 flood, high flows eroded the bank, road shoulder and roadway. There is approximately 90 feet of damaged resulting in a slumped road shoulder and roadway with a reduced width. At this site, the road is confined between the Naches River and a vertical rock face.

Figure I-5: FSR 1704 mile post 1.3.

FSR 1708 mile post 0.6-0.8, 1.9, 3.9, Milk Creek Road

Figure I-6: FSR 1708 at HWY 410 junction on May 16, 2011.

These damaged sites are located along the heavily used Milk Creek Road on the Naches Ranger District. Milk Creek Road intersects with State Highway 410 and has previously been the location of a snow park and groomed snowmobile route. The road is currently closed from mile post 0.0 to the FSR 1708-590 junction.

Mile post 0.6

The site is located in Township 17N, Range 14E, Section 10 within Kittitas County. During the 2011 flood, high flows eroded the road shoulder and bank. Portions of the road shoulder and roadway were washed away narrowing the width of the road.

Figure I-7: FSR 1708 at mile post 0.6.

Mile post 0.8

The site is located in Township 17N, Range 14E, Section 10 within Kittitas County. During the 2011 flood, high flows and debris eroded the road shoulder and bank. Portions of the road shoulder and roadway were washed away narrowing the width of the road.

The project area also encompasses the access road to the rock pit between mile post 0.6 and 0.8. The road currently travels from 0.6, up to a rock pit, and connects back down to FSR 1708 at mile post 0.8.

Figure I-8: FSR 1708 at mile post 0.8.

Figure I-9: FSR 1708 at mile post 1.9.

Mile post 1.9

The site is located in Township 17N, Range 14E, Section 2 within Kittitas County. A 50’ by 10’ block of soil dropped approximately 10 feet disrupting the road surface. The road failure damage extends from the road surface down to the stream edge.

Mile post 3.9

The site is located in Township 17N, Range 14E, Section 1 within Kittitas County. The creek crossing the road is a tributary to Milk Creek and is in an area with high sediment distribution area. During 2011, the culvert plugged with debris forcing the stream to flow down the road ditch and then across the road.

Figure I-9: FSR 1708 at mile post 3.9.

Management Areas

Each damaged site is within different management areas and land allocations. Table I-1 outlines the site and relevant land allocations from the Northwest Forest Plan and the Wenatchee Land and Resource Management Plan.

Table I-1: Damaged Sites and applicable Land Allocations from the Northwest Forest Plan and Wenatchee Land and Resource Management Plan.

Damaged Site Location	Land Allocation	
	Northwest Forest Plan	Wenatchee Management Plan
FSR 1700-416C mp 0.1	-Riparian Reserve -Managed Late-Successional Reserve	-Mather Memorial Parkway -Riparian-Aquatic Habitat Protection
FSR 1703 mp 2.0	-Riparian Reserve -Matrix	-Key Deer/Elk Habitat -Riparian-Aquatic Habitat Protection
FSR 1704 mp 1.3	-Riparian Reserve -Managed Late-Successional Reserve	-Mather Memorial Parkway -Riparian-Aquatic Habitat Protection

Damaged Site Location	Land Allocation	
	Northwest Forest Plan	Wenatchee Management Plan
FSR 1708 mp 0.6	-Riparian Reserve -Managed Late Successional Reserve	-Mather Memorial Parkway -Riparian-Aquatic Habitat Protection
FSR 1708 mp 0.8	-Riparian Reserve -Managed Late Successional Reserve	-Mather Memorial Parkway -Riparian-Aquatic Habitat Protection
FSR 1708 mp 1.9	-Riparian Reserve -Managed Late Successional Reserve	-General Forest -Riparian-Aquatic Habitat Protection
FSR 1708 mp 3.9	-Riparian Reserve -Managed Late Successional Reserve	-General Forest -Riparian-Aquatic Habitat Protection

Northwest Forest Plan

The Northwest Forest Plan (USDA 1994) was developed in the Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl.

Riparian Reserves are portions of the watersheds where riparian-dependent resources receive primary emphasis and where specific 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 objectives. This project will be consistent with the outlined objectives.

Managed Late Successional Reserves are portions of the landscape that are identified for certain owl activity centers on the eastside of the Cascades where regular and frequent fire is a natural part of the ecosystem. Similar to Late Successional Reserves, Managed Late Successional Reserves also help protect and enhance the condition of late successional and old-growth forest ecosystems.

Matrix consists of federal lands outside the other six categories of designated areas in the Northwest Forest Plan. A mix of use can be found on Matrix lands.

Wenatchee Land and Resource Management Plan

Consistent with the *Wenatchee Land and Resource Management Plan* (USDA 1990), the project area includes Riparian-Aquatic Habitat Protection Zone, General Forest Land, land within the Mather-Memorial Parkway, and Key Deer and Elk Habitat (Figure I-10).

The Riparian-Aquatic Habitat Protection Zone (EW-2) physically overlaps with the Northwest Forest Plan's Riparian Reserve. The goal is to maintain and enhance riparian management areas to perpetuate their distinctive resource values.

The goal of General Forest land is to provide for long-term growth and production of commercially valuable wood products at a right level of investment in silvicultural practices.

The Mather-Memorial Parkway was classified by executive order to encompass a zone extending ½ mile on either side of U.S. Highway 410. It is to be managed to maintain and enhance its outstanding scenic and recreational qualities.

Key Deer and Elk Habitat (EW-1) is land set aside to managed deer and elk winter range to meet habitat requirements for sustaining optimum carrying capacity. Deer and elk winter ranges are generally on the edge of the Forest, adjacent to or intermingled with other land ownerships, at low elevations, south and/or east facing slopes with reduced snow depth and early melting off of snow.

Land Allocation Summary

Where land allocations overlap, management activities tier to the most constrictive designation, which in this case is the Riparian Reserve or Riparian-Aquatic Habitat Protection Zone.

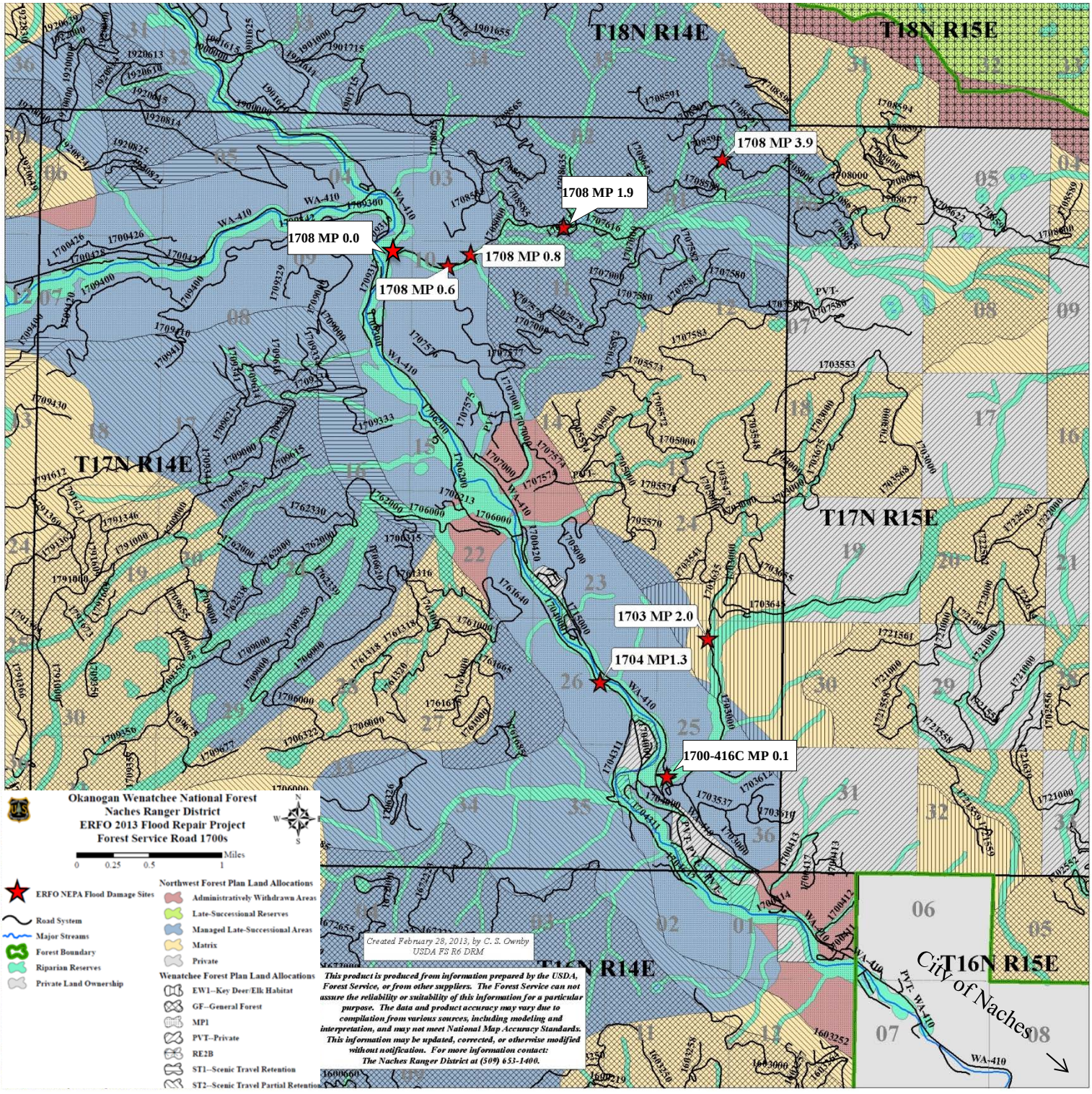

Figure I-10: Northwest Forest Plan and Wenatchee Forest Plan land allocations and Forest Boundary for 1700 System Flood Repair Project.

*****For larger versions of maps or images, please contact the Naches Ranger District.

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 the standards and guidelines found in the Wenatchee Land and Resources Management Plan and the Northwest Forest Plan:

The National Environmental Policy Act of 1969 (NEPA) as amended 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 Endangered Species Act (ESA) of 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 Magnuson-Stevens Fishery Conservation and Management Act of 1996 (MSA§303 (a)(7)) as amended directs that each Federal agency shall consult with the Secretary with respect to any action authorized, funded, or undertaken, or proposed… that may adversely affect any essential fish habitat identified under this Act. Specifically the agencies must consult with National Marine Fisheries Service (NMFS).

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

Executive Order 12962, Recreational Fisheries (1995) states that federal agencies shall, to the extent permitted by law and where practicable, and in cooperation with States and Tribes, improve the quantity, function, sustainable productivity, and distribution of U.S. aquatic resources for increased recreational fishing opportunities.

Executive Order 11988, Floodplains requires government agencies to take actions that reduce the risk of loss due to floods, to minimize the impact of floods on human health and welfare, and to restore and preserve the natural and beneficial values served by floodplains.

Naches Mainstem and Wenas Watershed Assessment (Naches Ranger District, 1995) provides guidance for meeting long-term ecosystem management objectives including the goal of the Aquatic Conservation Strategy to restore and maintain the ecological health and aquatic ecosystems within the watershed.

Okanogan and Wenatchee National Forest Roads Analysis: Naches Sub-Basin (Naches Ranger District, 2001) provides information to develop road systems that are safe and responsive to public needs and desires, are affordable, and efficiently managed, have minimal negative ecological effects on the land, and are in balance with available funding for needed management actions.

Existing Condition

The Existing Condition helps tell the story of the proposed action. The District looks at the difference between the existing condition and the desired future condition and develops the purpose and need for the project.

The existing state of the 1700 Road System is a concern for the aquatic habitat, the road structure, and for vehicular travel. In its current condition, the damaged roads and road shoulders are eroding into the adjacent channels. Without any stabilization of the damaged areas, the creeks and rivers will continue to reclaim the roads and associated road fill. The exposed damaged areas are also more susceptible to sustain damaged in future flood seasons. With multiple FSRs closed in one area, firefighting access is currently limited.

Hydrology, Fisheries, and Fire and Public Safety are the resources that are most affected by the existing condition of the 1700 Road System and are described here in more detail. For information on the current conditions of all of the resources, please see the project file.

HYDROLOGY

FSR 1700-416C and FSR 1703

Gold Creek at FSR 1700-416C has a drainage area of approximately 7.22 square miles or 4,621 acres. Normal bankfull flow levels are approximately 74 cubic feet per second (cfs) and the 100 year flood level is approximately 325 cfs. Average late summer baseflow levels are in the 1 to 2 cfs range. Elevation ranges from 2370 feet at the mouth up to 6100 feet at the headwaters near Bald Mountain. The average annual precipitation is 43 inches for the watershed.

The hydrology of Gold Creek watershed is dominated by snow accumulation in winter, spring snowmelt with the rise in stream flow and late summer low flow periods. Average annual precipitation is 43 inches which falls as predominately snow in the December to April winter period. Peak streamflow from snowmelt normally occurs during late-April thru mid-June. Some floodwater is stored in the flood plains along the creeks and adjacent riparian areas. The stored water contributes to later stream flow as well as base streamflow in the late summer, fall and winter. Streamflow drops rapidly, with summer low level in late-July or early August. Flow continues to slowly drop through September, as smaller tributaries and streams go dry. Maximum peak streamflows have resulted from rain-on-snow floods typically in the December to February period when warm winter-time storms with air temperatures over freezing promotes more rapid snowmelt along with the precipitation that immediately runs off. Summer convective storms may rarely occur in small localized areas and cause flooding or debris mobilization in more isolated areas.

Water Quality

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. Water quality standards are listed in WAC 173-201A-200. Water quality standards are established for temperature and turbidity along with a number of other constituents

The water quality criteria most likely to be affected by road repair activities are turbidity (via increased sediment in streams) and temperature (via riparian vegetation removal and compaction of shallow groundwater aquifers). Turbidity is a measure of optical clarity of water, and is measured in nephelometric turbidity units (NTUs). NTU readings increase as a function of particle size distribution and concentration, so sediment delivery to streams will increase NTU measures. State water quality criteria for waters on National Forest call for less than a 5 NTU increase (or 10% above background for streams greater than 50 NTU background). Generally, most streams in our region will have a lower than 50 NTU background.

303(d) Listings of Impaired Water Bodies

The general classification of WAC 173-201A-200 classifies all surface waters on National Forest system lands according to aquatic life uses is classified as core summer salmonid habitat. 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, Gold Creek is listed on the current 2012 303(d) list as impaired. The Naches River downstream of the analysis area is also listed for temperature. One segment which is listed is immediately downstream from the confluence with Gold Creek along with others that are further downstream. Water temperature is thus an important water quality parameter for this project.

Fine sediment in spawning gravels has not been monitored in the Gold Creek drainage. Soils within the planning area are primarily valley bottom alluvium and are mapped as the Logy silt loam soil series. This is a very coarse textured soil with rapid infiltration and permeability.

FSR 1704

The site is located immediately adjacent to the Naches River in the vicinity of Whistlin Jack Lodge. The Naches River at this site has a drainage area of approximately 400 square miles or 256,000 acres. Average annual precipitation is 67 inches which falls as predominately snow in the December to April winter period. Lower elevations of this drainage are considered to be within the rain-on-snow zone and subject to periodic high intensity winter rain storms resulting in rapid rates of surface water runoff and high streamflows. Normal bankfull flow levels are approximately 1,940 cubic feet per second (cfs) and the 100 year flood level is approximately 7,130 cfs. Average late summer baseflow levels are in the 300 to 400 cfs range. At this location, past flood events at the

10 or greater return period have typically resulted in damaged to the road surface and fill slopes.

FSR 1708

Forest Service Road 1708 mile posts 0.6-0.8, 1.9, and 3.9 are located in the Milk Creek drainage. The Milk Creek drainage is approximately 8,865 acres in area and is a tributary to the Naches River. Elevation ranges from 2530 feet at the mouth up to 6330 feet at the headwaters along Manastash Ridge. The average annual precipitation is 60 inches for the watershed.

The hydrology of Milk Creek watershed is dominated by snow accumulation in winter, spring snowmelt with the rise in stream flow and late summer low flow periods. Peak streamflow from snowmelt normally occurs during late-April through mid-June. Some floodwater is stored in the flood plains along the creeks and adjacent riparian areas. The stored water contributes to later stream flow as well as base streamflow in the late summer, fall and winter. Streamflow drops rapidly, with summer low level in late-July or early August and are expected to be in the 2 to 3 cfs range in lower Milk Creek during the instream construction period. Flow continues to slowly drop through September, as smaller tributaries and streams go dry. Maximum peak streamflows have resulted from rain-on-snow floods typically in the December to February period when warm winter-time storms with air temperatures over freezing promotes more rapid snowmelt along with the precipitation that immediately runs off. Summer convective storms may rarely occur in small localized areas and cause flooding or debris mobilization in more isolated areas.

Water Quality

The water quality criteria most likely to be affected by road repair activities are turbidity (via increased sediment in streams) and temperature (via riparian vegetation removal and compaction of shallow groundwater aquifers). Generally, most streams in the area will have a lower than 50 NTU background although Milk Creek has naturally high turbidity which normally exceeds this level.

303(d) Listings of Impaired Water Bodies

Milk Creek is not listed on the current (2012) 303(d) list as impaired. The Naches River several miles downstream of the analysis area is listed for temperature. Water temperature is thus an important water quality parameter for this project. At sites monitored by the Forest Service, water temperatures in lower Milk Creek have not exceeded state standards during the years of sampling.

Fine sediment in spawning gravels has not been monitored in the Milk Creek drainage although levels are probably high due to naturally high turbidity. Soils within the planning area are primarily valley bottom alluvium and are mapped as the Logy silt loam soil series. This is a very coarse textured soil with rapid infiltration and permeability. The Milk Creek drainage is located in historic landslide terrain and there are several active slow moving mass failures within the watershed.

FISHERIES

The Naches River is the main tributary of the Yakima River entering just north of the city of Yakima. It begins approximately 45 miles upstream at the confluence of the Bumping and Little Naches rivers. Major tributaries of the Naches River include the Tieton River and Rattlesnake Creek. With the exception of storage dams, which block upstream migration on the Bumping and Tieton rivers, fish are able to migrate freely within the system. Numerous smaller tributary streams also flow into the Naches River. Fish species in the system include resident rainbow trout, cutthroat trout, sculpin, Brook trout, and Bull trout. Anadromous fishes include Chinook, coho, and steelhead. Many areas within the Naches Ranger District provide important habitat for resident and anadromous fishes including ESA protected species. Gold Creek and Milk creek are not included in the distribution of habitat for these fish species.

FS 1700-416C intersects with Gold Creek at approximately river mile 0.15. According to USFS corporate GIS data, cutthroat trout are present in Gold Creek. Gold creek joins the Naches river 0.15 miles downstream from the project site This proposed project site is 0.15 miles upstream of MCR steelhead occupied and designated Critical Habitat (CH) and designated CH for Bull trout.

Milk Creek runs adjacent to FSR 1708 in some areas and is also a tributary to the Naches River. Forest Service stream surveys have identified that cutthroat trout are present. The frequency and distribution of other species of resident fishes in both Gold creek and Milk creek is undefined. It is likely that other resident species such as sculpin are present. The area at FSR1708 mile post 3.9 is documented as fishless.

Table I-4: Resident and ESA listed fish present at each project site.

Site	Resident fish present(confirmed)	ESA Listed fish present
1700-416C mp0.1 – Gold Creek	Cutthroat Trout	None
1703 mp2.0 – Gold Creek	Cutthroat Trout	None
1704 mp1.3 – Naches River	resident rainbow trout , cutthroat trout, sculpin, Brook trout, and Bull trout	Steelhead and Bull trout
1708 mp 0.0, 0.6-0.8, 1.9,	Cutthroat Trout	none
1708 mp 3.9	none	none

Habitat Overview

Woody Debris

Qualitative site surveys were done in the project areas during project planning on Gold Creek, and Milk Creek. They revealed variable wood loading levels. The loading levels in some areas are poor, resulting in a diminished capacity for the stream to achieve development of potential habitat. In the project areas the decreased levels of wood has resulted in decreased habitat complexity and availability for the resident fish populations.

The present amounts of Large Woody Debris (LWD) are likely to be within the natural range of variability (the natural range of variability for LWD is broad).

The adjacency of streams to roads is likely to have effected wood recruitment and retention over time. Where roads parallel streams they can directly reduce the ability of the stream to receive contributions from the immediately adjacent riparian reserves. Hazard tree removal for safety directly reduces potential woody debris contributions and over time has had a considerable effect.

Pools/riffles

A decrease in quality pool habitat is a decrease in quality fish habitat. In the absence of quality habitat, fish populations will be stressed and have lower growth rates, decreased vigor and decreased reproductive success leading to a smaller less healthy population. These streams have not been surveyed, so there is no data to contribute to this analysis. Field observations in both Milk and Gold creek showed variability in quantity and quality of pool habitat.

General Stream Channel Condition

Gold Creek is now recovering from a major debris flow that occurred during the 2011 storm event. Overtime the stream will recover to its pre-flood conditions. These changes will include less sediment in the water, regrowth of plants on the banks, and the stream bed will return it is pre-flood condition. Milk Creek and the Naches River are recovering from past natural and management induced changes that have resulted in lower quality fish habitat. In addition to having reduced quality, there is also reduced quantity of habitat. The historic morphological characteristics of the stream valley in both Gold Creek and Milk Creek are similar to the existing conditions and currently within the natural range of variation. The basic stream patterns, channel gradients, and physical channel complexities are largely influenced by the underlying geology. It is likely that the channels have not changed a great deal since the reference time frames, 100 years ago.

Water Quality for Fish

The physical conditions in the project area are described in the hydrology and report and this report will elaborate on those conditions in relation to habitat for fish. Stream

temperature, turbidity, stream peak and base flows, and chemical contamination were analyzed for the project area.

Sediment loads are within the natural range of variability. During low storm activity in the wet months the turbidity levels can increase which has a negative effect on aquatic species. Water quality is expected to vary through the wet periods of the year. At this time there is no evidence that peak flows have changed to the extent that fish have gained or lost habitat.

Fish Biological Parameters

Macroinvertibrate populations in Milk Creek and the Naches River appear normal in density and diversity as compared to other streams in this watershed. The population in Gold Creek appears to be suppressed at this time. It is likely to be the result of the debris flow. Over time the conditions will allow for the re-establishment of macroinvertibrates. None of the three fish species found on the Regional Foresters Sensitive Species (Table 1) list are known to be present in the project area and as such will not be discussed further in this analysis.

