



United States  
Department of  
Agriculture

Forest Service

Pacific  
Northwest  
Region



September 2010

# Summary

# Final Environmental Impact Statement

## Dosewallips Road Washout Project

Hood Canal Ranger District, Olympic National Forest  
Olympic National Park  
Jefferson County, Washington



## Summary

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# Final Environmental Impact Statement

## Dosewallips Road Washout Project

### **SUMMARY**

#### **Introduction**

The Dosewallips Road Washout Project (DRWP) addresses conditions created by a storm in January 2002 which washed away a portion of Forest Service Road (FSR) 2610. Subsequent storms also damaged a portion of Olympic National Park's (ONP's or park's) Dosewallips Road about 4 miles west of the damage on FSR 2610. Reestablishing road access is needed to restore motorized access to developed recreation facilities on both the Olympic National Forest (ONF) and ONP thereby meeting Forest objectives and desired conditions as identified in the Olympic National Forest Land and Resource Management Plan (1990) and park goals and mission as identified in the park's General Management Plan (2008). This final environmental impact statement (FEIS) assesses three alternatives for reestablishing road access on FSR 2610, with the proposed repair on the Dosewallips Road in the park being consistent with each alternative. The Olympic National Forest of the U.S. Forest Service is the lead agency in the preparation of this FEIS, and the Olympic National Park is a cooperating agency. Collectively both agencies are referred to as the Agencies.

#### **Changes between Draft and Final EIS**

The DEIS was circulated for a 60 day public review and comment from June to August 2008. Over 500 pieces of correspondence were received during the comment period. The Forest Service responded to public and internal comments in a variety of ways including: modifying the action alternatives (added a proposed Forest Plan amendment to drop a Survey and Manage standard requiring fungi equivalent-effort surveys and updated the park road repair description), supplementing the analysis, and making corrections to the analysis. A summary of public comments and Forest Service responses is provided in Appendix C.

#### **Project Location**

Project areas are located on the Hood Canal Ranger District of the ONF, and on the ONP; both in Jefferson County, Washington. Proposed Forest Service (FS) activities are located along FSR 2610 about 10 miles west of Brinnon, Washington and Highway 101. The project area is bounded on the north by the Buckhorn Wilderness, on the south by The Brothers Wilderness, and is within the Dosewallips Key Watershed (77,800 acres) as identified in the Northwest Forest Plan Record of Decision (USDA/USDI 1994). The legal description is Township 26 North, Range 3 West, Sections 16 and 17. Proposed park activities are located along its Dosewallips Road about 4 miles west of the FS project area, legal description is Township 26 North, Range 4 West, Sections 23 and 24.

## **Background**

During a storm in January 2002 approximately 310 feet of FSR 2610 washed out. The washout size had increased to about 520 feet as measured in September 2010. The washout cut off road access to approximately 5 miles of FS and ONP roads which had provided access to the ONF Elkhorn Campground and the ONP Dosewallips Ranger Station, campground, and several trailheads. FSR 2610 and the Dosewallips Road provide one of two motorized access portals into ONP on the east side of the Olympic peninsula.

FSR 2610 is a single lane road with turnouts, surfaced with aggregate (crushed rock). This road up to Elkhorn Campground, which includes the washout section, is maintained for passenger cars (FS maintenance level 3).<sup>1</sup> Prior to the washout it had provided access to Elkhorn Campground for vehicles pulling trailers and recreational vehicles (RVs). In 2001 approximately 1900 people used campsites at Elkhorn.

In May 2002 the FS prepared an environmental assessment (EA) to analyze management alternatives for responding to the conditions created by the washout. Based on a need for additional information that EA was revised in February 2003. After a public comment period on the February 2003 EA a decision was made in March 2004 to reestablish road access via a reroute located upslope and north of the washout. This decision was subsequently withdrawn to complete a more detailed analysis, which was documented in a draft environmental impact statement (DEIS) prepared in May 2008 and in this FEIS.

In late 2003 about 120 feet of the Dosewallips Road in the ONP at Milepost (MP) 0.85 (0.85 mile from the park boundary and about 4 miles from the washout on FSR 2610) near the Dosewallips Falls sustained damage when retaining walls failed. Cedar log retaining structures were constructed in the 1940's along a very steep area of the exposed bedrock side channel and along with more recently placed gabion baskets supported the outbound lane of the road. Failure of the retaining structures resulted in slumping of the road fill material. A site visit in 2010 determined that appropriate road stabilization work would involve removing the remaining log structural members and completing drainage work, which would involve a total of 225 feet of road.

The Dosewallips Road is an extension of FSR 2610 that dead-ends in the park. It is a single lane road with turnouts, surfaced with aggregate, and is maintained at park primitive road standards. A steep section of the road in the vicinity of the road failure is not recommended for large RVs and vehicles pulling trailers. Prior to the washout and road failure it had provided access to the Dosewallips Campground, Ranger Station and several trailheads. The road also provided motorized access for park trail maintenance operations on the east side of ONP and a helicopter search and rescue base located near the campground.

## **Development of Purpose and Need**

Purpose and need is an important part of the NEPA process and answers the question “Why

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<sup>1</sup> Maintenance Level 3 – Road is open to public travel and is maintained for passenger car use.

would we consider taking any action?” Development and definition of purpose and need is determined by the Responsible Official. It is important that the purpose and need be focused to properly identify relevant issues, develop reasonable alternatives, and focus the Responsible Official’s decision on the issues at hand. The evolution of this project’s focused purpose and need can be described by looking at the project’s NEPA process.

The Dosewallips Road Washout Project NEPA process has been longer than is typical for most Forest projects and also has a higher degree of complexity. As the NEPA process has developed since the washout in 2002 there have been changes in the project’s analysis framework. A description of the NEPA process and how it has changed over the life of this project is as follows and is important to an understanding of the current analysis framework. This is especially important due to the high degree of public interest in this project and the strong opinions expressed on both sides of the motorized access issue.

The NEPA process for this project began soon after the washout occurred in January 2002. Initial consideration was given to categorically excluding this project but a preliminary analysis of the degree of potential effects to some resource conditions indicated that further analysis documented in an EA was appropriate. After that decision by the Hood Canal District Ranger, who was the Responsible Official at the time, scoping or public involvement began in March of 2002. The preliminary purpose and need was identified as restoring access and the preliminary range of alternatives included an alternative to decommission and convert to trail the section of road beyond