Bull trout (Threatened Species) are not found within Gold or Milk Creeks but they are present adjacent to FSR 1704. Mid-Columbia Steelhead (Threatened Species) are known to be present in the Naches River but Gold Creek and Milk creek are not included in designated critical habitat and are not expected to be occupied.

FIRE AND PUBLIC SAFETY

FSR 1700-416C does not provide essential access or egress for summer home group and/or National Forest Land. FSR 1703 is the main access to the Gold Creek drainage with the alternate route being FSR 1705. However, FSR 1705 has a berm in place near the intersection of the two roads which blocks immediate access to the Gold Creek drainage for vehicles. Because of the limited access, response time by ground resources to new wildfire starts is reduced. Under existing conditions FSR 1704 could be used as an option for an egress route in the event of a wildfire/natural disaster in the adjacent summer home tracts and private residence areas. However due to the condition of the road, this is not a viable option for all vehicles. Existing conditions of FSR 1708 have a greater impact on fire and public safety, as this is the main route accessing both the Milk Creek and Pine Creek drainages. Under the existing conditions, response time to new wildfire starts by ground resources is significantly reduced, egress time out of the drainage is significantly increased, and access to a main fire engine fill site near State Route 410 is currently blocked. Existing conditions also limits access to the district remote automated weather station.

Desired Future Condition

Project objectives and the desired future condition for the 1700 System Flood Repair project areas were derived from a variety of sources including federal and state laws and regulations. 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*).
- Road access is provided to developed sites to a service level comparable with their development level (*Wenatchee National Forest Plan*)
- Fish habitat within the Forest will be in at least as good condition as the current situation and should be improving. (*Wenatchee National Forest Plan*)
- Maintain safe access to 'preattack' and other fire administration sites along FSRs (*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 (Table I-5).

Table I-5: Need of the project area and subsequent purpose of the proposed action.

Need	Purpose
Address roads with serious damaged caused by a natural disaster or catastrophic failure (Federal Highway Administration, 2013). Damaged was sustained by May 2011 100-year flood event.	The project will address the damaged on the 1700 Road System.
Reduce road and stream interactions.	The project will strengthen the road embankment and road protection within the 1700 Road System. The project will minimize the release of sediment from the exposed damaged areas.
Maintain aquatic and wildlife habitat standards in respect to the Forest Plan and national direction.	The project will minimize the release of sediment from the exposed damaged areas. The project will meet aquatic and wildlife standards during project implementation.

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 1700 System Flood Repair project
- Which developed alternative will best meet the project's purpose and need

- If the project is to proceed, what design criteria, mitigation measures, and monitoring will best meet maintain riparian habitat, visual quality, recreation use, and various resource needs, objectives, and desired future conditions within the project area

Scoping Summary and Public Involvement

After the 2011 flood event, the sites along FSR 1700 Road System were granted Emergency Relief of Federally Owned Roads (ERFO) funding. For all of the 2012 and 2013 flood repair projects on the Naches and Cle Elum Ranger Districts, an Interdisciplinary Team was assigned.

The 2013 Flood Repair Project Proposals (scoping letter in Appendix A) contained the proposal for FSR 1700 Road System. The tribal scoping letter was sent to the Yakama Nation on July 10, 2012 and on July 20, 2012 the public scoping letter was sent to over 1,000 recipients. A complete summary of scoping efforts can be found in Chapter IV.

Issues Raised during Scoping

Public comments received during scoping on the FSR 1700-416C claimed that by decommissioning the crossing the Forest Service would limit safe access to cabin owners who would be forced to use the northern entrance. These comments were considered by the Ranger and the IDT and the repair suggested by the public is an Alternative Considered but Eliminated from Detailed Study. For more information see Chapter II page 2.

Other topics brought up in scoping that are addressed by Alternative A or B include safety concerns, firefighting access, travel access, illegal travel in closed areas, recreational access, hunting access, capital improvement retention, economics, wildlife habitat improvement, aquatic habitat improvement, access for allotment operations, and access for the elderly.

Unresolved Conflicts

No unresolved conflicts were identified.

CHAPTER II

Alternatives Considered

Introduction

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

Alternative Formation

Issues identified during scoping are used to 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 additional alternatives were developed. The range of alternatives presented addresses all topics raised in scoping.

Please note the letter organization of alternatives (Alternative A vs. Alternative B) does not suggest which alternative is preferred. Both alternatives reasonably meet the Purpose and Need and are developed in detail.

No Action Alternative

Under the No Action Alternative, the existing condition would continue. No repairs or road stabilization would occur and the roads that are currently closed would remain closed. For more information on the current condition, see the Existing Condition in Chapter I. Taking no action clearly does not meet the purpose and need for this project for the following reasons:

P&N 1: Address roads with serious damage caused by a natural disaster or catastrophic failure.
No action would result in concrete road blockages remaining at multiple locations. The limited access increases the response time to several areas in the 1700 system.

P&N 2: Reduce road and stream interactions.
No action would leave the damaged roads and road shoulders exposed and highly susceptible to more damage in the next flood season. The adjacent River or Creek will continue to degrade the road shoulders. This will cause additional damage to the roads and additional sedimentation into the stream. For more information, see Hydrology Specialist Report in the project file.

P&N 3: Maintain aquatic and wildlife habitat standards in respect to the Forest Plan and national direction.
No action would allow continued erosion of the roads into the channels, contributing asphalt and road fill at the damage sites. The roads would continue to be reclaimed by the adjacent River or Creek and erosion of chip seal asphalt road surface and fill material would be delivered into channel. For more information, reference the Fisheries Specialist Report in the project file.

Chapter III includes the effects of taking no action for all resources analyzed to enhance their description of the existing condition and/or their resource baseline. The No Action Alternative serves as a companion to the effects of the action alternatives.

Alternatives Eliminated From Detailed Study

- Repair FSR 1700-416C to Provide Through Access for Cabin Owners

The proposal was made to consider the action of repairing FSR 1700-416C during project scoping. Cabin owners that live in the summer home tract use FSR 1700-416C to drive from one side of the tract to the other (Figure II-1). Cabin owners claimed that this through access was important to them to access both sides of the tract. They also said that the second entrance, which now half of the owners must use with the road un-repaired, in unsafe.

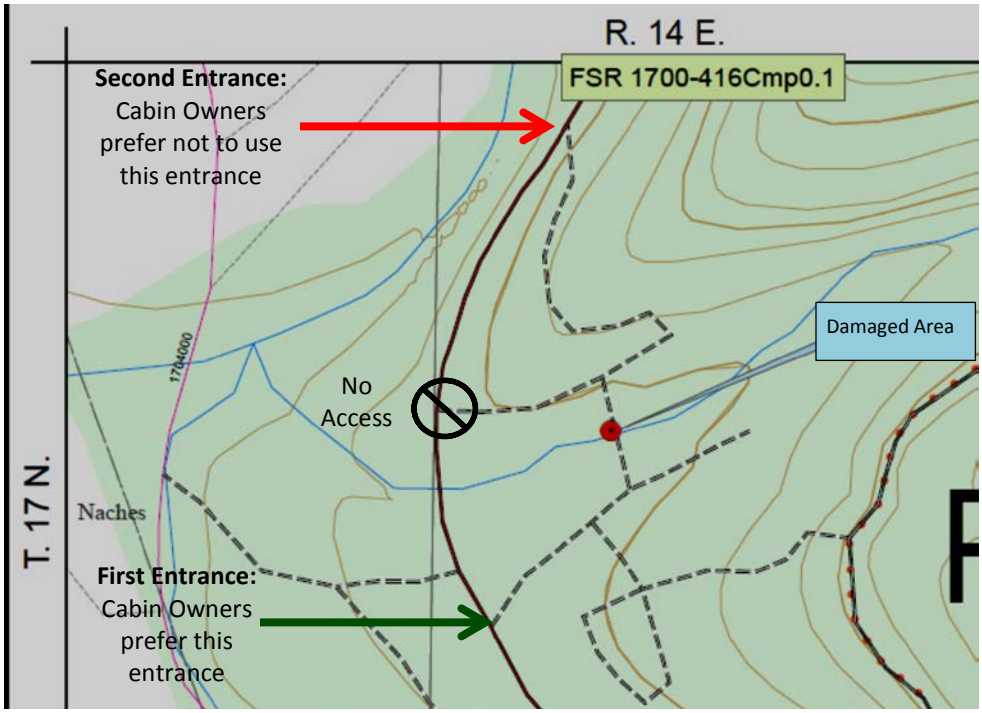

Figure II-1: FSR 1700-416C showing two current entrances to summer home cabins.

The Naches Ranger Station determined to eliminate this alternative from detailed study for the following reasons:

- The Forest Service is not limiting access to the area by not repairing the damaged crossing
- The Forest Service is not required to maintain motorized access or any FSRs in summer home tracts
- Recreational Cabin owners are allowed to complete NEPA and pay for road and entrance repairs
- Under both Alternative A and Alternative B the damaged crossing would be stabilized to prevent further erosion, thus meeting the project's purpose and need

Alternatives Developed in Detail

- Alternative A

Decommission crossings at FSR 1700-416C mp 0.1
Decommission crossing at FSR 1703 mp 2.0
Decommission portion of road on FSR 1704 at mp1.3
Repair and re-open FSR 1708

FSR 1700-416C mile post 0.1

Action: Decommission approximately 100 feet of the road, centered on the stream crossing. The two existing 48" culverts would be removed from the site. This would include removing road surfacing and fill, and stabilizing stream banks through the crossing. FSR 1700-416C would remain open on both sides of Gold Creek.

FSR 1703 mile post 2.0

Action: Close the road from approximately mp 1.9 to mp 2.2 allowing for adequate turn around areas at both locations. Decommission the crossing (approximately 1,500 feet) by stabilizing the steeply eroded stream banks and removing remaining road fill from within the stream floodplain. Remove the existing 60" culvert and other remaining road fill from the stream floodplain. Forest System Road 1703 would be open from Highway 410 to approximately mile post 1.9 and from the junction of FSR 1705 to approximately mile post 2.2.

FSR 1704 mile post 1.3

Action: Close approximately 2,000 feet of the road to motor vehicles. Within the 2,000 feet, remove two-thirds of the road surface width to prevent additional erosion. Leave the remaining one-third of road surfacing to function as a walking path. Vehicle turn-arounds would be made at each side of the closure. Forest System Road 1704 would remain open on both sides of the closure.

FSR 1708 mile post 0.6-0.8, 1.9, and 3.9

Action: Repair and fully re-open FSR 1708.

At mile post 0.6-0.8, turn the existing road to the rock borrow site into the main FSR 1708. Repair work will include upgrading the access road to the borrow site to meet Maintenance Level Three road standards (USDA 2005). Decommission the existing 1708 road between mp 0.6 and 0.8 (approximately 1000 feet. Decommissioning would include removing road fill from the stream floodplain, hardening portions of the stream bank near the road with rock and large woody debris, and re-vegetating the disturbed areas with mulch, locally prescribed grass seed mix, and shrubs.

At mile post 1.9, shift the road approximately 5 feet into the cut slope away from Milk Creek. Narrow the road to 14 feet in width through the site. The existing shape of road, where it failed, currently holds water and snow against the road wall. The road wall throughout the damaged site

will be shaped to shed water and snow. The road shoulder would be stabilized to prevent additional slumping.

At mile post 3.9, replace the existing culvert with a larger culvert (approximately 48 inches) within the same alignment. At the entrance to the culvert, remove aggregated streambed material and create a catch basin consisting of large rocks to guide stream flow into the culvert. Repair the eroded portions of the road.

- Alternative B

Decommission crossings at FSR 1700-416C mp 0.1
Repair crossing and re-open FSR 1703
Repair damaged road on FSR 1704 at mp1.3
Repair and re-open FSR 1708

FSR 1700-416C mile post 0.1- Same as Alternative A.

FSR 1703 mile post 2.0

Action: Repair road in previous location by shifting the stream to its pre-flood channel location. This would include reconstructing the road to its pre-flood alignment. Large wood and rock would be used to direct the stream back into its previous channel. Replace the existing 60" culvert with a bottomless arch approximately 25' wide. Remove trees that have been undercut from erosion that could potentially fall on the road. Any trees removed would be used in the streambank stabilization.

FSR 1704 mile post 1.3

Action: Repair road by reconstructing the eroded portion of the road and armoring the road shoulder with large rocks and woody debris. Reconstruct road surface to its pre-flood width.

FSR 1708 mile post 0.6-0.8, 1.9, and 3.9- Same as Alternative A.

Applicable Standards, Guidelines, and Best Management Practices

A summary of applicable Forest Service Standards and Guidelines and Best Management Practices is included in Appendix B of this analysis. This includes relevant standards from the 2005 USDA Forest Service Final Environmental Impact Statement and Record of Decision for Preventing and Managing Invasive Plants, the 2002 USDA Forest Service Okanogan and Wenatchee National Forest Weed Management and Prevention Strategy and Best Management Practices, the National Historic Preservation Act of 1966, and the USDA National Best Management Practices for Water Quality Management on National Forest System Lands.

If rare species of plants, bryophytes, lichens, or fungi (threatened, endangered, sensitive, Survey & Manage) are found during implementation of the project, a botanist would establish protection measures so these species are not impacted.

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.

Implementation Timeline

The Naches Ranger District plans to begin construction in July of 2013. In-stream work will only occur during the approved window of July 1st-August 15th. Construction is estimated to be completed by November 2014.

Summary of Alternatives and Accomplishment of Purpose and Need

Table II-1: Purpose and Need Alternative Summary

Need	Purpose	Alternative A -1700-416C- Decommission Site -1703- Decommission Site -1704- Close portion of road -1708- Repair and Re-open	Alternative B -1700-416C- Decommission Site -1703- Repair and Re-open -1704- Repair -1708- Repair and Re-open
Address roads with serious damage caused by a natural disaster or catastrophic failure (Federal Highway Administration, 2013). Damage was sustained by May 2011 100-year flood event.	The project will address the damage on the 1700 Road System.	This alternative will stabilize all of the damaged sites, decommission road portions that are not needed with adequate turn around areas, and re-open FSR 1708 for the public and forest managers.	This alternative will stabilize all of the damaged sites and re-open the majority of roads in the 1700 System for the public and forest managers.
Reduce road and stream interactions.	The project will strengthen the road embankment and road protection within the 1700 Road System. The project will minimize the release of sediment from the exposed damaged areas.	This alternative stabilizes and decommissions damaged areas to reduce road and stream interactions. Road crossings that are not necessary will be removed. Remaining road embankments will be armored within the project area.	This alternative stabilizes all damaged areas to reduce road and stream interactions. Remaining road embankments will be armored within project area.
Maintain aquatic and wildlife habitat standards in respect to the Forest Plan and national direction.	The project will minimize the release of sediment from the exposed damaged areas. The project will meet aquatic and wildlife standards during project implementation.	This alternative includes design criteria and best management practices that protect aquatic organisms and limit degradation of aquatic habitat. This alternative decommissions multiple road crossings and failed road portions to enhance the aquatic habitat.	This alternative includes design criteria and best management practices that protect aquatic organisms and limit degradation of aquatic habitat.

CHAPTER III

Environmental Consequences

Introduction

This chapter identifies the probable consequences of implementing Alternative A and Alternative B to the resources affected and the impacts of no action being taken. Chapter III summarizes the direct, indirect, and cumulative effects of the alternatives that may happen to a reasonably foreseeable extent. Each resource area will 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 of the respective resources. The resource areas detailed in this section are Hydrology, Fisheries, Wildlife, Botany and Invasive Species, Range, Fuels and Vegetation Management, Fire and Public Safety, Recreation, Special Uses, and Cultural Resources.

The effects of past activities are represented in the baseline for each 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". Noteworthy past activities include the previous grooming of FSR 1708 and 1703, the use of FSR 1708 mile post 0.0 as a snow park, and the Gold Spring Restoration Project (FSR 1703) in 2010.

Present and ongoing actions that would impact resources in the project area consist of:

- Road maintenance
- Recreation
- Sheep grazing and access to the Naches Allotment (applicable to FSR 1700-416C, 1703, and 1708). For more information see the Range effects analysis.
- Flask Timber Sale associated with FSR 1701, 1712, 1711 (south of the project areas)

Future foreseeable actions that would impact resources in the project area consist of:

- Grooming for snowmobiling (FSR 1708 and 1703) and re-opening snow park at FSR 1708
- Gold Spring underburn in the Spring Creek drainage (accessible by FSR 1708)
- Jigger Underburn (accessible by FSR 1702, south of the project area)
- Canteen Pile-burning and Underburn (accessible by FSR1702, south of the project area)
- 1702 System Flood Repair Project
- Okanogan-Wenatchee Forest Plan Revision and Travel Management (draft Environmental Impact Statements scheduled to be published in Summer 2013)

HYDROLOGY

No Action Alternative

FSR 1700-416C and FSR 1703

With the No Action Alternative, continued erosion of fill material would occur at the project sites on Gold Creek. Average annual high flow levels would continue to erode fine grained fill material, increase the undercutting of the existing road and further increase damage to the remaining travelway. Fine sediment input to Gold Creek would increase and opportunities to improve habitat features and streamside vegetation would not occur. At the 1703 site, the river has a headcut which is similar to a small waterfall within the stream and often signifies the channel is in an unstable state. With no action, the headcut would continue to move upstream until a stable channel gradient was achieved.

FSR 1704

With the No Action Alternative, continued erosion of road fill material would occur along the Naches River at the project site. Average annual high flow levels and larger flood events would continue to overtop the road surface and erode fine grained material. Fine sediment input to the Naches River would increase and opportunities to improve floodplain capacity in this reach of the river would not occur.

FSR 1708

With the No Action Alternative, continued erosion of fill material would occur at all the project sites. Average annual high flow levels would continue to erode fine grained fill material, increase the undercutting of the existing road and further increase damage to the remaining travel-way. Fine sediment input to Milk Creek would increase and opportunities to improve habitat features and streamside vegetation would not occur.

Effects of Alternative A on Hydrology

Direct and Indirect Effects

FSR 1700-416C

Stream flows are expected to be in the 1 to 2 cubic feet per second (cfs) range during the construction period and could easily be diverted around the work area within the existing channel. In channel work would thus be done in dry conditions. Sediment levels could be elevated slightly when higher winter water flows eroded stream banks that have not yet stabilized with vegetation. Any increase in sediment or turbidity levels would not be expected to be measurable downstream in the Naches River which is 0.25 miles away. Flows in the Naches River during the summer construction period are normally in the 300 to 400 cfs range. This

would result in a dilution factor of 150 times at a minimum for any sediment entering the Naches River from Gold Creek.

FSR 1703

Short term input of fine sediment would increase as a result of construction activities during decommissioning of road segments adjacent to the stream channel and removal of the culvert crossing. Any increase in sediment or turbidity levels would not be expected to be measurable downstream in the Naches River which is 1.3 miles away. In the long term as vegetation is reestablished in riparian areas, sediment input would decrease. Increased shading from riparian vegetation in the long term would maintain and slightly reduce stream temperatures.

Increases in fine sediment levels are expected to be minimized by dewatering of in-channel work areas during construction activities. Short term turbidity increases will occur during construction when water is diverted away from in-channel work areas. Turbidity increases are not expected to be measurable beyond a distance of approximately 1000 feet or less below the work site and will only occur for the period of time when actual in-channel work is happening. With Alternative A, short term turbidity increases would occur over a wider length of Gold Creek and construction activities would require a longer work period than for Alternative B. 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. For Alternative A, no measureable change in sediment or turbidity is expected as a result of construction activities 1.3 miles downstream in the mainstem Naches River either in the short term or long term. Flow levels in Gold Creek at the time of construction are expected to be in the 1 to 2 cfs range and flows in the Naches River would be approximately 300 to 400 cfs at this same time period. This would result in a dilution factor of 150 times at a minimum for any sediment entering the Naches River from Gold Creek.

In the long term with Alternative A, sediment increase in Gold Creek is expected to be reduced due to the improved floodplain capacity and removal of the undersized culvert.

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 removal of the road prism away from Gold Creek with Alternative A.

FSR 1704

Stream flows are expected to be in the 300 to 400 cfs range during the construction period but no work would be done within the existing channel. Sediment levels could be elevated slightly when higher winter water flows eroded stream banks that have not yet stabilized with vegetation. Any short term increase in sediment or turbidity levels would not be expected to be measurable 1000 feet or less downstream in the Naches River. In the long term, a slight but probably non-measurable reduction in sediment from this road segment is expected. The risk of future flood damage would be slightly reduced because removing fill material would provide more channel capacity at this site.

Two turn around areas would be newly constructed at the ends of the closed section of road. Both of these would be located within the riparian reserve of the Naches River but would primarily utilize existing disturbed area. Both of these are located on relatively flat ground and only minimal excavation and leveling would be required. Vegetated buffers between the turnarounds areas and the Naches River would remain which would filter any erosion off the gravel surfaced road.

FSR 1708

At the M.P. 0.6-0.8 site, road realignment through the existing rock pit will allow for restoration of approximately 1000 feet of floodplain. Road fill will be removed and streambanks stabilized with woody debris. All disturbed areas will be re-vegetated which will enhance riparian shading in the long term. Excavation in the road prism would be required to gain access to the lower portions of the damaged fill slope during decommissioning. The stream would be diverted away from the any in-channel work areas during construction in order to reduce the input of fine sediment.

At the M.P. 1.9 site, shifting and narrowing the road prism will reduce the risk of future flood damage in this segment. Reshaping the failed fill slope area will restore proper drainage and improve the stability at this site.

At the M.P. 3.9 site, this alternative would increase the size of the crossing structure with a culvert approximately 48 inches in diameter. Passage of flood flows and debris would be greatly improved.

During construction any increase in sediment or turbidity levels would not be expected to be measurable downstream in the Naches River which is over one mile away from all sites.

In the long term as vegetation is reestablished in riparian areas, sediment input would decrease. Increased shading from riparian vegetation in the long term would maintain and slightly reduce stream temperatures.

Increases in fine sediment levels are expected to be minimized by the dewatering of in-channel work areas during construction when water is diverted away from in-channel work areas 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 the work sites and only for the period of time when actual in-channel work is occurring. 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. For the action alternative at all sites, no measureable change in sediment or turbidity is expected as a result of construction activities downstream in the mainstem Naches River either in the short term or long term. Flow levels in Milk Creek at the time of construction are expected to be in the 2 to 3 cfs range and flows in the Naches River would be approximately 300 to 400 cfs at this same time period. This would result in a dilution factor of 100 times at a minimum for any sediment entering the Naches River from Milk Creek.

In the long term with either action alternative, sediment increases in Milk Creek 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 Milk Creek.

Cumulative Effects

Cumulative effects from past, current and foreseeable future activities are an important concern in the Naches Basin 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 6th field watershed scale. For the 1700, 1703, 1704, and 1708 Road system repairs there are private lands within or immediately adjacent to the analysis area and there are approximately 3,000 total acres of private lands or 17 percent of the Milk Creek watershed and 32 percent of the Gold Creek 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 and a closed canopy is established typically within 10 to 15 years.

Monitoring was conducted during construction repair of a flood damage site on the 1900 Road along the Little Naches River in the summer of 2012. This site had much higher flows (25 to 35 cfs) and was more difficult to dewater the in-channel construction area than is expected in Milk Creek or Gold Creek. Turbidity levels in the Little Naches River did not exceed state standards at any points further than 850 feet below the construction site during the repair activities.

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

The decommissioning of damaged segments and improved road fill stabilization designs with the action Alternative A would result in an incremental benefit to overall watershed condition and improvement to water quality. There would be a slight reduction in risk of future flood damage at the project sites. However, at the 6th 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. At the larger 5th field scale for the Naches watershed, the short or long term changes to sediment or stream temperatures would not be measurable.

Effects of Alternative B on Hydrology

Direct and Indirect Effects

FSR 1700-416C

Same as Alternative A

FSR 1703

This Alternative includes design and habitat features which should reduce the risk of future road fill erosion at the 2.0 site. This alternative would increase the width of the crossing structure with a bottomless arch approximately 25 feet wide. Passage of flood flows and debris would be greatly improved. Rock and wood structures would be designed to stabilize the stream channel and reduce the risk of scour in the recent flood and debris slide material. Excavation in the road prism would be required to gain access to the lower portions of the damaged fill slope during repair. The stream would be diverted away from the worksite during construction of the lower portions of the block wall in order to reduce the input of fine sediment. Any increase in sediment or turbidity levels would not be expected to be measurable downstream in the Naches River which is 1.3 miles away.

Increases in fine sediment levels are expected to be minimized by dewatering 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 the work site and only for the period of time when actual in-channel work is occurring. 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. For this action alternative, no measureable change in sediment or turbidity is expected as a result of construction activities 1.3 miles downstream in the mainstem Naches River either in the short term or long term. Flow levels in Gold Creek at the time of construction are expected to be in the 1 to 2 cfs range and flows in the Naches River would be approximately 300 to 400 cfs at this same time period. This would result in a dilution factor of 150 times at a minimum for any sediment entering the Naches River from Gold Creek.

In the long term with this action alternative, sediment increase in Gold Creek is expected to be reduced due to the improved floodplain capacity and increased size of the culvert crossing.

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 widening of the crossing structure on Gold Creek.

FSR 1704

Repairing the damaged road segment would require placement of large rock and riprap within the active channel of the Naches River and gravel on the road surface. Because of the proximity of the road to the active channel and the valley confinement in this reach, risk of future flood damage would be high. Water levels would typically be at or above the road surface for 10 year or greater return period flood events and loss of road surface and fill slope material could be expected to occur. Short term turbidity increases would occur during the placement of riprap material within the wetted channel.

FSR 1708

Same as Alternative A

Cumulative Effects

Cumulative effects from past, current and foreseeable future activities are an important concern in the Naches Basin 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 6th field watershed scale. For the 1700, 1703, 1704, and 1708 Road system repairs there are private lands within or immediately adjacent to the analysis area and there are approximately 3,000 total acres of private lands or 17 percent of the Milk Creek watershed and 32 percent of the Gold Creek 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 and a closed canopy is established typically within 10 to 15 years.

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

The decommissioning of the damaged crossing on the 1700-416C Road, improved road fill stabilization designs, and larger crossing structures at the 1703, and 1708 M.P. 3.9 sites with the action Alternative B would result in an incremental benefit to overall watershed condition and improvement to water quality. There would be a slight reduction in risk of future flood damage at the project sites but not as great as Alternative 1. However, at the 6th 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. At the larger 5th field scale for the Naches watershed, the short or long term changes to sediment or stream temperatures would not be measurable.

Consistency Findings for both Alternatives A and B

The following Consistency Findings are similar for both action alternatives at all the projects sites.

Gold Creek and the Naches River downstream of the planning area have been designated as water quality limited (category 5) for temperature on the current (2012) Washington State 303(d) list. This project would have no effect on the stream temperatures within the planning area or the downstream segments of the 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.

Because the Best Management Practices (BMP's) included in Appendix B would be fully implemented and have 90 percent or greater effectiveness, water quality standards and the anti-degradation policy (Chapter 173-201A WAC) are expected to be met with the Proposed Action. The 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.

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.

FISHERIES

Listed below are the aquatic species that are to be considered in this analysis. The full Biological Evaluation for Fisheries can be found in the project file.

Table III-1. List of Proposed, Endangered, Threatened, or Sensitive (PETS) Fish Species found on the Okanogan Wenatchee National Forest

Endangered Species Act ***Listing by ESU***	**Date of Listing**	**Suitable Habitat Present**	**Species Present**	**Effects of Actions** Alternatives	
Threatened				Proposed Action	Alternative Action
Columbia River Bull Trout (*Salvelinus confluentus*)	6/98; 11/99	Yes	0.15 miles down stream	MA LAA	MA LAA
Middle Columbia River steelhead (*Oncorhynchus mykiss*)	3/99	Yes	0.15 miles down stream	MA LAA	MA LAA

Endangered Species Act ***Listing by ESU***	**Date of Listing**	**Suitable Habitat Present**	**Species Present**	**Effects of Actions** Alternatives	
Region 6 Forester's Sensitive Species					
River lamprey *(*Lampetra ayresii*)*	12/11	yes	No	NI	NI
Pygmy whitefish *(Prosopium coulterii)*	12/11	No	No	NI	NI
Umatilla dace (*Rhinichthys umatilla*)	12/11	Yes	No	NI	NI

Abbreviations/ Acronyms**:**

MA LAA	May Affect Likely to Adversely Affect
NE	No Effect
Unk	Species presence unknown but suspected
NI	No Impact
MIIH	May impact individuals or habitat, but would not likely contribute to a trend towards Federal listing or loss of viability to the population or species

Aquatic Resource Indicators

The following indicators would be used as measures of project effects on aquatic habitat and species and are addressed specifically throughout the remainder of this analysis:

1. Distance to Occupied Listed Fish Habitat(miles)
2. Distance to Proposed/Designated Critical Habitat(miles)
3. Length stream bank improved (miles)
4. Area of floodplain restored (acres)
5. Downstream distance of temporary increased turbidity during construction(miles)
6. Magnitude of increased turbidity (increased number of NTUs)

An analysis of potential pathways for project related effects on the fisheries resource identified four areas needing to be addressed. They include sediment/turbidity, chemical contaminants, and large woody debris (LWD). The indicators described above informed the analysis for pathways and their values provide for a means to measure effects on fish. Potential water quality degradations such as increases in temperature, turbidity/sediment, or chemical contaminants has biologically relevant effects to fish. If they occur, the proximity of those changes to fish is important to consider. LWD provides important physical and biological services for fish, and changes in this habitat forming stream component can have measurable impacts for fish. In this analysis the indicator of number of miles of stream bank restored informs changes to the LWD conditions.

No Action Alternative

The no action alternative was not fully developed for any project sites. If it were to be implemented erosion (and the resulting increases in turbidities) would continue at these sites which would negatively impact aquatic species. As the road continues to erode into the stream, fine materials can fill pools and interstitial spaces in the stream bed which results in the degradation of habitat and potentially negative effects to fish and other aquatic species. The extent of continue erosion would be drive by stream flows, site geology, and storm events.

Effects of Alternative A on Fisheries

Direct and Indirect Effects:

Table III-2: Aquatic Indicator values for Alternative A.

Indicators						
Proposed Sites	Distance to Occupied Listed Fish Habitat(miles)	Distance to Designated Critical Habitat(miles)	Length stream bank improved (feet)	Area of floodplain restored (sq ft.)	Downstream distance of temporary increased turbidity during construction(feet)	Magnitude of increased turbidity (increased number of NTUs)
1700-416C	0.15	0.15	150	2500	1000	<5
1703 mp2.0	1.5	1.5	1000	1,000	1000	<5
1704 mp1.3	0	0	90	0	250	<5
1708 mp 0.6-0.8	0.6	0.6	400	3000	750	<5
1708 mp 1.9	2	2	0	0	0	<5
1708 mp 3.9	3.2	3.2	0	0	500	<5

Sediment and Turbidity Effects

Table III-3: Sediment and Turbidity effects for each project area

Site	Effect on Sediment and Turbidity of Alternative A
1700-416Cmp0.1	The removal of the culverts and stabilization of the banks will result in some short term increases in turbidity which will have a localized effect to any aquatic species which are present in the area which is involved in the plume. As the area heals residual increases in construction related sediment will decrease, and in the long term return to the pre-construction levels.
1703mp2.0	The construction related increases in sediment will have negative effects to aquatic species. Over time as the site recovers the contributions of sediment will decline back to natural levels.

Site	Effect on Sediment and Turbidity of Alternative A
1704mp1.3	No work will be done in the existing channel of the Naches River. If flows increase to reach the elevation where work occurred an immeasurable amount of sediment could be liberated into the active channel. This amount is expected to be negligible and discountable.
1708mp 0.6-0.8, 1.9	Construction related impacts include a localized increase in turbidity. This would have a negative effect on fish or other aquatic species which are present. During construction any increase in sediment or turbidity levels would not be expected to be measurable downstream in the Naches River. In the long term as vegetation is reestablished in riparian areas, sediment input would decrease. Increased shading from riparian vegetation in the long term would maintain and slightly reduce stream temperatures.
1708mp 3.9	There are no expected effects to fish at this site. The repair is on a non-fish bearing tributary and effects are not expected to extend downstream to fish bearing waters. Any aquatic species present at the site could be affected as a result of construction related increases in sediment.

Long term decreases in sediment as a result of repair or decommissioning would have a beneficial effect for fish.

Petro Chemical Contamination

Petro chemical contamination opportunities associated with this project and resulting negative impacts to fish are expected to be unchanged from the existing condition. Any contract work will be done according to current BMPs. All equipment would be washed prior to any in-water work, and typical practices to prevent opportunities for spills will put in place. Spill response protocols will be designated in the contracts. The lack of petrochemical contamination expected results in no effects to fish.

Temperature

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, decommissioning, and repair work. Decreased temperatures would have a beneficial effect for fish.

Large Woody Debris

In areas where the crossings are decommissioned and the stream bank is allowed to recover there would be positive improvements to the system's ability to function for woody debris. In areas

where the crossing is repaired there would be no change from the pre-existing condition. Positive changes in woody debris processes would result in more wood in the stream and better conditions for fish and other aquatic species.

Table III-4: Large Woody Debris finding at each project site.

Site	Large Woody Debris
1700-416Cmp0.1	The crossing would be decommissioned and the processes by which woody debris is contributed to streams would incrementally be restored. This would have a long term beneficial effect for fish and aquatic species.
1703mp2.0	The crossing and a large section of road would be decommissioned and stabilized. The long term positive effects are the same as what is described for the 1700-416C site.
1704mp1.3	There will be no change to this indicator at this site and as such no effect to fish.
1708mp 0.6-0.8	The long term positive effects of moving the road away from Milk Creek at this site are the same as what is described above(1700-416C).
1708mp 1.9	This repair of this site will not result in a change from the baseline and will have no change to fish or aquatic species.
1708mp 3.9	The road crossing would be repaired and there would be no change from the baseline condition for this indicator.

Cumulative Effects

The scale of this analysis is the watershed (Lost Creek-Naches River) as this is the location of the proposed treatment areas and where effects to aquatic resource would most likely manifest themselves. Effects would not extend downstream outside of this sub watershed. This watershed has a history of management actions that have impacted the terrestrial and aquatic condition and these actions are outlined in the beginning of this chapter. Alternatives A and B when analyzed against past actions will have a positive cumulative effect as it restores conditions to a more natural state than currently exists.

Reasonably foreseeable actions in this watershed in combination with this action would result in increased sedimentation, petro chemical contamination, or temperature changes. Ongoing roads impacts would have the greatest effect in terms of a chronic sediment source. Although the actual amount of erosion and subsequent sediment generation is difficult to predict it is safe to assume that the long term quantities would far exceed the amount generated from this project. This is not necessarily a reflection of land management practices associated with foreseeable actions but rather the sheer scale of these activities across the watersheds compared to the proposed action.

Other project-associated activities listed on page III-1 would also contribute fine sediment at times, depending on their location, project design, and implementation timing. Although the

potential sediment generated from Alternative A or Alternative B would contribute to the overall sediment load, both naturally and human caused, the amount would be immeasurable compared to other sources (with the exception of the temporary period of construction).

Petrochemical contamination, and potential water temperature increases, resulting from the activities listed on page III-1 may occur at site specific locations across the watershed. Over time, as already degraded riparian vegetation recovers the overall shading, at least within the Okanogan Wenatchee National Forest, temperatures would likely decrease. Since shade reductions as a result of the proposed actions are discountable, this project would not contribute to a cumulative decrease in stream shading and temperature increases.

Effects of Alternative B on Fisheries

Direct and Indirect Effects*:*

Table III-5: Aquatic Indicator values for Alternative B.

Indicators						
Proposed Sites	Distance to Occupied Listed Fish Habitat(miles)	Distance to Designated Critical Habitat(miles)	Length stream bank improved (feet)	Area of floodplain restored (sq ft.)	Downstream distance of temporary increased turbidity during construction(feet)	Magnitude of increased turbidity (increased number of NTUs)
1700-416C	Same as Alternative A					
1703 mp2.0(Repair)	1.5	1.5	1000	0	1000	<5
1704 mp1.3(Repair)	0	0	90	0	1000	<5
1708 mp 0.6-0.8, 1.9 & 3.9	Same as Alternative A					

Sediment and Turbidity Effects

Table III-6: Sediment and Turbidity effects for each project area

Site	Effects on Sediment and Turbidity for Alternative B
1700-416C mp0.1	Same as Alternative A.
1703 mp2.0	The effects of construction are the same as Alternative A but would be of a larger scale. The reinstallation of the road at this site could result in higher degrees of sediment input and as a result a larger effect to fish would occur. In the long term road related sedimentation would continue having negative effects for fish and aquatic species.
1704 mp1.3	Construction related effects would be similar to Alternative A.

	The repair of the road would have limited impacts to fish and aquatic species at this site. The long term effects of the persistence of the road at this site would have negative effects for fish and aquatic species. The road produces sediment which is delivered to the Naches River. This process would continue and so would the negative effects to fish.
1708 mp 0.6-0.8, 1.9	Same as Alternative A.
1708 mp 3.9	Same as Alternative A.

Long term decreases in sediment as a result of repair or decommissioning would have a beneficial effect for fish.

Petro Chemical Contamination and Temperature

The analysis for petro chemical contamination and Temperature is the same for Alternative B as is it is for Alternative A above.

Large Woody Debris

In areas where the crossings are decommissioned and the stream bank is allowed to recover there would be positive improvements to the watershed's ability to function for woody debris. In areas where the crossing is repaired there would be no change from the preexisting condition. Positive changes in woody debris processes would result in more wood in the stream and better conditions for fish and other aquatic species.

Table III-7: Large Woody Debris finding at each project site.

Site	Large Woody Debris
1700-416Cmp0.1	Same as Alternative A.
1703mp2.0 Creek	The repair of this site would result in a continued disruption of the processes which allow for woody debris to enter the system at this location. Decreases in woody debris have negative effects for fish and aquatic species.
1704mp1.3	The repair of this site would have no impacts on this indicator beyond the existing condition. The system would continue to have reductions in its capability to function and the negative effects to fish and aquatic resources would continue.
1708mp 0.6-0.8, 1.9, & 3.9	Same as Alternative A.

Cumulative Effects

Cumulative Effects for Alternative B are the same as Alternative A.

Determinations for both Alternative A and Alternative B

The implementation of both alternatives would be consistent with the determinations as described below. The project would be implemented with Best Management Practices (BMPs) in place. Given the known and suspected distribution of aquatic Proposed, Endangered, Threatened, and Sensitive (PETS) species, this project would have a limited effect on aquatic PETS species or habitat. Potential impacts associated with increased sedimentation would be short term in nature (increased turbidity) or cause slight, site specific habitat degradation with some potential impacts to individuals. Stream shading, and thus water temperatures, would not be impacted as a result of these actions. There would be no irretrievable or irreversible commitment of aquatic resources.

The condition of forest roads and riparian areas would improve following treatment in both Alternative A and Alternative B, leading to improved aquatic conditions. This should lead to direct improvements in stream and riparian conditions given the improvements to flood plains and road relocation work planned. There would be an aquatic environment benefit from an improved transportation system. Channel conditions in these streams should improve over time as they recover.

Determination of Effects Including Essential Fish Habitat

Proposed activities in this project "May Affect, but are Not Likely to Adversely Affect" Federally listed (or proposed) fish species MCR Steelhead and Bull trout and designated critical habitat. The effects are isolated to the work being conducted at the 1700 416C mile post 0.1 site. No action is being analyzed at the other sites which would result in any adverse effects. Essential fish habitat would not be adversely affected. Proposed activities would not impact interior river lamprey, pygmy whitefish and Umatilla Dace individuals or habitat, and would not likely contribute to a trend towards Federal listing or loss of viability to either population or species. This determination is based on the known distribution of these species and their lack of presence in the project area.

Table III-8: Sensitive Species for the Okanogan-Wenatchee National Forest and effect determinations for project level analysis for the 1700 System Flood Repair Project

Fish Species	Special Status	Known to Occur in the Project Area	Suitable Habitat in the Project Area	*Determination
River lamprey (*Lampetra ayresii)*	Forest Service Sensitive Species	No	Yes	NI
Pygmy whitefish (*Prosopium coulterii*)	Forest Service Sensitive Species	No	No	NI

Fish Species	Special Status	Known to Occur in the Project Area	Suitable Habitat in the Project Area	*Determination
Umatilla dace (*Rhinichthys umatilla*)	Forest Service Sensitive Species	No	Yes	NI

*Sensitive Species NI = No impact
BI = Beneficial impact
MAII = May adversely impact individuals, but not likely to result in a trend toward federal listing or loss of viability
LII = Likely to impact individuals and result in a trend toward federal listing or loss of viability

Determination of Project Consistency with the Northwest Forest Plan

Standards and guidelines from the NWFP plan were reviewed prior to project development and integrated into the project design for all alternatives. The Proposed Project is consistent with this direction.

Determination of Project Consistency with the Aquatic Conservation Strategy

This project prescribes management within the riparian reserves. The alternatives were designed to maintain the existing condition or improve conditions. This may involve some short term negative effects that would be offset by long term improvements: "complying with the Aquatic Conservation Strategy objectives means that an agency must manage the riparian-dependent resources to maintain the existing condition or implement actions to restore conditions" (NWP ROD pg. B-10). The pertinent sections of the ACSOs are provided below as well as a description as to how this project meets them.

Forest Service administered lands within the range of the northern spotted owl will be managed to:

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

Alternative A will work to maintain the distribution of aquatic species as it does not create any barriers to distribution, or reductions in the populations' ability to naturally be diverse. The decommissioning of crossings or repair of them will result in passable waterways. The project will not create reductions in complexity above what was previously on site, it will enhance complexity in sites where crossings are decommissioned. The repairs on the 1708 will not result in barriers or decreases in complexity from the pre flood conditions.

> *"2. Maintain and restore spatial and temporal connectivity within and between watersheds. Lateral, longitudinal, and drainage network connections include floodplains, wetlands, upslope areas, headwater tributaries, and intact refugia. These network connections must provide chemically and physically unobstructed routes to areas critical for fulfilling life history requirements of aquatic and riparian-dependent species."*

This project will maintain the values described above in ACSO #2. The repair action for the 1708 works to maintain the pre flood levels by bringing the conditions back to what was present prior to the flood events which eroded the road. There will be some improvements for this objective as the stream bank is stabilized.

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

The alternatives are designed to maintain, restore the pre flood conditions, or improve site conditions. They will arrest the existing erosion conditions which are resulting in loss of integrity of the banks

> *"4. Maintain and restore water quality necessary to support healthy riparian, aquatic, and wetland ecosystems. Water quality must remain within the range that maintains the biological, physical, and chemical integrity of the system and benefits survival, growth, reproduction, and migration of individuals composing aquatic and riparian communities."*

The alternatives are designed to maintain or restore water quality through the arrest of erosion at these sites and the restoration of stream banks. Specific project design criteria, BMPs, and mitigations are incorporated to reduce short term construction related effects and the long term results for both action alternatives are an improvement to the existing condition of eroding banks.

> *"5. Maintain and restore the sediment regime under which aquatic ecosystems evolved. Elements of the sediment regime include the timing, volume, rate, and character of sediment input, storage, and transport."*

Both action alternatives are designed to maintain or restore the sediment regime at the same level as what existed pre flood or at an improved level. The current sediment regime is within the natural range of variability and falls within the boundaries of what could be expected to occur during the evolution of the system

> *"6. Maintain and restore in-stream flows sufficient to create and sustain riparian, aquatic, and wetland habitats and to retain patterns of sediment, nutrient, and wood routing. The timing, magnitude, duration, and spatial distribution of peak, high, and low flows must be protected."*

The alternatives are designed to maintain the in stream flows and will have no measurable influence on peak and base flows beyond the reach scale. The nature of the work for all alternatives will not influence this process.

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

The alternatives are designed to maintain or restore the current levels of floodplain inundation at the pre flood levels. There are no project elements which will prevent the inundation of floodplains at a level higher than what previously existed.

> *"8. Maintain and restore the species composition and structural diversity for 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. Riparian vegetation may be degraded at the site in the short term for equipment access, but this would affect a very small area. The riparian plant condition would be returned to the pre-flood condition. For more information, see the Botany effects analysis on page III-32.

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

This project is expected to slightly restore this objective at the project and watershed scale. In the short term, the construction activities associated with the proposed actions in Alternative A and B may slightly degrade this objective, however, the long term impacts of stabilized roadways presented in both alternatives will maintain and slightly restore this objective. For more information of riparian-dependent species, see specialist reports for Wildlife, Botany, and Fisheries.

Determination of Project Consistency with the Wenatchee National Forest Land and Resource Management Plan (LRMP)

All goals and standards/guidelines from the LRMP were reviewed prior to project development and integrated into the project design for all alternatives. All alternatives are consistent with this direction. The Management Indicator Species (MIS) fish groups identified in the LRMP would continue to persist as viable populations if this project is implemented.

Determination of Project Consistency with the Endangered Species Act

This project has been designed to promote the conservation of ESA-listed Bull trout and Middle Columbia steelhead habitat. This project would not jeopardize the continued existence of BT or MC Steelhead, or result in the destruction or adverse modification of designated critical habitat. This project is therefore consistent with ESA direction.

Determination of Project Consistency with the Magnuson-Stevens Fishery Conservation and Management Act

All streams currently or historically occupied by spring Chinook and Coho salmon in the project area have been designated as essential fish habitat by the NMFS. No negative effects to occupied and critical habitat are predicted to occur with this action. This project is consistent with the MSA.

Determination of Project Consistency with Executive Order 12962

Recreational fishing is an identified use in the analysis area. This project would not result in any appreciable reduction in the fish population numbers or otherwise negatively affect the fishing opportunity. This project is consistent with this Order.

Determination of Project Consistency with Executive Order 11988

Floodplains are present in the analysis area. This project would restore and preserve the natural and beneficial values served by floodplains. This project is consistent with this Order.

Determination of Project Consistency with Executive Order 11990

This project would minimize destruction, loss or degradation of wetlands. Streamside Riparian Reserves, seeps and other wet habitats were assessed. This project is consistent with this Order.

Summary for Fisheries Effects Analysis

This project proposes to improve and restore approximately 1,500 feet of stream banks, replace and improve two road stream crossings, and repair a slumped section of road. Approximately 6,500 sq. feet of riparian reserves would be improved. Some construction related short term low magnitude increases in sediment delivery to the streams would occur. The temporary negative impacts will result in long term positive effects for fish. This project is consistent with national and Forest Service direction.

WILDLIFE

Unlike the other resource sections in Chapter III, wildlife will be divided up by species or species group. Under each grouping, effects of each alternative will be displayed. Required consistency findings will also be disclosed in each section. For a list of wildlife species considered and the complete specialist report, refer to the project file.

The 1700's ERFO project area (project area) provides habitat for wildlife, ranging from talus to riparian habitat and dry ponderosa pine/Douglas fir forest to dry grand fir habitats. Although the road itself does not provide habitat for any wildlife species, the buffered area provides habitat for a few rare species including federally listed and Regional Forester's Sensitive Animal species (USDA Forest Service

2011b). The Forest has identified several animals as Management Indicator Species (MIS) in Wenatchee Land and Resource Management Plan (LRMP). The project area provides habitat for a few MIS and neotropical migratory birds of concern. For a list of species considered refer to specialist report.

No Action Alternative

The road closures resulting from the flood event on FSR 1708 are effective and have increased security habitat from baseline condition within the entire Milk Creek sub-basin. Therefore, the No Action Alternative would continue to provide security habitat in the Milk Creek basin; benefiting wildlife species such as the gray wolf, North American wolverine, deer and elk. For all other FSR 1700's sites, vehicle traffic and human presence occurs beyond the road closures providing no additional security habitat. Therefore security habitat would remain at baseline condition (prior to the 2011 flood damage). Under the no action alternative there would be no change to the ambient noise levels, human activity and no removal/alteration of habitat. This would result in no direct, indirect or cumulative effects to all other Proposed Endangered or Threatened Species (PETS), Management Indicator Species (MIS) or Survey and Manage (S&M) wildlife species or migratory bird species.

Threatened, Endangered, and Sensitive Species

Regarding federally listed species; the project area does not occur within the documented range for the marbled murrelet and is located outside of the Grizzly Bear Recovery Zone. Only one site (FSR 1703 MP 2.0) is located within a Lynx Analysis Unit (Manastash Ridge LAU), however it does not occur within mapped Canada lynx habitat. The 1700's ERFO does not occur in wolverine denning habitat (Copeland and Harris 1993); however one site (FSR 1703 MP 2.0) is located in wolverine source habitat. The 1700's ERFO project will not affect species that do not occur and habitat that is not present within or adjacent to the project area. Therefore the grizzly bear, Canada lynx, marbled murrelet, Designated Critical Habitat for the Canada Lynx, and Pacific fisher will be discussed no further. Federally listed species whose habitat and/or presence exist within the project area include the gray wolf, North American wolverine, northern spotted owl and Designated Critical Habitat for the northern spotted owl.

The Project will have "No impact" on sensitive species that do not occur and habitat that does not exist within the project area. These sensitive species will not be discussed further within this analysis. The sensitive species whose habitat and/or presence exist within the project area include the shiny tightcoil, American peregrine falcon, and bald eagle. Although shiny tightcoil habitat, in the form of talus occurs within the project area (FSR 1704) none of the proposed actions will disturb or alter talus habitat. No risk factors were concluded for the shiny tightcoil and no further discussion will occur.

PEREGRINE FALCON

Although a peregrine falcon eyrie is located within ¼ mile of FSR 1704 site, this eyrie has been inactive for over 5 years and the project site is located within a high human use area. No risk factors were concluded for the peregrine falcon and no further discussion will occur.

BALD EAGLE

Since project implementation will not take place during the bald eagle use period (October 31 through March 31), there will be little to no displacement to wintering bald eagles anticipated as

a result of implementing the proposed FSR 1700's ERFO Flood Road Repair project. No risk factors were concluded for the bald eagle and no further discussion will occur.

Therefore, the gray wolf, North American wolverine, Northern spotted owl and Designated Critical Habitat for the Northern Spotted Owl are TES species that could potentially be affected by the proposed FSR 1700's ERFO Flood Road Repair project and thus will be discussed further in this analysis.

GRAY WOLF & NORTH AMERICAN WOLVE-RINE

Effects of Alternative A on Gray Wolf and North American Wolverine

This analysis will evaluate potential for displacement of dispersing individual wolves and wolverine. Indicators used to measure effects of the project will be the increase of human presence, changes to security habitat, and open road density. Since no wolf den or rendezvous sites have been documented on the Naches Ranger District and the proposed 1700's project area does not occur within wolverine denning habitat, potential for disturbance to wolves and wolverines during denning period will not be an indicator used to measure effects in this analysis.

Direct and Indirect Effects

Alternative A would not change the existing or baseline condition for security habitat or open road density. Motorized vehicles would continue to access the road systems beyond decommissioned sections by other road systems. There would be no long term direct or indirect effects to the gray wolf or North American wolverine as a result of decommissioning the above listed sites within the 1700's project area. However a short term effect may occur as a result of implementation. The decommission work may result in localized displacement to wolves, wolverine and their prey due to the increase of human presence. Mitigations are in place to reduce displacement potential if wolf den or rendezvous sites are found within or near project (Conservation Measures 1&2 within Wildlife Specialist report). Implementing the decommissioning work is expected to have minimal effects to the wolf and wolverine since these species are highly unlikely to be present within the project area during the implementation (non-winter) periods. Therefore, Alternative A was determined to "May Affect, Not Likely to Adversely Affect the gray wolf", "Not Likely to Jeopardize the Continued Existence of the North American wolverine".

Cumulative Effects

Due to the small scale and timing of this project the probability of effects to the gray wolf, California wolverine are so low that it could not be added to those from other ownerships, or other Forest Service past, present or future projects including all EFRO Flood Road Repairs, in a meaningful way. Therefore, Alternative A will have no meaningful cumulative effects to the gray wolf, or North American wolverine.

Effects of Alternative B on Gray Wolf and North American Wolverine

Direct and Indirect Effects

Repairing 1703 MP 2.0, 1704 and 1708 (MP 0.0, 0.6, 0.8, 1.9, 3.9) would not change the baseline condition for security habitat or open road density. Motorized vehicles would continue to access the road systems as they did prior to the 2011 flood. There would be no long term direct or indirect effects to the gray wolf or North American wolverine as a result of repairing the above listed sites within the 1700's project area. However, short term effects may occur as a result of implementation. The repair work may result in localized displacement to wolves, wolverine and their prey due to the increase of human presence. Mitigations are in place to reduce displacement potential if wolf den or rendezvous sites are found within or near project (Conservation Measures 1&2 within Wildlife Specialist report). Implementing the repair work is expected to have minimal effects to the wolf, and wolverine since these species are highly unlikely to be present within the project area during the implementation (non-winter) periods. Therefore Alternative B was determined to "May Affect, Not Likely to Adversely Affect the gray wolf", "Not Likely to Jeopardize the Continued Existence of the North American wolverine".

Cumulative Effects

Due to the small scale and timing of this project the probability of effects to the gray wolf and California wolverine are so low that it could not be added to those from other ownerships, or other Forest Service past, present or future projects including all EFRO Flood Road Repairs, in a meaningful way. Therefore, the Alternative B will not create any meaningful cumulative effects to the gray wolf, or North American wolverine.

NORTHERN SPOTTED OWL AND CRITICAL HABITAT

Effects of Alternative A on Northern Spotted Owl and Designated Critical Habitat

All of the flood damage sites in the FSR 1700's project area occur within 0.25 mile of un-surveyed spotted owl nesting, roosting, foraging (NRF) habitat except for SFR 1704 site. Sites FSR 1700-416C, 1703 (MP 2.0), and 1708 (MP 0.0, 0.6, 0.8, 1.9, 3.9) occur within Designated Critical Habitat for the Northern Spotted owl. Indicators used to measure effects of the project are ambient noise levels, human activity, and the potential to alter or modify nesting, roosting, foraging and dispersal habitats.

Direct and Indirect

Alternative A would not degrade or downgrade northern spotted owl nesting, roosting, and foraging or dispersal habitat. Therefore, Alternative A was determined to have "No Effect" on Designated Critical Habitat for the Northern Spotted Owl.

Implementing the decommissioning work has the potential for minimal, temporary, short term disturbance to the northern spotted owl. This disturbance results from an increase in human activity and ambient noise level within ¼ mile of un-surveyed NRF habitat. Sites within 0.25 mile of un-surveyed NRF habitat have mitigations in place to reduce disturbance potential to

breeding/nesting spotted owls by implementing timing restrictions. There is the potential for temporary, short term displacement to individual, dispersing spotted owls particularly at FSR 1703 (MP 2.0) and 1708 (MP 0.6, 0.8, 1.9, 3.9). Therefore Alternative A was determined to "May Affect, Not Likely to Adversely Affect" the northern spotted owl

Cumulative Effects

Due to the small scale of this project the probability of effects to the northern spotted owl are so low that it could not be added to those from other ownerships, or other Forest Service past, present or future projects including all EFRO Flood Road Repairs, in a meaningful way. Therefore, Alternative A will not create any meaningful cumulative effects to the northern spotted owl.

Effects of Alternative B on Northern Spotted Owl and Designated Critical Habitat

Direct and Indirect Effects

The majority of FSR 1700's sites are proposing to repair the road in place. At FSR 1703 mp 2.0 the road would be shifted and would result in altering approximately $1/10^{th}$ of an acre of dispersal habitat within designated Critical Habitat. Therefore, repairing 1703 mp 2.0 was determined to "May Affect, Not Likely to Adversely Affect" Designated Critical Habitat for the Northern Spotted Owl.

Implementing the decommissioning and repair work has the potential for minimal, temporary, short term disturbance to the northern spotted owl. This disturbance result from an increase in human activity and ambient noise level within ¼ mile of un-surveyed NRF habitat. Sites within 0.25 mile of un-surveyed NRF habitat have mitigations in place to reduce disturbance potential to breeding/nesting spotted owls by implementing timing restrictions. Implementing the repair work has the potential for temporary, short term displacement to individual, dispersing spotted owls, particularly at FSR 1703 (MP 2.0) and 1708 (MP 0.6, 0.8, 1.9, 3.9). Therefore, Alternative B was determined to "May Affect, Not Likely to Adversely Affect" the northern spotted owl.

Cumulative Effects

Due to the small scale and timing of this project the probability of effects are so low that it could not be added to those from other ownerships, or other Forest Service past, present or future projects including all EFRO Flood Road Repairs, in a meaningful way. Therefore, Alternative B will not create any meaningful cumulative effects to the northern spotted owl.

Management Indicator Species

Management Indicator Species (MIS) are selected species whose welfare is believed to be an indicator of the welfare of other species using the same habitat, or a species whose condition can be used to assess the impacts of management actions on a particular area (Thomas et al. 1979). The MIS approach is used in concert with other indicators to gauge the effects of management on wildlife. Table III-9 below lists the MIS species identified in the Wenatchee Land and Resource Management Plan, LRMP (USDA Forest Service 1990. In 2011 a status review was completed for MIS of the Wenatchee National Forest (Status of Management Indicator Species on the Okanogan and Wenatchee National Forests, April 2011, unpublished document, 78pp). This document is incorporated in this section by reference.

The 2011 status review used viability outcomes to describe the probability of the planning unit (Wenatchee portion of the Okanogan-Wenatchee National Forest) to support a population of each MIS based on current habitat and risk factors. It also included an estimate of the amount of habitat available at the Forest scale. Table III-9 includes the viability outcome of each MIS and a description of those viability outcomes. Indicators used to measure effects of the project on MIS will be the potential to alter/remove habitat, effects to available habitat at the Forest scale, and consistency with the Wenatchee LRMP.

The 2013 Flood Repair project area is located at the south end of the Okanogan-Wenatchee Forest at the edge of all MIS habitat on the Wenatchee National Forest.

Table III-9: Management Indicator Species and their associated habitat for the Wenatchee National Forest. Habitat area within the project area is in bold.

Species	Indicators for:	Available Habitat (ac)		Forest Level Viability Outcome [3]	Species present in the Project Area (project area)
		Acres of Habitat on the Wenatchee NF	5th field HUC and Project Area (project area)		
Rocky Mountain elk & Mule Deer	Big game species; with winter range identified as its limiting habitat	152,581	<5 acres of deer/elk winter range not designated (EW_1); off the Forest. **< 1% of available winter range on the Forest**	A	Documented
Mountain Goat	Rockland, alpine, high elevation old- growth conifer habitat	213,919	**0 ac of habitat in the project area**	B	NO
Northern Spotted Owl	Mixed conifer mature and old-growth habitat (western hemlock, grand fir, Douglas-fir, forests)	621,105	**6 ac of NRF habitat in the project area < 1% of available winter range on the Forest**	C	NO
Pileated Wood-pecker	Mixed conifer mature and old-growth habitat (medium-large trees, cool moist forests; montane & eastside-mesic forest type)	58,861	**6 ac of habitat in the project area < 1% of available winter range on the Forest**	C	NO
Three-toed Wood-pecker	Mixed conifer mature and old-growth habitat (subalpine & montane forest)	973,135	**0 ac of habitat in project area**	B/C	NO
American	Mixed conifer mature	166,310	**0 ac of habitat in project area**	B/C	NO

Species	Indicators for:	Available Habitat (ac)		Forest Level Viability Outcome [3]	Species present in the Project Area (project area)
		Acres of Habitat on the Wenatchee NF	5th field HUC and Project Area (project area)		
Marten[2]	and old-growth habitat (cold moist and cold dry forests)				
Beaver	Riparian/deciduous forest habitat	177,118	Naches Mainstem & Rattlesnake Cr 5th field HUC contains 13,058 ac **17 acres of beaver habitat within the project area. < 1% of available habitat on the Forest**	B/C	Documented
Ruffed Grouse	Riparian/deciduous forest habitat	276,457	Naches Mainstem & Rattlesnake Cr 5th field HUC contains 19,255 ac **<17 acres riparian habitat within the project area. < 1% of available habitat on the Forest**	A	Documented
Primary cavity excavators (PCE) (summary)	Dead & live defective standing trees/ dead & down tree habitat structure	No estimate	**<1 acres of forested habitat in the project area. < 1% of available habitat on the Forest**	See expanded version of PCEs below	Dead & live defective standing trees/ dead & down tree habitat structure
Primary Cavity Excavators (by species)	Pileated Woodpecker	58,861	**6 ac of habitat in project area**	C	NO
	Three-toed woodpecker	973,135	**0 ac of habitat in project area**	B/C	NO
	Black-backed woodpecker	No estimate	**0 ac of habitat in project area**	B/C	NO
	Downy woodpecker	No estimate	**See PCE above**	A	Documented
	Hairy woodpecker	No estimate	**See PCE above**	A	Documented
	Lewis' woodpecker	No estimate	**0 ac of habitat in project area**	C	NO
	White-headed woodpecker	No estimate	**See PCE above**	C	Documented
	Williamson's sapsucker	No estimate	**See PCE above**	B/C	Documented
	Red-naped sapsucker[1]	No estimate	**0 ac of habitat in project area**	B	NO
	Northern flicker	No estimate	**See PCE above**	A	Documented

[1]The yellow-bellied sapsucker listed in the Wenatchee Forest Plan (USFS 1990), was taxonomically split into three species in 1983; red-naped, red-breasted, and yellow-bellied sapsucker (AOU 1983, Walters et al 2002); only the red-naped sapsucker occurs in Eastern Washington.
[2]Listed as Pine Marten in the Wenatchee Forest Plan
[3]**Outcome A** – Suitable environments are broadly distributed and of high abundance. The combination of distribution and abundance of environmental conditions provides opportunity for continuous or nearly continuous intra-specific interactions for the MIS species. MIS species with this outcome are likely well-distributed throughout the planning area.
Outcome B – Suitable environments are broadly distributed and of high abundance, but there are gaps where suitable environments are absent or only present in low abundance. However, the disjunct areas of suitable environments are typically large enough and close enough to permit dispersal among subpopulations and to allow the species to potentially interact as a meta-population. Species with this outcome are likely well-distributed throughout most of the planning area.
Outcome C – Suitable environments are distributed frequently as patches and/or exist at low abundance. Gaps where suitable environments are either absent or present in low abundance are large enough such that some subpopulations are isolated, limiting opportunity for intra-specific interactions. There is opportunity for subpopulations in most of the planning area to interact, but some subpopulations are so disjunct or of such low density that they are essentially isolated from other populations. For species for which this is not the historical condition, reduction in the species' range in the planning area may have resulted. Species with this outcome are likely well-distributed in only a portion of the planning area.

Habitat for the mountain goat, black-backed woodpecker, Lewis' woodpecker, red-naped sapsucker, three-toed woodpecker or American marten does not exist within FSR 1700's project area. Since the FSR 1700's Project will not alter these species habitat, it will not contribute to negative trend in viability on the Wenatchee National Forest for the mountain goat, black-backed woodpecker, Lewis' woodpecker, three-toed woodpecker, red-naped sapsucker or American marten. No further discussion will occur regarding the mountain goat, black-backed

woodpecker, Lewis' woodpecker, red-naped sapsucker, three-toed woodpecker or American marten.

Approximately 17 acres of riparian habitat for Management Indicator Species such as the ruffed grouse and beaver, as well as, for landbirds such as the willow flycatcher and calliope humming bird are located within the project area. A beaver pond system is located along Gold Creek (FSR 1703 (MP 2.0) site Most of FSR 1700's Project Area (except FSR 1708 MP 3.9) occurs within riparian habitat that is occupied by beaver and ruffed grouse. Riparian habitat adjacent to these project sites is in good condition; shrub density and cover are high and deciduous tree components are abundant although the presence of roads can have adverse effects to riparian habitat. Habitat for the primary cavity excavators and landbird habitat features (listed by Altman, 2000) exists within FSR 1700's project area in the form of large deciduous trees and deciduous/conifer snags. Less than five acres of elk and deer winter ranger occurs within the project area.

ROCKY MTN. ELK AND MULE DEER

Effects of Alternative A on Rocky Mountain Elk and Mule Deer

Indicators used to measure effects of the project on elk and deer habitat will be Habitat Effective Index (HEI), cover/forage ratio, and increased open road density.

Direct and Indirect Effects

Alternative A would not change the existing or baseline condition for open road density. Motorized vehicles would continue to access the road systems beyond decommissioned sections by other road systems. Implementing the decommissioning and repair work will create little to no disturbance to deer and elk as implementation will take place outside the winter use period and on roads which elk and deer tend to avoid. These alternatives would result in little to no impact and would not lead towards trends of federal listing or loss of population "Viability" on the Rocky Mountain Elk or Mule Deer. Alternative A would not alter cover or forage; having no change to the existing cover-to-forage ratio or HEI values for deer and elk. Therefore, this alternative would be consistent with the Wenatchee National Forest LMRP in that habitat capable to support deer and elk would be maintained at current conditions.

Cumulative Effects

The probability of an effect to deer and elk is so low that it could not be added to those from other ownerships in a meaningful way. Therefore, Alternative A will not create any cumulative effects to the Rocky Mountain elk and mule deer.

Effects of the Alternative B on the Rocky Mountain Elk and Mule Deer

Direct and Indirect Effects

Repairing 1703 MP 2.0, 1704 and 1708, including shifting FSR 1703 (MP 2.0), and 1708 (MP 0.6, 0.8) would not alter cover or forage; having no change to the existing cover-to-forage ration or HEI values for deer and elk. Therefore this alternative would be consistent with the Wenatchee National Forest LMR in that habitat capable to support deer and elk would be maintained. Implementing the decommissioning and repair work will create little to no disturbance to deer and elk as implementation will take place outside the winter use period and on roads which elk and deer tend to avoid. These alternatives would result in little to no impact and would not lead towards trends of federal listing or loss of population "viability" on the Rocky Mountain Elk or Mule Deer.

Cumulative Effect

The probability of an effect to deer and elk is so low that it could not be added to those from other ownerships in a meaningful way. Therefore, Alternative B will not create any cumulative effects to the Rocky Mountain elk and mule deer.

BEAVER, RUFFED GROUSE, WILLOW FLYCATER, CALLIOPE HUMMING-BIRD

Effects of Alternative A on Beaver, Ruffed Grouse/Willow Flycatcher, and Calliope Hummingbird

Direct and Indirect Effects

Alternative A would result in minor improvements to riparian habitat; resulting in a slight improvement for beaver and ruffed grouse/willow flycatcher and calliope hummingbird habitat. Implementing the decommissioning work has the potential to create temporary, short term displacement to local beaver and ruffed grouse/willow flycatcher, or calliope that use the project area. These effects would be minor and "May Impact Individuals, but are not likely to lead towards trends of federal listing or loss of population "viability" on the beaver and ruffed grouse/willow flycatcher, or calliope humming bird.

Cumulative Effects

The small amount of habitat improvement would not be noticed at a local level or at a 5th watershed level. The probability of an effect is so low that it could not be added to those from other ownerships in a meaningful way. Therefore, Alternative A will not create any cumulative effects to the beaver, ruffed grouse, willow flycatcher or calliope humming bird.

Effects of Alternative B on the Beaver, Ruffed Grouse/ Willow Flycatcher, and Calliope Hummingbird

Direct and Indirect Effects

Repairing 1703, 1704 and 1708 would result in minor (less than 2 acres) alterations of riparian habitat. Implementing the repair work has the potential to create temporary, short term

displacement to local beaver, ruffed grouse, willow flycatcher and calliope humming bird that use the project area. These effects would be minor and "May Impact Individuals, but not likely to lead towards trends of federal listing or loss of population "viability" on the beaver and ruffed grouse, willow flycatcher, or calliope humming bird.

Cumulative Effects

The amount of riparian habitat altered within the project area in comparison to available riparian habitat on the forest is insignificant < 1% of the riparian/deciduous Forest habitat. The probability of an effect is so low that it could not be added to those from other ownerships in a meaningful way. Therefore, Alternative B will not create any cumulative effects to the beaver and ruffed grouse, willow flycatcher, or calliope humming bird.

PRIMARY CAVITY EXCAVATORS

Effects of Alternative A on Primary Cavity Excavators

Direct and Indirect Effects

Alternative A would result in minor benefits to species of woodpeckers such as the red-naped sapsucker and Williamson's sapsucker. Danger tree removal would no longer occur along these short segments that have been decommissioned or closed. This alternative would result in "No Impacts" and would not lead towards trends of federal listing or loss of population "viability" on primary cavity excavators. Since little to no primary cavity exactor habitat would be altered, this alternative would be consistent with the Wenatchee National Forest LMRP for potential population levels.

Cumulative Effects

The probability of an effect is so low that it could not be added to those from other ownerships in a meaningful way. Therefore, Alternative A will not create any cumulative effects to primary cavity excavators.

Effects of Alternative B on Primary Cavity Excavators

Direct and Indirect Effects

Repairing 1703 MP 2.0, 1704 and 1708 would result in minor (less than 2 acres) alterations of primary cavity excavators. The small amount of primary cavity excavator habitat that might be altered during implementation would not affect the population potential level for any primary cavity excavator species. Therefore this alternative would be consistent with the Wenatchee National Forest LMRP for potential population levels. This alternative "May Impact individuals, but would not likely lead towards trends of federal listing or loss of population viability" on the primary cavity excavator.

Cumulative Effects

The amount of habitat altered in comparison to available habitat on the Okanogan-Wenatchee National Forest is insignificant (< 1% of the Forest winter range). The probability of an effect is so low that it could not be added to those from other ownerships in a meaningful way. Therefore, Alternative B will not create any meaningful cumulative effects to primary cavity excavators.

Birds of Conservation Concern and Landbirds

In January 2001, President Clinton issued an executive order directing federal agencies to avoid or minimize the negative impact of their actions on migratory birds, and to take active steps to protect birds and their habitat. The USFWS developed the "Birds of Conservation Concern 2008" (BCC 2008) as the most recent means of implementing the order (USDI Fish and Wildlife 2008b). These are species, subspecies, and populations of migratory non-game birds that without additional conservation actions and will possibly become candidates for listing under the Endangered Species Act. Bird Conservation Regions (BCRs) were developed based on similar geographic parameters. The project area falls in BCR 9 (Great Basin). The following table (Table III-10) lists bird species in this BCR that are known or likely to occur on the Okanogan-Wenatchee National Forest. If their habitat is present within or adjacent to the flood repair sites, the species name will be ***bold and italicized***.

Table III-10: Bird Species of Conservation Concern that May Occur on the Forest (Marshall et al 2003, Seattle Audubon Society 2011). Those in bold italics may occur adjacent to the flood repair sites and will be discussed further in this analysis.*

Species	Habitat	Diet
Calliope hummingbird	Open woodlands, scrubby vegetation**, riparian**	Plant nectar.
Flammulated owl	Open pine forest. Nests in tree/snag cavities	Crickets but will also take moths and beetles
Golden eagle	Open shrub habitat. Nests are primarily on cliffs and ledges, but tree nests are also used. Invasive plants are not known to be specifically affecting golden eagle habitat.	Rabbits and hares, squirrels, woodrats, salmon and medium to large birds.
Prairie falcon	Cliffs and outcrops provide opportunity for nesting; Grasslands are preferred habitat.	Small mammals, usually ground squirrels, but will also prey on birds, especially in winter
Willow Flycatcher	**Riparian**, shrubby area with water	Flying insects
Black swift	Nests on cliff faces near or behind waterfalls, usually in deep canyons in wooded areas.	Flying insects
Loggerhead shrike	Open habitats of eastern Oregon and Washington. Uses elevated perches for hunting and singing, open grassy areas for hunting, and scattered shrubs or small trees for nesting (Holmes 2003).	Primarily insects during the breeding season and small vertebrates in the winter.

Two conservation strategies cover the Okanogan-Wenatchee National Forest; Conservation Strategy for Landbirds of the East-Slope of the Cascade Mountains in Oregon and Washington (Altman 2000), and "Conservation Strategy for Landbirds in the Columbia Plateau of Eastern Oregon and Washington" (Altman and Holmes 2000). Majority of the Forest is covered in the "Conservation Strategy for Landbirds of the East-Slope of the Cascade Mountains in Oregon and Washington". It was published in June 2000 (Altman 2000). This plan covers mid to high elevation forest types along the eastern slope of the Cascades and identifies primary management needs for birds in this forest zone and covers majority of the Okanogan-Wenatchee National Forest. The principal issues affecting bird populations listed in this plan include habitat alteration from timber harvesting; changes in historic fire regimes and grazing by livestock (Altman 2000). The 2013 Flood Repair Project is consistent with the East-Slope of the Cascade Mountains strategy.

This strategy identifies groups of focal species and their associated habitat attributes that can be used to identify desired landscapes. Table III-11 below lists the priority habitat features and associated focal species for conservation from the plan. Habitats that are adjacent or within the flood repair projects sites are ***bold.***

Table III-11: Priority Habitat Features and Associated Focal Species for Conservation in Priority and Unique Habitats in the North Cascades sub province of the East Slope of the Cascades (Altman 2000). Those in bold italics occur adjacent to some of the flood repair sites (none do).

Habitat	Habitat Feature	Focal Species for North Cascades
Ponderosa Pine	Large patches of old forest with large snags	White-headed woodpecker
	Large trees	Pygmy nuthatch
	Open understory with regeneration pines	Chipping sparrow
	Patches of burned old forest	Lewis' woodpecker
Mixed Conifer (Late-Successional)	Large trees	Brown creeper
	Large snags	Williamson's sapsucker
	Grassy openings and dense thickets	Flammulated owl
	Multi-layered/dense canopy	Hermit thrush
	Edges and openings created by wildfire	Olive-sided flycatcher
Oak-Pine Woodland	Early-successional/dense understory regen	Nashville warbler
	Large oaks with cavities	Ash-throated flycatcher
	Large conifer trees and snags`	Lewis' woodpecker
Lodgepole Pine	Old growth	Black-backed woodpecker
Whitebark Pine	Old growth	Clark's nutcracker
Meadows	Wet/dry	Sandhill crane
Aspen	Large trees with regeneration	Red-naped sapsucker
Subalpine fir	Patchy presence	Blue grouse

Special habitat considerations for the *willow flycatcher* are willow or alder thickets along riparian habitat with available perch sites. Breeding Bird Surveys (BBS) have noted a negative trend for the west in willow flycatcher populations (Sharp 1992). The *Calliope hummingbird* prefers thickets along streams and the borders of mountain meadows and conifers. Special habitat considerations for the Calliope hummingbird consist of available nectar sources. BBS have noted that the Calliope hummingbird is rare to uncommon in Cascades forests; with a measurable decrease along routes on the Okanogan in Calliope

hummingbird populations (Sharp 1992). This project has the potential to alter a few large trees in the ponderosa pine habitat; therefore, the pygmy nuthatch will be discussed further.

Indicators used to measure effects of the project on landbirds will be the potential to alter/remove habitat.

Impacts to all landbird habitats are expected to be negligible due to the small amount of habitat potentially altered. Willow flycatcher and calliope humming bird effects discussion is included with the beaver and ruffed grouse, since they depend on riparian shrubby habitat.

LANDBIRDS

Effect of Alternative A on Landbirds

Direct, Indirect, and Cumulative Effects

Alternative A would not result in the alteration of any landbird habitat feature. Therefore, there would be no potential for direct, indirect or cumulative effect resulting from Alternative A.

Effects of Alternative B on Landbirds

Direct and Indirect Effects

Less than 1 acre of pygmy nuthatch habitat (large trees) could be altered by the repair design of FSR 1703 to re-align a portion of the road. Impacts to pygmy nuthatch habitat are expected to be not measureable due to the small amount of habitat potentially altered. Therefore this alternative "May impact individual pygmy nuthatches, but not likely to lead towards trends of federal listing or loss of population viability".

Cumulative Effects

The probability of an effect is so low that it could not be added to those from other ownerships, or other Forest Service past, present or future projects including all EFRO Flood Road Repairs, in a meaningful way. Therefore, Alternative B will not create any cumulative effects to the pygmy nuthatch or other neotropical migratory birds who depend on large trees in ponderosa pine habitat.

Northwest Forest Plan Survey and Manage Species

Survey and Manage Species

The FSR 1700's ERFO Flood Road Repair Project is consistent with the Okanogan and Wenatchee Forest Land and Resource Management Plans as amended by 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 (2001 ROD).

Using the 2001 species list, vertebrate and invertebrate species of interest within Northwest Forest Plan lands whose range includes the Okanogan-Wenatchee National Forest are: great

gray owl, Larch Mountain salamander, Puget Oregonian, masked duskysnail, Chelan mountainsnail, and blue-gray taildropper. Pre-disturbance surveys are not required for any of these survey and manage species as the FSR 1700's ERFO Flood Road Repair Project is outside the Chelan mountainsnail's range, outside the breeding range of the great gray owl (USDA Forest Service 2005) and habitat and/or presence does not exists for the Larch Mountain salamander, Puget Oregonian, masked duskysnail, and blue-gray taildropper

This project, Alternative A or B, will have "No impact" on any Survey and Manage species. For more discussion regarding survey and manage invertebrate refer to Survey & Manage Tracking Form in analysis file

Late-Successional Habitat

No available late-successional habitat on the Forest occurs within the Project Area. A LSR Neutral/Beneficial effects analysis was completed for the 2013 ERFO Food Road Repair Project (March 4, 2013) and all alternatives were determined to be neutral or beneficial to the creation and maintenance of late-successional habitat.

Alternative A proposes to change reduce road miles. Therefore there would be slight increase in security habitat or forest interior resulting from the proposed flood road repair; benefiting late successional species.

Alternative B proposes to make no changes to the existing baseline road miles. Therefore there would be no change to security habitat or forest interior resulting from this alternative; neutral to late-successional species.

BOTANY AND INVASIVE SPECIES

The Botany and Invasive Species effects analysis includes Threatened, Endangered, and Sensitive plant species (TES), Survey and Manage plant species, and the threat of invasive/noxious plants within the project area. For other vegetation concerns, reference the effects analysis for Fuels and Vegetation Management on page III-38. The complete Botany specialist report can be found in the project file.

A list of species found and potential habitat for listed species in interior riparian systems and on rocky substrates can be found in the Botany specialist report within the project file. During field surveys along access points, roads in the project footprint, nine invasive plants were identified. Common St. Johnswort (*Hypericum perforatum*), chicory (*Cichorium intybus*), Canada thistle (*Cirsium arvense*), Dalmatian toadflax (*Linaria dalmatica*), meadow knapweed (*Centaurea pratensis*), bull thistle (*Cirsium vulgare*), oxeye daisy (*Leucanthemum vulgare*), spotted knapweed (*Centaurea stoebe*) and diffuse knapweed (*Centaurea diffusa*) were documented.

No Action Alternative

FSR 1700-416C, 1703, 1704, and 1708

Due to the nature of the eroding road surface, natural disturbance would continue to stimulate any invasive plant seeds present in the seed bank but the reduced use of the road would maintain the localized populations of invasive plants on the road. Invasive plant populations would remain the same and increase overtime without treatment, thus impacting the native plant populations.

Effects common to Alternative A and Alternative B on Botany and Invasive Species

Direct and Indirect Effects

There will be no direct or indirect effects on federally listed species in this project in all alternatives. No Sensitive, Strategic or Survey & Manage species were identified within the project area; therefore all alternatives will have no effect on any listed species. If these species are documented during implementation, the botanist will be notified and appropriate mitigations to avoid impacting their populations will be utilized.

Following the Conservation standards during implementation will provide for consistency with the Record of Decision was signed for the Region 6 Invasive Plant Management Environmental Impact Statement (EIS) (USDA, 2005b).

The FS Road 1700 Road Repair Project applies the Survey and Manage species list in 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.

The likelihood of undesirable plant species, including invasive weed species spreading to the project area from the activities of all action alternatives is high because there are undesirable plant species located in the immediate area. Newly disturbed ground has a high risk in becoming infested with undesirable plant species even when preventive management actions are followed. Control measures are essential to prevent the spread of undesirable plants or noxious weeds within the project area. Possible adverse effects on site and possible expansion of infestations within the project area could occur. Early Detection Rapid Response (EDRR) will be implemented along with all action alternatives as well as the integrated weed management. Part of this integrated approach will be the use of grass seed and wood mulch to cover bare ground.

Effects of Alternative A on Botany and Invasive Species

Direct and Indirect Effects

FSR 1700-416C

The reduction of vehicular traffic to this area and the use of native seeding in areas of bare ground will help decrease the risk of invasive plants establishing in this area.

FSR 1703

With the lack of motorized traffic there would be no risk from reintroduction of invasive plants to the project area, however construction vehicles and equipment are likely to be invasive seed carriers and adhering to the associated conservation measures will mitigate these effects (Appendix B). Providing a larger more natural channel will promote the establishment of native vegetation and improve the functionality of water flow through this system and a healthy established vegetation zone on these riparian banks. Native seeding will be used to restore bare ground and native vegetation will be placed at the toe of the road fill to help with stabilization and site restoration.

FSR 1704

With the lack of motorized traffic there would not be a risk from reintroduction of invasive plants to the project area, however construction vehicles and equipment are likely to be invasive seed carries and must mitigate these effects by adhering to the associated conservation measures (Appendix B). Mulch and grass seed on disturbed areas reintroduces vegetation and assists in the prevention of invasive plant establishment on the newly obliterated ground.

FSR 1708

During field surveys no special status species were identified in the field.

The continued use by motorized traffic has the risk of reintroduced invasives plants where bare dirt is present. However, re-vegetation with grass seeds potentially will provide cover within the next growing season and into the future to reduce the risk of reintroduction. The current infestation of invasive plants along the road will remain due to a current lack of herbicide treatment or removal.

Cumulative Effects

The area of analysis considered includes each project areas and the ingress/ egress routes to each site on FSR 1700-416C, 1703, 1704 and 1708 and includes effects up to five year from implementation. The current infestation of invasive plants along the 1700 road system will remain due to a current lack of herbicide treatment or removal. Construction during the fall will likely be at higher risk to new invasions of invasive plants on disturbed ground due to opening the canopy cover and the presence of seeds on the current plant populations. All bare ground will be revegetated and monitored for at least 5 years or until native revegetation occurs.

The project site at FSR 1703 mile post 2.0 can potentially be treated for invasive species with herbicides because it is within the project boundary of the Gold Springs Restoration project completed in 2010. The 1700 System Flood Repair project does not propose any herbicide treatment. Herbicide use combined with other invasive treatment management decreases the risk of invasive plant infestation through removal and then replacement of native vegetation.

Using woody debris or chipped woody material after the ground is disturbed will minimize invasive plant invasions. In addition, seeding with locally adapted native plant seeds in the fall

will also help with erosion control and compete with non-native vegetation. During ground disturbing activities conservation measures (Appendix B) will be used.

Effects of Alternative B on Botany and Invasive Species

Direct and Indirect Effects

FSR 1700-416C

Same as Alternative A.

FSR 1703

The continued use by motorized traffic has the risk of reintroduced invasive plants where bare dirt is present. Due to the extent of impact the creek had on the road the risk of invasive plants arriving in the project site are very likely without major revegetation efforts.

FSR 1704

The continued use by motorized traffic has the risk of reintroduced invasives plants where bare dirt is present. With the lack of riparian vegetation the likelihood of a reoccurring event is high. If the appropriate roughness and shape to the riparian bank are not established, natural revegetation may not occur.

FSR 1708

Same as Alternative A.

Cumulative Effects

The area of analysis considered includes each project areas and the ingress/ egress routes to each site on FSR 1700-416C, 1703, 1704 and 1708 and includes effects up to five year from implementation. During construction and when bare soil is present, continued vehicular traffic at these locations (not including 1700-416C) will increase the risk of new invasive infestations; however, in the long term invasive risk will decrease at this location but will remain present in any open corridors due to the movement of plant propagules on vehicles. Using woody debris or chipped woody material after the ground is disturbed will minimize invasive plant invasions. In addition, seeding with locally adapted native plant seeds in the fall will also help with erosion control and compete with non-native vegetation. During ground disturbing activities conservation measures (Appendix B) will be used.

RANGE

The 1700 System Flood Repair Project contains four roads that are within both the Naches and Nile Sheep Allotments. Only one, the 1708, provides critical access to the Naches Sheep Allotment. The 1704, 1703, and 1700-416C do not provide critical access. The term permit authorizes 872 ewe/lamb pairs for a 77-day season of use from approximately June16 to August 31st, annually on the Naches allotment. The allotment has had minimal use in the 1708 area due to the very limited access since the road washout.

No Action Alternative

Taking no management action would have a negative impact on permittee access to the Naches allotment as there would be no road repair activities implemented under this decision. This option would not restore road access to permitted grazing areas. Modifications to the grazing operation or deferment of grazing would still be required to address access issues from the flood damage.

Effects of the Alternative A on Range

Direct and Indirect Effects

The actual timing of implementation of project or combinations of activities would ultimately determine the extent of the effects and the specific areas requiring modification or deferment in the annual grazing instructions. Given the most extreme situation with respect to timing of implementation and specific activity areas, there could be a reduced season of use, or deferment if their access is not restored prior to the tunout date (July 16) for the Naches allotment.

Permittee Access and Livestock Distribution

Forest System Road 1708 provides critical access to the central portion of this allotment. Construction of the proposed road repair activities on FSR 1708 would have a high impact on permittee access in the short term, but once completed, would not require long term change in routing or distribution of livestock.

Cumulative effects

The area of analysis considered provides critical access to the central portion of the Naches allotment, on the Naches Ranger District. In the short term, this action, in combination with, other ongoing and reasonably foreseeable actions within the South Range Zone restricts the use of range allotments by the permittees. These projects could result in additional modifications (e.g., deferring and rerouting) to the current grazing plans. Multiple modifications resulting from multiple projects (e.g., fuels, recreation, travel management) occurring at the same time restrict the season of use available for livestock grazing.

Effects of the Alternative B on Range

Direct and Indirect Effects

The actual timing of implementation of project or combinations of activities would ultimately determine the extent of the effects and the specific areas requiring modification or deferment in the annual grazing instructions. Given the most extreme situation with respect to timing of implementation and specific activity areas, there could be a reduced season of use, or deferment if there is access is not restored prior to the turnout date(July 16) for the Naches allotment.

Permittee Access and Livestock Distribution

Same as Alternative A.

Cumulative effects

The area of analysis considered provides critical access to the central portion of the Naches allotment, on the Naches Ranger District. In the short term, this action, in combination with, other ongoing and reasonably foreseeable actions within the South Range Zone restricts the use of range allotments by the permittees. These projects could result in additional modifications (e.g., deferring and rerouting) to the current grazing plans. Multiple modifications resulting from multiple projects (e.g., fuels, recreation, travel management) occurring at the same time restrict the season of use available for livestock grazing.

FUELS AND VEGETATION MANAGEMENT

No Action Alternative

A no action alternative on FSR 1700-416C would have little to no effects in relation to fuels and vegetation management as this road does not supply any essential access to any current or planned projects. Taking no action on FSR 1703 at MP 2.0 would have little effect on fuels and vegetation management as currently planned projects in the drainage can still be accessed. A no action alternative for FSR 1704 road at MP 1.3 would have little effect as this road does not provide any essential access to any current or future projects. A no action alternative on FSR 1708 would result in longer and restricted travel to the Milk Creek drainage for planned projects as well as limiting access to the district remote automated weather station.

Effects of Alternative A on Fuels and Vegetation Management

Direct and Indirect Effects

FSR 1700-416C does not provide any essential access to any current or future projects. Decommissioning this crossing would have little to no effects in relation to fuels and vegetation management. Decommissioning FSR 1703 at mile post 2.0 would have little to no effects on the Gold Spring Underburn, and no other projects are within the Gold Creek drainage. FSR 1704 is not a highly used road and does not provide any essential access and a decommission alternative would have little effect on fuels and vegetation management.

Cumulative Effects

The analysis area combines Rock Creek, Gold Creek, Pine Creek, Milk Creek, and the portion of State Route 410 that falls between Gold Creek (FSR 1703) and Milk Creek (FSR 1708), and the analysis time is considered the foreseeable future (40+ years). This alternative in combination with past, present, and future foreseeable actions would lead to a small increase in travel time to certain areas within the 1700 road systems. Overall with the repair of FSR 1708, crucial access to a large portion of the 1700 road systems would be restored.

Effects of Alternative B on Fuels and Vegetation Management

Direct and Indirect Effect

Repairing FSR 1703 would not have any meaningful effects on the Gold Spring Underburn, as all project areas are accessed by the lower portion of the road. FSR 1704 is not a highly used road and does not provide any essential access and a repair alternative would have little effect on fuels and vegetation management. Repairing FSR 1708 would allow district personnel access to the remote automated weather station as this road is the main route. A portion of the Gold Spring Underburn is accessed by this road as well, and repairing would greatly reduce travel time and not limit certain vehicles as would the alternate route.

Cumulative Effects

The analysis area combines Rock Creek, Gold Creek, Pine Creek, Milk Creek, and the portion of State Route 410 that falls between Gold Creek (FSR 1703) and Milk Creek (FSR 1708), and the analysis time is considered the foreseeable future (40+ years). There is potential for future vegetation management activities within the Milk Creek drainage, and this alternative would allow access for planning and implementation purposes. Repairing and re-opening FSR 1703, 1704 and 1708 in combination with other past, present, future actions would regain access to a large portion of the 1700 road systems.

FIRE AND PUBLIC SAFETY

No Action Alternative

A no action alternative on FSR 1700-416C would have little to no effect in relation to fire and public safety as the road does not provide any essential access or egress. Taking no action on FSR 1703 at MP 2.0 would slow ground resource response times to new wildfire stars in the upper Gold Creek drainage as well as remove the shortest egress route out of the drainage in the event of a wildlife or natural disaster.. A no action alternative on FSR 1704 at MP 1.3 would currently allow some vehicle access which could be used in the event of a wildfire/natural disaster. However, due to the road dimensions and possibility of more damage to the road from the river over time, vehicle use would be restricted to smaller vehicles and potentially no access at all. A no action alternative on FSR 1708 would result in delayed ground resource response times to new and existing wildfires, limit access to the district remote automated weather station and would remove access to a main fire engine fill site used for suppression purposes along the State Route 410 corridor.

Effects of Alternative A on Fire and Public Safety

Direct and Indirect Effects

FSR 1700-416C does not provide any essential access or egress to adjacent summer home group or National Forest Land. Decommissioning the corssing road would have little to no effects in relation to fire and public safety. Decommissioning FSR 1703 at mile post 2.0 would slow ground resource response times to new wildfire starts in the upper Gold Creek drainage, as well as remove the shortest and fastest egress route out of the drainage in the event of a wildfire/natural disaster. FSR 1704 is not a highly used road, and closing a portion of it would have little effects other than removing a potential use of the road as an egress route in the event of a wildfire/natural disaster in the adjacent summer home tracts and private residence areas. However, because of the size restrictions on the road, this is not a viable option for all vehicles.

Cumulative Effects

The analysis area combines Rock Creek, Gold Creek, Pine Creek, Milk Creek, and the portion of State Route 410 that falls between Gold Creek (FSR 1703) and Milk Creek (FSR 1708), and the analysis time is considered the foreseeable future (40+ years). This alternative in combination with past, present, and future foreseeable actions would lead to a small increase in travel time to certain areas within the 1700 road systems. Overall with the repair of FSR 1708, crucial access to a large portion of the 1700 road systems would be restored.

Effects of Alternative B on Fire and Public Safety

Direct and Indirect Effects

Repairing FSR 1703 would allow for faster ground resource response times into the upper Gold Creek drainage that existed in the baseline conditions. It would also restore a faster and safer egress route for firefighters and the general public in the event of a wildfire/natural disaster. Repairing FSR 1704 would restore an egress option for vehicles in the event of a wildfire/natural disaster in the adjacent summer home tracts and private residence areas. However, because of the size restrictions on the road, this is not a viable option for all vehicles. Repairing all sites on FSR 1708 would allow for faster ground resource response times to new wildfire starts in the Milk Creek and Pine Creek drainages. This alternative would also restore the primary egress route out of the drainage in the event of a wildfire/natural disaster. At the intersection of State route 410 and FSR 1708 is a main fire engine fill site used for suppression along the SR 410 corridor, repairing would regain access to this site. FSR 1708 is also the main travel route to the district remote automated weather station, repairing would provide the safest and fastest access route to this site.

Cumulative Effects

The analysis area combines Rock Creek, Gold Creek, Pine Creek, Milk Creek, and the portion of State Route 410 that falls between Gold Creek (FSR 1703) and Milk Creek (FSR 1708), and the

analysis time is considered the foreseeable future (40+ years). Repairing these sites in combination with past, present, and future actions would regain access to a large portion of the 1700 road systems therefore restoring crucial access and providing additional ingress and egress routes.

RECREATION

The type of access that will be provided under each alternative is the primary factor that affects this analysis; specifically, whether a road will be reopened to motorized traffic or if it will not. The type of access will affect the recreation opportunities available to the public. Some recreationists prefer motorized access and related recreation opportunities, while others prefer non-motorized access and opportunities. The type of access that is decided upon could displace traditional users from an area while attracting new users. Displaced users who desire motorized access could move to another area that offers the opportunities they are seeking which could cause more use in the new area; they could change the type of activity they traditionally engaged in (less likely), or they could choose not to participate in an outdoor recreation activity offered in the National Forest.

The types of recreation activities occurring within the project area include driving for pleasure and exploration, view scenery and wildlife, system Off-Highway Vehicle (OHV) trail access, other system trail access, winter use including snowmobile system trails/Sno-parks/other winter uses, hunting, fishing, dispersed camping, nature exploration, geological study, plant identification/gathering, bird watching, miscellaneous forest products gathering, and personal use firewood cutting. The baseline and existing condition of recreational activities at each project site can be found in the recreation specialist report in the project file.

No Action Alternative

FSR 1700-416C

If no action was undertaken, through access within the summer home tract would remain disrupted. VQO's and ROS classes would not be met due to the state of the crossing.

FSR 1703

If no action was undertaken, existing conditions would continue. Vehicles would not be able to access the 1703/1705 loop. Unauthorized use of motorized vehicles (which has been noted since the area was closed in 2011) would probably continue. VQO and ROS classes would not be met as evidence of unnatural appearing structures and materials would remain.

FSR 1704

Under this alternative, access on FSR1704 would remain the same as baseline conditions. Driving opportunities for pleasure and sightseeing, and motorized access to fishing and for exploration would remain open. Non-motorized activities would also continue.

FSR 1708

If no action was undertaken, existing conditions would continue. The public would continue to be unable to access a portion of the 1700 system. Unauthorized use of motorized vehicles (which has been noted since the area was closed in 2011) would probably continue. VQO's and ROS classes would not be met due to the state of the damaged sites.

Effects of Alternative A on Recreation

Direct and Indirect Effects

FSR 1700-416C

Under this alternative, through access within summer home tract on the east side of Highway 410 would remain disrupted. Residents living on opposite sides of Gold Creek would need to use Highway 410 to cross Gold Creek to visit their neighbors. Residents on the north side of Gold Creek would not be able to access the club site via FSR1700-416.

Implementation of this alternative would meet the area's VQO and ROS classes, assuming the proposed mitigation measures are implemented.

FSR 1703

Under this alternative, access would be partially returned to previous conditions. Motorized access to the segment of FSR 1703 above the washout would be possible via FSR1705, and not as direct as baseline conditions, as FSR 1705. The FSR 1703/1705 loop pleasure driving opportunity would not be reopened. Both roads could be driven up to the new closures, so some motorized exploration and viewing scenery/wildlife opportunities would be reestablished. Direct access to Gold Creek Trail 966 via FSR1703 would not be restored. The groomed snowmobile trail from Gold Creek Station to the rest of the groomed system and conversely, access to Gold Creek for services, would not be restored to snowmobilers. Motorized access for big game hunters and to the eight recorded dispersed campsites would be restored, although access to the segment of 1703 above the washout would not be as direct as baseline conditions. Motorized access for other recreation activities and to the firewood cutting areas in Sections 24 and 25 would also be reestablished, although the route to the areas would be longer, via FSR1705.

Recreationists who have preferred the non-motorized opportunities presented by the 2011 closure would be displaced.

Implementation of this alternative would meet the area's VQO and ROS classes.

FSR 1704

If this segment of Road 1704 was closed, driving for pleasure, and motorized access for sightseeing, exploration, and fishing would be eliminated. Bicycling and walking for pleasure

and to access the recreation opportunities listed above would continue. Non-motorized winter activities could still be enjoyed.

Implementation of this alternative would meet the area's VQO and ROS classes.

FSR 1708

Under this alternative, access on FSR1708 would return to baseline conditions. Driving for pleasure and viewing scenery/wildlife opportunities would be restored to allow access to passenger vehicles as well as pickup trucks and SUV's. Access from Highway 410 to Manastash Ridge system OHV Trails, the Funny Rocks area, the Little Naches drainage and Milk Creek Trail 965 via 1708 would be restored. The Sno-Park and snowmobile access to the heart of the Naches groomed trail system would be reopened for snowmobilers. Motorized access to Milk Pond and previously recorded dispersed sites would be reestablished to baseline conditions; sites along FSR1707 past the road slump (including Pine Creek Shooting Range) would be accessible to high clearance vehicles again. Motorized access for big game hunters would return to baseline conditions. Motorized access for other recreation activities and to the firewood cutting areas would also be reestablished.

Recreationists who have enjoyed the non-motorized opportunities presented by the 2011 closure would be displaced.

Implementation of this alternative would meet the area's VQO and ROS classes.

Cumulative Effects

The area considered for cumulative effects is the Mainstem Naches and Rattlesnake Watershed combined. The time frame considered is five years before and five years after this analysis. Past, Present, and Foreseeable Actions include the FSR1702/1702550 and FSR1501 ERFO analyses, snow grooming and the recently past, current, and future timber sales in the watershed.

In summary, compared to the existing condition, there would be limited cumulative effects to recreation opportunities, recreationists, ROS classes, or visual quality under Alternative A.

Sno-Park and Groomed Snowmobile Trail Availability

Since 2011, four of the eight Sno-Parks in the analysis area have been closed on weekdays, and three of these four have been closed on weekends. (Gold Creek access, while not an official Sno-Park, has been used as such by the public and is included in the Sno-Park total for analysis purposes).

Two of the eight Sno-Parks occur on road systems (Gold Creek access and Milk Creek) included in this environmental analysis. Gold Creek would remain closed due to the decommissioning of Road 1703. Milk Creek Sno-Park could reopen after repairs are made to Road 1708. Actions proposed at two other Sno-Parks in this analysis area may cumulatively influence the number available, including: the Nile Sno-Park, which would be closed for the Nelli timber sale

beginning in 2013, but expected to reopen after sale completion (approximately 3 years). Rock Creek Sno-Park may remain closed, or may reopen, depending on the alternative selected in the 1702 ERFO analysis. The cumulative effect would be one or two less Sno-Parks could be available in the analysis area five years from now. This would displace snowmobilers who used these Sno-Parks in the past. They would need to either choose a new Sno-Park to ride out of from the remaining open Sno-Parks or not use the area.

There are approximately 116 miles of designated snowmobile trail in the Naches Mainstem and Rattlesnake Watersheds combined. Since 2011, 20.7 miles of snowmobile trail have been closed due to flooding. (This does not include the additional miles closed weekdays for timber sales). Under this alternative, approximately 4.3 miles of previously groomed snowmobile trail on FSR1703 would remain closed and 1.3 miles on FSR1708 would reopen. Depending on alternatives selected in the other ERFO analyses, up to an additional 15.1 miles of snowmobile trail could reopen. With the Nelli Timber Sale expected to occur beginning the winter of 2013, up to an additional 9.6 miles could be closed for about 3 years, until the timber sale was complete. The cumulative effect would be a net loss of somewhere between 4.3 and 19.4 miles groomed snowmobile trail available in the analysis area five years from now. This would displace snowmobilers who used these trails in the past, because they would need to either choose other area trails in which to ride or not use the area.

Access to Driving for Pleasure

Five routes driven for pleasure in the Naches Mainstem and Nile watersheds have been closed since the 2011 flood – three loop routes and two roads. Under this alternative, the 1708 road would reopen and could be driven for pleasure, but the 1704 road would remain closed. The 1703/1705 loop would also remain closed. Depending on the alternatives selected in other ERFO analyses within the analysis area, cumulatively, up to three routes (two loops and one road) may be reopened to driving for pleasure. Recreationists driving for pleasure would be displaced from closed routes and have fewer choices in the analysis area. They would either choose a different route or not use the area.

Hunting Access

Four of the roads closed to motorized access since the 2011 floods were heavily hunted, especially for big game. Under this alternative, the 1708 road would reopen to motorized hunting access, while the 1703 road would not reopen, but provide non-motorized hunting opportunities. Depending on the alternatives selected under the other ERFO analyses within the analysis area, up to four roads may reopen to motorized access, or up to three may remain closed and provide non-motorized hunting opportunities. Hunters dependent on motorized opportunities would either be displaced to a new hunting area with motorized opportunities, or (less likely) change their style of hunting. Many areas on the Naches District are already heavily hunted, so displaced hunters would potentially increase use in an already heavily hunted area.

Dispersed Campsite Access

Fifty six dispersed camp sites, mostly associated with hunting, have been recorded on five of the roads closed to motorized access since the 2011 floods. Under this alternative, motorized access would be reopened to the 28 sites on the 1708 Road but not the 8 sites on the1703 Road. Depending on the alternatives selected under the other ERFO analyses within the analysis area, motorized access could be reopened to possibly 48 of the 56 sites. Dispersed campers who previously used these sites would either be displaced and have to find another area to camp in, or (less likely) pack much lighter to camp at the sites now closed to motorized access.

Motorized Trail/OHV Area Access

Under this alternative, Road 1708 would again provide direct access from Highway 410 to Single Tread Motorized Trail 965 and to the Funny Rocks and Manastash Ridge area trails. Direct access from Highway 410 to Single Tread Motorized Trail 966 via 1703 would not reopen. Depending on the alternatives selected in other ERFO analyses within the analysis area, direct access could reopen to one additional OHV trail in the analysis area and one additional route from Highway 410 to Funny Rocks and Manastash Ridge area trails could also reopen. Reopening direct access would shorten the time required for recreationists to reach their destinations.

Personal Use Firewood Cutting Areas

Under this alternative, access to personal use firewood cutting areas would reopen via Road 1708, and may reopen on one additional route depending on the alternatives selected in the other ERFO analyses within the watershed. Access to one area would remain closed via Road 1703. Woodcutters who previously used Road 1703 would continue to be displaced to other open areas, resulting in more competition for already limited wood supply, or decide not to continue woodcutting.

Cumulative Effects to ROS and Visual Quality

There would be no expected cumulative effects to visual quality within the analysis area of the Naches Mainstem and Rattlesnake Watersheds under this alternative.

Effects of Alternative B on Recreation

Direct and Indirect Effects

FSR 1700-416C

Same as Alternative A.

FSR 1703

Under this alternative, access would be restored to baseline conditions. The FSR 1703 and 1705 loop would be reopened, so driving for pleasure, and viewing scenery/wildlife opportunities would be restored. Direct access to Gold Creek Trail 966 would be restored. Snowmobile access from Gold Creek Station to the rest of the Milk Creek system and conversely, access to Gold Creek, would be restored to snowmobilers. Motorized access for big game hunters and to the eight recorded dispersed campsites would return to baseline conditions. Motorized access for other recreation activities and to the firewood cutting areas in Sections 24 and 25 would also be reestablished.

Recreationists who prefer the non-motorized opportunities presented by the closure would be displaced.

Implementation of this alternative would meet the area's VQO and ROS classes.

FSR 1704

Under this alternative, access on FSR1704 would remain the same as baseline conditions. Driving opportunities for pleasure and sightseeing, and motorized access to fishing and for exploration would remain open. Non-motorized activities would also continue.

Implementation of this alternative would meet the area's VQO and ROS classes.

FSR 1708

Same as Alternative A.

Cumulative Effects

The area considered for Cumulative Effects is the Mainstem Naches and Rattlesnake Watershed combined. The time frame considered is five years before and five years after this analysis. Past, Present, and Foreseeable Actions include the FSR1702/1702550 and FSR1501 ERFO analyses, snow grooming and the recently past, current, and future timber sales in the watershed.

Sno-Park and Groomed Snowmobile Trail Availability

Under this alternative, both the 1708 Sno-Park and Gold Creek access areas would be able to reopen after repairs are made. Under this alternative, approximately 5.6 miles of previously groomed snowmobile trail on the 1703 and 1708 Roads would reopen to snowmobilers. Depending on alternatives selected in the other ERFO analyses, an additional 15.1 miles of groomed snowmobile trails could reopen (up to 20.7 miles total). Reopening these trails would replace the opportunities lost in 2011.

Access to Driving for Pleasure

Under this alternative, the 1703/1705 loop routes plus the1708 and 1704 roads would reopen and could be driven for pleasure. Depending on alternatives selected in other ERFO analyses, up to two additional loops or driving routes currently closed could reopen to motorized traffic. Reopening these routes would replace the opportunities lost in 2011.

Hunting Access

Under this alternative, both Roads 1703 and 1708, heavily used for motorized hunting opportunities, would reopen to motorized hunting access. Depending on the alternatives selected in other ERFO analyses, up to two additional roads may reopen to motorized access or may remain closed and provide non-motorized hunting opportunities. Motorized hunting opportunities lost in 2011 would be replaced.

Dispersed Campsite Access

Under this alternative, alternatives selected, motorized access would be reopened to approximately 36 sites on Roads 1708 and 1703. Depending on the alternatives selected in other ERFO analyses, up to 19 additional sites currently closed could reopen to motorized access. Dispersed site access opportunities lost in 2011 would be replaced.

Motorized Trail/OHV Area Access

Under this alternative, direct access would reopen from Highway 410 via Road 1708 and 1703 to Single Tread Motorized Trails 965 and 966, and also to the Funny Rocks and Manastash Ridge Trails. Depending on the alternatives selected in other ERFO analyses, direct access could reopen to one other OHV Trail and a second direct route could reopen to Funny Rocks and Manastash Ridge. This would allow recreationists a shorter time to reach off road motorized opportunities.

Personal Use Firewood Cutting Areas

Under this alternative, access to two personal use firewood cutting areas would reopen via Roads 1708 and 1703. In addition, access could reopen to one additional firewood cutting area depending on alternatives selected in other ERFO analyses, replacing opportunities lost in 2011.

Cumulative Effects to ROS and Visual Quality

There would be no expected cumulative effects to ROS classes or visual quality within the analysis area of the Naches Mainstem and Rattlesnake Watersheds under this alternative.

SPECIAL USES

No Action Alternative

FSR 1700-416C

The Forest Service 1700-416c road is currently closed, due to Gold Creek flooding into the roadway. Listed below are specific impacts to associated special use permits if the proposed actions were not implemented:

- Recreation Residence and Club Site: Currently the summer home owners cannot access adjacent sections of the tract without walking or driving onto Highway 410. By not implementing the project, the washed out section of the 1700-416c would be left in an unnatural state with pieces of culvert lying within Gold Creek. This would leave the Gold Creek Summer Home owners with an unnatural view shed environment.
- All associated water transmission lines and ditches: with no action there would be no change to the existing necessary use of the water transmission lines and ditches.
- PacifiCorp: By not decommissioning the roadway there would be no change to current conditions.
- Verizon Northwest: By not decommissioning the roadway there would be no change to current conditions.

FSR 1704

If left in the current condition, the Forest Service 1704 roadway would continue to deteriorate due to vehicular traffic and additional water damage. Listed below are specific impacts to associated special use permits if the proposed actions were not implemented:

- PacifiCorp: By not implementing the proposed actions the roadway could potentially be a hazard to maintenance vehicles.
- Verizon Northwest: By not implementing the proposed actions the roadway could potentially be a hazard to maintenance vehicles.

For more information to travel safety, see Fire and Public Safety on page III-38.

Effects of Alternative A on Special Uses

Direct, Indirect, and Cumulative Effects

FSR 1700-416C

Recreation Residence and Club Site: By decommissioning the 1700-416c road the Gold Creek summer home owners would only be able to access certain sections of the tract by walking or driving onto Highway 410.

All associated water transmission lines and ditches: There would be no cumulative effects to any of the associated permitted water transmission lines or ditches.

PacifiCorp: There would be no cumulative effects to power lines.

Verizon Northwest: There would be no cumulative effects to the telephone lines.

FSR 1703

By decommissioning the Forest Service 1703 roadway there would be no direct, indirect, or cumulative effects as there are no special use permits authorized within or in close vicinity to the project area.

FSR 1704

Recreation Residences: By decommissioning the Forest Service 1704 roadway there would be a reduction of vehicular throughway traffic along the roadway. The summer home owners would be limited to only one entrance and exit from Highway 410.

PacifiCorp: By decommissioning the 1704 roadway maintenance to the associated poles and power lines would possibly be limited in areas.

Verizon Northwest: By decommissioning the 1704 roadway maintenance to the associated poles and phone lines would possibly be limited in areas.

FSR 1708

By repairing the Forest Service 1708 roadway there would be the potential to issue special use permits in the future within the area.

Effects of Alternative B on Special Uses

Direct, Indirect, and Cumulative Effects

FSR 1700-416C

Same as Alternative A.

FSR 1703

By repairing the Forest Service 1703 roadway there would be no direct, indirect, or cumulative effects as there are no special use permits authorized within or in close vicinity to the project area.

FSR 1704

Recreation Residences: By repairing the Forest Service 1704 roadway it would continue to be used by the summer home owners as a throughway for access.

PacifiCorp: By repairing the Forest Service 1704 roadway it would continue to be used by the power company as a throughway for access.

Verizon Northwest: By repairing the Forest Service 1704 roadway it would continue to be used by the phone company as a throughway for access.

FSR 1708

Same as Alternative A.

CULTURAL RESOURCES

Naches Ranger District cultural resource site and survey records were reviewed. The Gold Creek historic summer homes are located adjacent, but outside of the 1700-416c project area. These cabins and associated outbuildings are privately owned, but permitted to be on Forest Service land. NHPA Section 106 consultation for the 1700's 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). It was determined the project would have "No effect" as there were no cultural resources within or in close proximity to the project area. The complete Cultural Resources specialist report and field surveys are within the project file.

No Action Alternative

Historic Properties

By not implementing the project, there would be no new risk of effects to any known or 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.

Forest Service Trust Responsibility

Effects to tribal use and practices in the 1700 System 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.

Effects of Alternative A on Cultural Resources

Direct, Indirect and Cumulative Effects of Alternative A on Historic Properties

The Gold Creek historic summer homes are located outside, but adjacent to the 1700-416c proposed project area. There will not be any direct, indirect, or cumulative effects to these

privately owned summer homes by the proposed actions. 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 of Alternative A on Indian Practices

The project area is considered the boundary for effects analysis with respect to Indian practices. For the preferred actions 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.

Effects of Alternative B on Cultural Resources

Direct, Indirect and Cumulative Effects Alternative B on Historic Properties

The Gold Creek historic summer homes are located outside, but adjacent to the 1700-416c proposed project area. There will not be any direct, indirect, or cumulative effects to these privately owned summer homes by the alternative actions. Contracts 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 of Alternative B on Indian Practices

The project area is considered the boundary for effects analysis with respect to Indian practices. For the alternative actions 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.

OTHER REQUIRED DISCLOSURES

Areas with Unique Characteristics or Uncertainty

It was found that no parklands, Inventoried Roadless Areas (IRAs), Potential Wilderness Areas, or Wilderness Areas were within the project area, adjacent to the project area, or would be measurably impacted by either action alternative. The Okanogan Wenatchee National Forest Plan revision process has completed an inventory of Potential Wilderness Areas as directed in FSH 1909.12 Chapter 70 wilderness evaluation.

Clean Air Act

Alternatives A and B do not include any burning or actions that would cause 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

Alternatives A and B do 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

Alternatives A and B of the 1700 System Flood Repair Project will not disproportionately affect any social groups or civil rights. This project includes purchase 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.

Alternatives A and B will 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

Alternatives A and B comply with the federal regulations for prime land. None of the project areas is within prime forest, rangeland, or farmland; therefore there is no effect on any prime land.

Wild and Scenic Rivers

Alternatives A and B comply with the regulations of Wild and Scenic Rivers. This project will have no impact on designated Wild and Scenic Rivers.

CHAPTER IV

Public Involvement Summary

Public Scoping

The Project Initiation Letter (PIL) on October 5, 2011 directed the IDT to include a compilation of specialist and planner from the Cle Elum and Naches Ranger districts. For a full list of persons consulted, see Chapter V.

The 2013 Flood Repair Project Proposals (scoping letter in Appendix A) contained the proposal for the 1700 Road System. The tribal scoping letter was sent to the Yakama Nation on July 10, 2012 and on July 20, 2012 the public scoping letter was sent to over 1,000 recipients.

Additional public outreach included presentations and available information at:

- Forest Service Schedule of Proposed Actions (SOPA)
- 2012 & 2013 Central Washington Sportsmen Show
- Multiple (2011-2013) Trails and Wilderness Interest Group Meetings (TWIG)
- 2012 Central Washington State Fair
- Pacific Northwest 4-Wheel Drive Association meetings, both local and regional
- Dust Dodger Motorcycle Club meetings
- Cascade Quad Squad Club meetings
- Naches Ranger District foyer

Comments

The IDT received 66 comments total on the 1700 System Flood Repair project during the scoping period. Comments included:

- 58 individual public comments
- Pacific Northwest 4-Wheel Drive Association (PNW4WD)
- Washington State Department of Fish and Wildlife
- NOAA Fisheries
- Yakama Nation
- S. Martinez Livestock Inc., Manastash Sheep Allotment Permittee
- Washington State Parks and Recreation Commission
- Nile Cliffdell Fire Department
- Washington State Department of Transportation

Topics within the comments included safety concerns, firefighting access, travel access, illegal use, recreational access, hunting access, capital improvement retention, economics, wildlife habitat improvement, aquatic habitat improvement, access for allotment operations, and access for the elderly.

During scoping, an issue was brought up regarding the decommissioning of FSR 1700-416C at mile post 0.1. Cabin owners that live in the summer home tract use FSR 1700-416C to drive

from one side of the tract to the other. Cabin owners claimed that this throughway was important to them in order to access both sides of the tract. They also said that the second entrance, which now half of the owners must use with the road un-repaired, is unsafe. The District Ranger met with cabin owners and the Washington State Department of Transportation and determined that the alternative to repair FSR 1700-416C would be eliminated from detailed study.

For a complete list of comments and topics, see the project file. The majority of individual public comments were in favor of repairing and re-opening all roads within the 1700 system.

CHAPTER V

Organizations, Agencies, and Persons Consulted

Forest Service

Naches and Cle Elum Ranger District Interdisciplinary Team

Mike Carroll	Team Leader, Engineer
Michelle King	NEPA Planner
KC Briggs	Fisheries
Bill Garrigues	Hydrology
Jo Ellen Richards	Wildlife
Kathryn Buchholz	Cultural Resources
Chris Ownby	Geographic Information Systems
Sue Ranger	Recreation, Visual Quality
Jason Emhoff	Fire, Public Safety, Fuels, Vegetation Management
Carla Jaeger	Range
Helen Lau	Botany
Lauren DuRocher	Recreation, Visual Quality

Other Participants

Irene Davidson	Naches Ranger
Judy Hallisey	Cle Elum Ranger
Jodi Leingang	Environmental Coordinator, Naches Ranger District
Marge Hutchinson	Engineer, Okanogan Wenatchee National Forest
Richard Vacirca	Forest Fisheries Program Leader, Okanogan Wenatchee National Forest

Agencies Consulted

NOAA Fisheries
US Fish and Wildlife Service

Agencies Notified

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

CHAPTER VI

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OKANOGAN-WENATCHEE NATIONAL FOREST | JULY 2012

Flood Repair *projects*

PROPOSED ACTIONS FOR THE NACHES AND CLE ELUM RANGER DISTRICTS 2013 FLOOD REPAIR PROJECTS

In May 2011, the Naches and Cle Elum Ranger Districts experienced a 100-year flood impacting 40 roads, multiple campgrounds, and several other recreational areas. In June 2011, the Okanogan-Wenatchee South Engineering Zone documented the extent of the damage and was granted Federal Lands Highway funding for emergency relief.

Currently, the planning team has completed the analysis for four flood repair projects including: Forest System Road (FSR) 3100 mile post 0.9 - 2.2, FSR 3100 mile post 10.4, FSR 1808 mile post 4.2, and FSR 1601 mile post 0.3. All four of these projects are scheduled to be constructed July-September of 2012.

This brochure outlines the proposed actions for the five 2013 flood repair projects. The damaged sites are broken up into the following analysis groups: FSR 1501, FSR 1700, FSR 1901, FSR 3300, FSR 4517-117. All projects will undergo an environmental analysis consistent with the National Environmental Policy Act (NEPA).

The Okanogan-Wenatchee National Forest will accomplish multi-use objectives by working with the Yakama Nation, WA Department of Fish and Wildlife, WA Department of Natural Resources, U.S. Fish and Wildlife, National Marine Fisheries Service, and several other vested parties. At this time, the team is asking for public comment and feedback. Please review the proposed actions and provide us with questions, comments, and concerns.

Is this a road or a stream? This is FSR 1708 in May 2011. In some places, the stream completely overtook the road.

Naches Ranger District
10237 U.S. Highway 12
Naches, WA 98937
(509) 653-1401

Cle Elum Ranger District
803 W. 2nd Street
Cle Elum, WA 98922
(509) 852-1100

Okanogan Wenatchee National Forest Supervisor's Office
215 Melody Lane
Wenatchee, WA 98801
(509) 664-9200

Project Objectives

The objectives of the 2013 Flood Repair Projects are:

- Address roads with serious damage caused by a natural disaster or catastrophic failure.
- Reduce road and stream interactions.
- Maintain aquatic and wildlife habitat standards in respect to the Forest Plan and national direction.

STAY INVOLVED:

Federal Highway Standards and Forest Service Roads

Did you know that all Forest Service Roads must meet Federal Highway Standards? Although Forest System Roads (FSRs) are managed at different levels, every road must meet basic Federal Highway Standards. For example, every road and crossing must be able to handle the weight and turning radius of a **loaded logging truck**. Even if a FSR is not paved, the river and stream crossing must be strong enough to handle the weight of these heavy vehicles. For more information on Federal Highway Standards visit: https://fhwapap04.fhwa.dot.gov/nhswp/.

Join the project mailing list to get updates on the status of the 2013 Flood Repair Projects.
Please contact Michelle King at 509-653-1420; mdking02@fs.fed.us

We thank those individuals who choose to be contacted via email as it helps the Naches Ranger District save paper and money.

Project Consistency and Environmental Protection

The objectives of the proposed 2013 Flood Repair Projects are consistent with recommendations present in relevant national and regional direction. Projects on the Forest will follow the direction for land and habitat management as per the **Wenatchee National Forest Land and Resource Management Plan** (1990) as amended by the **Northwest Forest Plan** Standards and Guidelines for Management of Habitat for Late Successional and Old-Growth Forest Related Species within the Range of the Northern Spotted owl (1994). By applying site specific road designs and implementing appropriate maintenance requirements, all projects on the Forest will be consistent with the **Aquatic Conservation Strategy** objectives.

In compliance with the **National Environmental Policy Act** (NEPA), each project is classified as an Environmental Assessment (EA) or a Categorical Exclusion (CE). Each EA will discuss the project's purpose and need, affected environment, potential alternatives, environmental and social effects, and public involvement. As part of the **Endangered Species Act** (1973) consultation process, a Biological Evaluation will be completed for each project. Each project will comply with the **Pacific Northwest Region Invasive Plant Program Record of Decision** (2005), the **Clean Water Act** (1972), the **Clean Air Act** (1963), **Executive Order 11988** for Floodplain Management, **Executive Order 11990** for Wetland Protection, and the **Magnuson-Stevens Fishery Conservation and Management Act**.

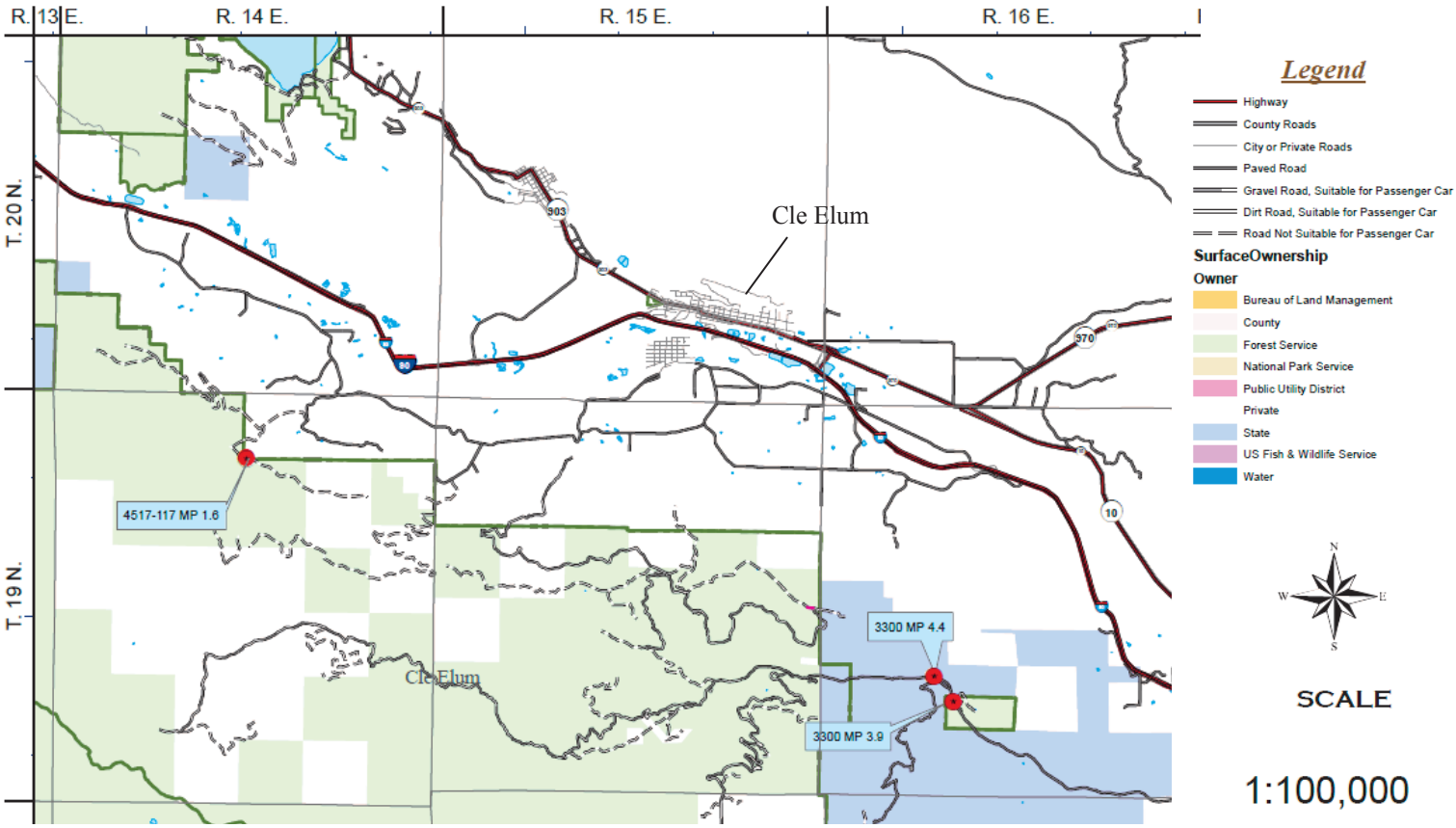
Although the Okanogan-Wenatchee is enacting public scoping for all of the 2013 proposed projects at the same time, each of the five projects will be individually analyzed and will have separate project files. The Potential Repair Options at each site represent possible actions the planning team has began to review. Your knowledge of the area and feedback could lead to the development of a new potential repair. Scoping is an important time for the planning team to gather additional information while beginning the environmental analysis.

Project Locations

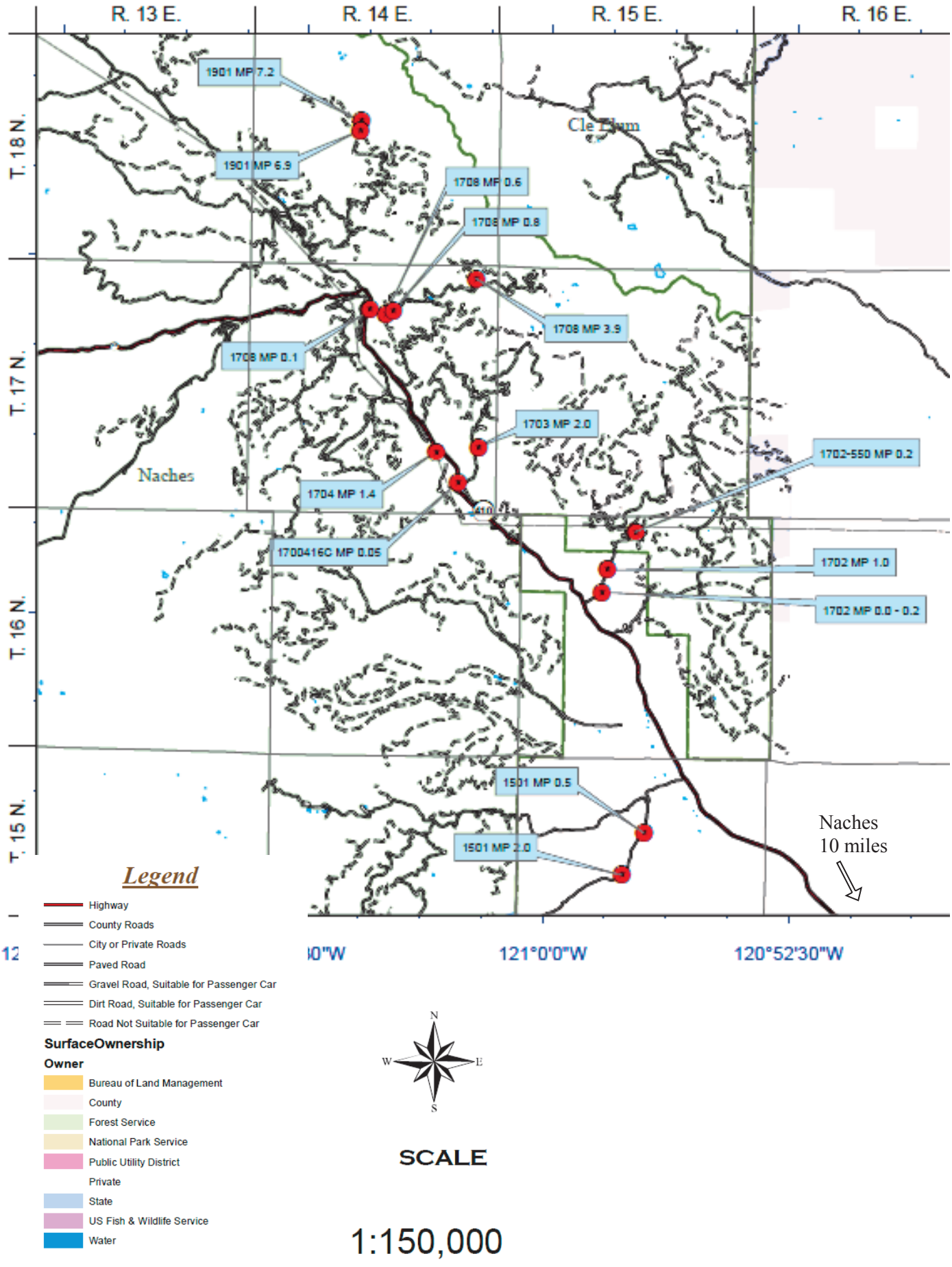
Washington State

General vicinity of the five project sites

Cle Elum Ranger District Project Locations



Naches Ranger District Project Locations



Forest Service Road 1901

Naches Ranger District

Project Analysis Type: Categorical Exclusion, 36 CFR 220.6(d)(4)

This project is not required to have an Environmental Assessment but will still be subject to Appeal Regulations CFR 215. A Categorical Exclusion (CE) is a more streamlined method of analysis used in cases where the expected impact is limited. There will be an Official Comment Period and Decision Memo associated with this project.

Mile Post 6.9

Location

This damaged site is located in the Little Naches drainage on the Naches Ranger District. Forest System Road 1901 is also known as Quartz Creek Road. This site is located in Township 18N, Range 14E, Section 16 in Kittitas County. This area is currently closed at the FSR 1901 and 1916 junction. This is a maintenance level two road at the project site.

Flood Damage

During the May 2011 flood, flood water caused the road fill and slope to fail as it ran down and crossed the roadway. When the road began to erode, it caused a debris flow down the side of the slope. Approximately half of the existing road prism is missing at this location. The damaged area spans 46 feet.

Potential Repair

Option A: Repair the road in place. Excavate the existing shoulder slump area and install a 50 foot long wall with rock backfill upslope of the road. Re-vegetate the eroded slope and rebuild the aggregate road surface.

Option B: Close the road at the current junction with FSR 1916. Stabilize the slope to prevent further damage and sedimentation. This site is also in a potential restoration project area and the outcome of the road in its entirety will be analyzed in the future.

Forest Service Road 1901

Naches Ranger District

Mile Post 7.2

Location

This damaged site is located in the Little Naches drainage on the Naches Ranger District. The FSR is also known as Quartz Creek Road. This site is located in Township 18N, Range 14E, Section 16 in Kittitas County. This area is currently closed at the FSR 1901 and 1916 junction. This is a maintenance level two road.

Flood Damage

During the 2011 flood event, the existing 60 inch culvert failed to properly transport water below the road. The stream deposited streambed material upstream of the crossing and into the culvert. With the stream flowing over the road, a large amount of roadway and road fill washed away.

Potential Repair

Option A: The crossing will be fixed and the road would be repaired to pre-existing single lane width.

Option B: Close the road at the junction with FSR 1916. Remove roadway and road fill that could continue to put sediment into the stream. Remove the culvert and stabilize the roadway away from the crossing.

Forest Service Road 1501

Naches Ranger District

Project Analysis Type: Environmental Assessment

This project was first initiated in July of 2011 but has now been reinitiated to be included in the South-Zone flood repair projects. The previous proposed action should be disregarded.

Mile Post 0.5

Location

This damaged site is located in the Rattlesnake drainage. The FSR 1501 is also known as the Little Rattlesnake. This project is unique as the repair sites are within WA State Department of Natural Resources land, however, as a FSR it is maintained by the Naches Ranger District. This site is located in Township 15N, Range 15E, Section 10 and is in Yakima County. It is currently a maintenance level four road.

Flood Damage

Damage at this location occurred in 2009 and during the 2011 flood event. The stream began flowing into the road ditch and then across the road. From mile post 0.5 for 350 feet, the stream is now running across and on the road, eroding some of the asphalt pavement surface as well as the aggregate road base. From 350 to 800 feet beyond mile post 0.5, the stream is occupying and eroding the roadside ditch. It is continually eroding the road prism pavement, and road fill along the shoulder.

Potential Repair

Option A: Shift the roadway up and away from the channel at this location. Obliterate the old road section and restore a flood plain area with vegetation. The new road piece would be armored with rocks and large pieces of wood.

Option B: Decommission FSR 1501 from mile post 0.0 to 5.1. This would include obliterating the road, removing necessary road fill and asphalt that could wash out into the stream, and creating wood and rock structures to stabilize the area.

Forest Service Road 1501

Naches Ranger District

Mile Post 2.0

Location

This damaged site is located in the Rattlesnake drainage. The FSR 1501 is also known as the Little Rattlesnake. This project is unique as the repair sites are within WA State Department of Natural Resources land, however, as a FSR it is maintained by the Naches Ranger District. This site is located in Township 15N, Range 15E, Section 16 and is in Yakima County. It is currently a maintenance level four road.

Flood Damage

During a high water event, the Little Rattlesnake stream activated a side channel that cut into the road prism and eroded approximately three feed of road surface. The damage to the road surface extends 26 feet and damage to the road embankment spans a total of 74 feet.

Potential Repair

Option A: Shift approximately 200 feet of roadway up and away from the channel. Remove the old road bed and restore a flood plain area with vegetation. The new road would be armored with rocks and large pieces of wood for stabilization.

Option B: Decommission FSR 1501 from mile post 0.0 to 5.1. This would include obliterating the road, removing necessary road fill and asphalt that could wash out into the stream, and creating wood and rock structures to stabilize the area.

Forest Service Road System 1700

Naches Ranger District

Project Analysis Type: Environmental Assessment

Analysis Area

In order to properly address the cumulative and collective impacts of all of the repairs east of Highway 410, the planning team is analyzing multiple roads within one Environmental Assessment. There are six FSRs with a total of ten damaged sites:

- FSR 1700-416, mile post 0.1
- FSR 1702, mile post 0.0 and 1.0
- FSR 1702-550, mile post 0.2
- FSR 1703, mile post 2.0
- FSR 1704, miles post 1.3
- FSR 1708, mile post 0.0, 0.6, 0.8, and 3.9

The Naches River Drainage

Although the different damage sites may seem far apart, they are all near the Naches River or near a tributary of the Naches River. Furthermore, these roads are inter-connected and provide access to the same system on the forest. For example, a closure in one area would impact travel on other roads near by. The analysis team will analyze all sites as one project to be able to better measure the total effects of all the potential repairs. Beyond effects to wildlife and aquatic species, the team must analyze the effects to recreation, vegetation management, fire management, cultural resources and other uses of this area.

In order to provide useful comments on this project, **please be clear as to which FSR and which exact damage site you are commenting on**. The analysis is one document but each site will have a separate repair selection.

Forest Service Road System 1700

Naches Ranger District

FSR 1700-416
Mile Post 0.1

Location

This damaged site is located in the Gold Creek drainage on the Naches Ranger District. The road is a connector road in a summer home tract. The site is in Township 17N, Range 14E, Section 36 within Yakima County. This road is classified as a maintenance level two road.

Flood Damage

In the 2011 flood, Gold Creek washed out a 30 foot wide section of the road at the location of two 48 inch culverts. The culverts did not fill with debris but were unable to handle the large amount of water flowing through. A significant amount of road, road fill, and road shoulder was washed downstream. There are summer homes on both sides of the washout and both tracts can be accessed by State Highway 410.

Potential Repair

Option A: Install an open bottom arch of approximately 15 feet in length to replace the two failed culverts. Remove the two culverts, install arch, reconstruct the road, and re-vegetate exposed soil around the area.

Option B: Close the road at the crossing and remove approximately 100 feet of the road centered on the stream crossing. After removing the road and road fill, the stream bank would be stabilized and re-vegetated to prevent erosion.

Forest Service Road System 1700

Naches Ranger District

FSR 1702

Mile Post 0.0

Location

This damaged site is located along Rock Creek just off Okanogan-Wenatchee National Forest land. Rock Creek Road (FSR 1702) is currently closed from mile post 1.0-1.1, but before the flood damage occurred it accessed both Forest and State land. The site is located in Township 16N, Range 15E, Section 17. This road is a maintenance level three road and managed by the Naches Ranger District.

Flood Damage

In May 2011, flood water overtopped multiple culverts, forcing the creek over and down the road. The water moved over the road and damaged the aggregate surface for approximately 2,450 feet. Debris was deposited on the road and in the roadside ditches.

Potential Repair

Option A: Clean and repair approximately 1,900 feet of roadway ditch, install 430 feet of rock armor protection on the creek bank, and clear the existing culverts. Road will be resurfaced for approximately 200 feet.

Option B: Stabilize the crossings and relinquish the road easement. Permanently close FSR 1702 beyond mile post 1.

Forest Service Road System 1700

Naches Ranger District

FSR 1702

Mile Post 1.0

Location

This damaged site is located along Rock Creek just off Okanogan-Wenatchee National Forest land. Rock Creek Road (FSR 1702) is currently closed from mile post 1.0 to 1.1, and before the flood damage occurred it accessed both Forest and State land. The site are located in Township 16N, Range 15E, Section 8/9. This road is a maintenance level three road and managed by the Naches Ranger District.

Flood Damage

In the 2011 flood, high water flows eroded and damaged the road, road fill, and road shoulder. Rock creek narrows at this point in the valley with higher velocity flows. On the other side of the road is a steep slope.

Potential Repair

Option A: Build a precast concrete block wall to armor the road shoulder and prevent more erosion. Stabilize the area around the road.

Option B: Stabilize the road and bank and relinquish the road easement. Permanently close FSR 1702 beyond mile post 1.

Forest Service Road System 1700

Naches Ranger District

FSR 1702-550
Mile Post 0.2

Location

This damaged site is located on a spur road that connects with Rock Creek Road 1702. It is a maintenance level two road on the Naches Ranger District. The site is located in Township 16N, Range 15E, Section 4. The stream pictured is the righthand fork of Rock Creek.

Flood Damage

During the May 2011 flood, debris plugged the culvert and washed out 30 feet of road. There is currently no crossing and the 36 inch culvert is partially exposed.

Potential Repair

Option A: Clear and repair roadway and ditches. Install a 60 inch culvert to replace the 36 inch culvert. The crossing would be at the same location.

Option B: Reduce road to maintenance level 1 (closed) and stabilize the crossing. Remove the old culvert and road fill that could potentially be washed downstream.

Forest Service Road System 1700

Naches Ranger District

FSR 1703
Mile Post 2.0

Location

This damaged site is located along Gold Creek and is known as Gold Creek Road on the Naches Ranger District. This road is a loop road that connects with FSR 1705. The site is located in Township 17N, Range 14E, Section 25 in Kittitas County. This road previously was a snow mobile route in the winter and now is a maintenance level three road. The road is currently closed from mile post 0.0 to the FSR 1705 junction.

Flood Damage

Gold Creek washed out approximately 300 feet of road way. Above is the space where the road has washed away and where debris and boulders have filled in. During the 2011 flood event, the 60 inch culvert filled with rocks and debris and allowed the stream to overtop the road. The washout changed the course of the stream channel and created a large log jam that is causing river head-cutting.

Potential Repair

Option A: Rebuild the road in the same location allowing the stream to reclaim the old channel. The new crossing structure would be a 25 foot bottomless arch at the previous location of the culvert.

Option B: Reduce road to maintenance level 1 (closed) at crossing. Stabilize crossing and remove road and roadway fill that could erode further.

Forest Service Road System 1700

Naches Ranger District

FSR 1704
Mile Post 1.3

Location

This damaged site is located next to the main stem of the Naches River. Lower River Road (FSR 1704) and is classified as a maintenance level three road. The site is located in Township 17N, Range 14E, Section 26 in Yakima County. This is a connecter road between two summer home tracts and is currently open with a narrowed capacity.

Flood Damage

During the 2011 flood, high flows eroded the bank, road shoulder, and roadway. There is approximately 90 feet of damage resulting in a slumped road shoulder and roadway with a reduced width. At this site, the road is confined between the Naches River and a vertical rock face.

Potential Repair

Option A: Reconstruct eroded portion of road armoring river interface with extensive large rock and woody debris. Reconstruct road surface to minimize sedimentation into the river.

Option B: Close 1,500 to 2,000 feet of the road allowing for a turn around area on each side. Remove two thirds of the roadway to prevent additional erosion. Keep some surfacing to assist in stability.

Forest Service Road System 1700

Naches Ranger District

FSR 1708

Mile Post 0.0

Location

This damaged site is located along Milk Creek Road on the Naches Ranger District. Milk Creek Road (FSR 1708) intersects with State Highway 410 and has previously been the location of a snow park and groomed snowmobile route. The site is located in Township 17N, Range 14E, Section 9, in Kittitas County. This is a maintenance level three road and typically is heavily used. The road is currently closed from mile post 0.0 to the FSR 1708-590 junction.

Flood Damage

In 2011, the culvert at the Milk Creek crossing filled and allowed water to overflow onto the road and down towards Highway 410. Approximately 1,700 feet of road surfacing was damaged below the failed crossing. The 72 inch culvert is still in place.

Potential Repair

Option A: Pull out wood and debris that is partially blocking the pipe. Repair washed out portions of the road surface with aggregate surfacing.

Forest Service Road System 1700

Naches Ranger District

FSR 1708

Mile Post 0.6

Location

This damaged site is located along the heavily used Milk Creek Road on the Naches Ranger District. Milk Creek Road (FSR 1708) intersects with State Highway 410 and has previously been the location of a snow park and groomed snowmobile route. The site is located in Township 17N, Range 14E, Section 10, in Kittitas County. This is a maintenance level three road and is currently closed at mile post 0.0 to the FSR 1708-590 junction.

Flood Damage

During the 2011 flood, high flows eroded the road shoulder and bank. Portions of the road shoulder and road way were washed away narrowing the width of the road.

Potential Repair

Option A: Re-align the road to go up through the adjacent spur road. The spur road goes to a near-by rock pit and connects back to FSR 1708 at mile post 0.8. The re-aligned road would be made to level three maintenance road standards. The existing road would be decommissioned and the slope would be armored to prevent excess erosion.

Forest Service Road System 1700

Naches Ranger District

FSR 1708

Mile Post 0.8

Legal Description

This damaged site is located along the heavily used Milk Creek Road on the Naches Ranger District. Milk Creek Road (FSR 1708) intersects with State Highway 410 and has previously been the location of a snow park and groomed snowmobile route. The site is located in Township 17N, Range 14E, Section 10, in Kittitas County. This is a maintenance level three road and is currently closed at mile post 0.0 to the FSR 1708-590 junction.

Flood Damage

During the 2011 flood, high flows and debris eroded the road shoulder and bank. Portions of the road shoulder and road way were washed away narrowing the width of the road.

Potential Repair

Option A: Re-align the road to go up through the adjacent spur road. The spur road goes to a near-by rock pit and connects back to FSR 1708 at mile post 0.6. The re-aligned road would be made to level three maintenance road standards. The existing road would be decommissioned and the slope would be armored to prevent excess erosion.

Forest Service Road System 1700

Naches Ranger District

FSR 1708

Mile Post 3.9

Legal Description

This damaged site is located along the heavily used Milk Creek Road on the Naches Ranger District. Milk Creek Road (FSR 1708) intersects with State Highway 410 and provides access to several four wheel drive trails. The site is located in Township 17N, Range 14E, Section 1, in Kittitas County. This is a maintenance level three road and is currently closed at mile post 0.0 to the FSR 1708-590 junction.

Flood Damage

The creek crossing the road is a tributary to Milk Creek and is in an area with high sediment dispersal. During 2011, the culvert plugged with debris and created a new crossing down the ditch and then over the road.

Potential Repair

Option A: Remove the existing buried culvert and replace it with a larger culvert (approximately 60 inches) in the same location. Repair the road and road shoulder and return the stream to the pre-flood channel. Road and ditch would be armored for protection from future flood events.

Forest Service Road 4517-117

Cle Elum Ranger District

Project Analysis Type: Categorical Exclusion, 36 CFR 220.6(d)(4)

IMPORTANT: This project is not required to have an Environmental Assessment and is not subject to Appeal Regulations CFR 215. This means that the public will have one opportunity to comment on this project during the Scoping Period (see page 24). This type of analysis is generally shorter than an Environmental Assessment and will not require an Official Comment Period or Decision Memo.

Mile Post 1.6

Legal Description

This damaged site is located on Granite Road on the Cle Elum Ranger District. The road is a maintenance level two road and the project site is Township 19N, Range 14E, Section 4 in Kittitas County.

Flood Damage

The damaged crossing is at the location of a stream alluvial fan. During the 2011 flood, high flows and debris washed away the road around the existing culvert and deposited debris all over the site.

Potential Repair

Option A: Remove the existing culvert and make the crossing a natural-material ford. The ford would not be armored and would allow for traffic to drive through the site in low-flow or no-flow periods. The surface of the ford would be compacted. There would be a widened road area added before the ford to allow vehicles that did not want to cross to be able to turn around.

Forest Service Road 3300

Cle Elum Ranger District

Project Analysis Type: Environmental Assessment

Mile Post 3.9

Legal Description

This damaged site is located along Taenem Road on the Cle Elum Ranger District. This is a maintenance level four road and is currently open with a narrowed driving width. This site is directly across from the Taenem Campground. The site is located in Township 19N, Range 16E, Section 28 in Kittitas County.

Flood Damage

During the 2011 flood, the gabion baskets and bank failed to protect the road and the road collapsed into the stream. Portions of the roadway and road shoulder are missing and the road width is narrowed. Currently, the stream is confined on the road and the campground side at this location.

Potential Repair

Option A: Replace failed gabion baskets with a pre-cast concrete block wall. Remove the berm between the stream and the campground, allowing the river to regain that portion of the floodplain. The historic structures of the campground will be protected, however, the picnic area and two campground locations will become part of the river flood plain. These sites are closest to the stream bank. The road would be repaired to pre-flood conditions.

A

Forest Service Road 3300

Cle Elum Ranger District

Mile Post 4.4

Legal Description

This damaged site is located in along Taenem Road managed by the Cle Elum Ranger District. This is a maintenance level four road and is currently open with a narrowed driving width. The road is managed by the Forest Service but the site is located on Washington Department of Fish and Wildlife land. The site is located in Township 19N, Range 16E, Section 29 in Kittitas County.

A

Flood Damage

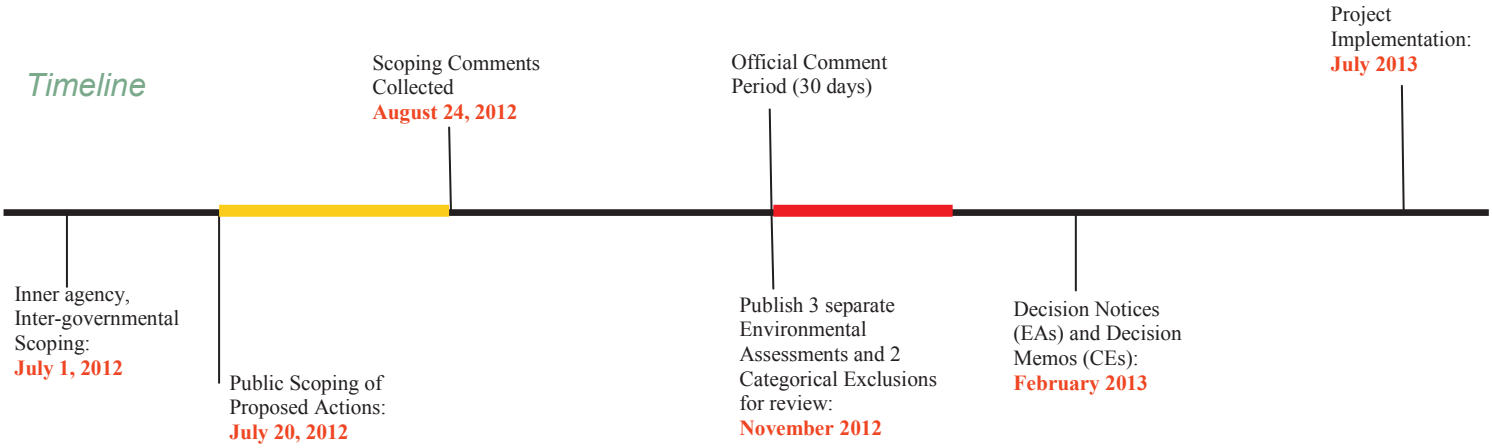
During the 2011 flood, the gabion baskets and bank failed to protect the road and the road collapsed into the stream. Portions of the roadway and road shoulder are missing and the road width is narrowed.

Potential Repair

Option A: Replace gabion baskets with a sheet pile wall. The wall would be made of connecting sheet piles that lock together and would be approximately 120 feet in length. Repair the road to pre-flood condition.

Getting Involved

Timeline

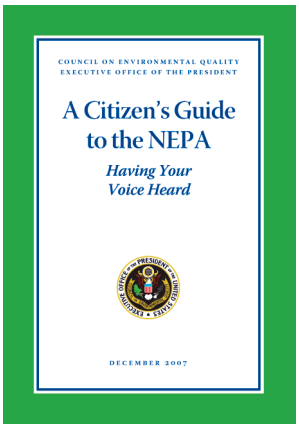


The planning processes for all five Flood Repair Projects are currently underway. The proposed actions presented here represent the planning team's initial proposal to address specific issues in each project area. Your personal knowledge of this area can help the team identify additional issues and opportunities not previously defined. In addition, your comments can provide the input necessary to develop alternative proposals that address these issues. Specific scoping comments will be most helpful to the planning team by **August 24th, 2012**. Comments received anytime during the analysis period will be accepted and give consideration and all comments will be part of the public record for this project. Please be aware that unless you request that this information not be disclosed and provide an adequate reason, it will become public record. To establish appeal rights, individuals or groups must make a substantive comment during the **'Official Comment Period'**. The Official Comment Period begins once legal notice is published in the Wenatchee World and the specific document has been made public for review. Please note– after scoping, each of the five projects may follow a different timeline.

Navigating the NEPA Process

A valuable reference for anyone wishing to get involved in the NEPA process is *A Citizen's Guide to the NEPA, Having Your Voice Heard* (Council on Environmental Quality). A copy of the guide can be found at:

http://ceq.hss.doe.gov/nepa/Citizens_Guide_Dec07.pdf



Some highlights:

- Citizens who want to raise issues with the agency should do so at the earliest possible state in the process. Agencies are much more likely to evaluate a new alternative or address a concern if it is raised in a timely manner.
- Comments may be the most important contribution from citizens. Accordingly, comments should be clear, concise, and relevant to the analysis of the proposed action. As a general rule, comments should be polite and respectful.
- Comments that are solution oriented and provide specific examples will be more effective than those that simply oppose the proposed projects.
- Remember that decision makers also receive other information and data such as operational and technical information related to implementing an action that they will have to consider when making a final decision.

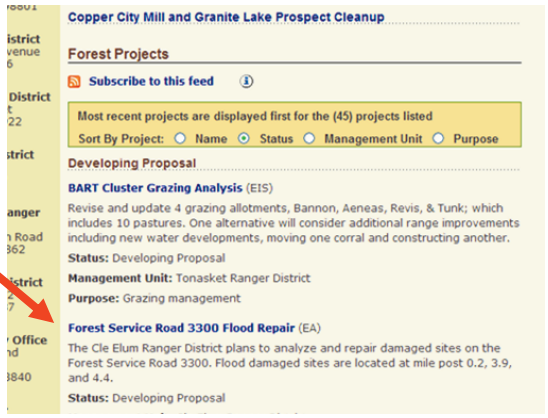
Comments or Questions?

The Naches and Cle Elum Ranger Districts are asking for questions, comments, and concerns on the presented proposed actions. Please send us your feedback by August 20, 2012. Visit the project websites to submit comments and find more information:

http://www.fs.usda.gov/projects/okawen/landmanagement/projects

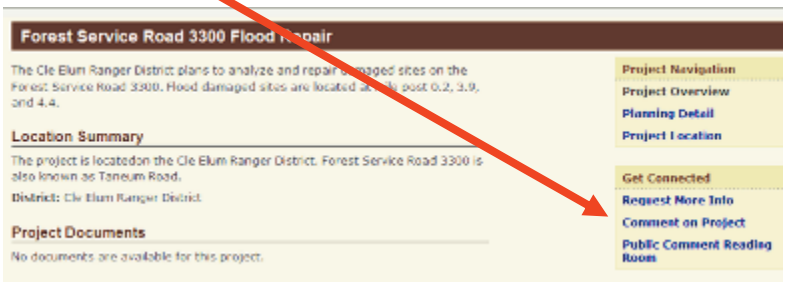
Once on the Project webpage, scroll down to 'Forest Projects' to search for the project you are interested in.

Select the project you are interested in



OR

Select 'Comment on Project'



Mail comments to:

Michelle King
Naches Ranger Station
10237 U.S. Highway 12
Naches, WA 98937

For questions or more information, please contact:

Michelle King
mdking02@fs.fed.us
509-653-1420

We look forward to hearing from you,

IRENE L. DAVIDSON
Naches District Ranger

JUDY HALLISEY
Cle Elum District Ranger

APPENDIX B

Applicable Standards, Guidelines, and Best Management Practices

This is only a sampling of Forest Service standards that are relevant to the 1700 System Flood Repair Project. As per Federal direction, the Naches Ranger District during project implementation will follow all Forest Service applicable Standards and Guidelines, Best Management Practices, and other direction outlined in tiered Environmental Impact Statements.

- Applicable standards from the 2005 USDA Forest Service Final Environmental Impact Statement and Record of Decision for Preventing and Managing Invasive Plants and 2002 USDA Forest Service Okanogan and Wenatchee National Forest Weed Management and Prevention Strategy and Best Management Practices
    - All mud, dirt, and plant parts would be removed from all heavy equipment (bulldozers, skidders, graders, backhoes, dump trucks, etc.) prior to operation outside the limits of the road prism on National Forest System Lands. This also includes public service vehicles (USDA Forest Service 2005, ROD Standard 2).
    - All equipment would be cleaned prior to leaving the project site, if moving to uninfested areas (USDA Forest Service 2005, ROD Standard 2).
    - When equipment is moving from one portion of project area that is weed infested to another portion that is weed free, it would be required to be cleaned as described above. A District Noxious Weed Coordinator or District Botanist would provide locations of weed-infested treatment units on project maps.
    - Forest personnel would inspect, remove, and properly dispose of weed seed and plant parts on their clothing, equipment, and vehicles (USDA Forest Service 2005, ROD Standard 2) .
    - Locally adapted native plant material or seeds are the first choice in revegetation or restoration where timely regeneration is not likely to occur. Under no circumstances will non-native invasive plant species be used for regeneration. (FSM 2070, 2008, USDA Forest Service 2005, ROD Standard 13).
    - Certified Weed free plant materials and mulch would be used for revegetation and site stabilization (USDA Forest Service 2005, ROD Standard 3).
    - All gravel, fill, sand, quarry and borrow material must be inspected by the county weed board or a district weed specialist before transport or used in the project area. Infested sources are required to be treated before any use of pit material is used (USDA Forest Service 2005, ROD Standard 7).
    - Road maintenance activities would be coordinated with invasive plant treatment (hand pulling, mowing, herbicide application, planting) to maximize efficacy (USDA Forest Service, 2002, BMP III-9.1; Standard 8).
- If rare species of plants, bryophytes, lichens, or fungi (Threatened, Endangered, Sensitive, Survey & Manage) are found during implementation of the project, a botanist would establish protection measures so these species are not impacted.

- If weed (invasive species) abatement is necessary, the following native seed mix will be used:

Species	Lbs/Acre
Blue Wildrye *Elymus glaucus*) 'Swauk'	10
California Brome (*Bromus carinatus*) 'Reecer'	17
Varied leaf Phacelia (*Phacelia heterophylla*) 'Squilchuck	.05
Bluebunch Wheatgrass (*Pseudoerigneria spicata*)'Squilchuck'	5

- Consistency with the National Historic Preservation Act of 1966 including if any new cultural resources are discovered during the course of project implementation, all work in that area would cease and the resources protected, until an archaeologist assess the find.
- Consistency with the National Best Management Practices for Water Quality Management on National Forest System Lands (USDA 2012).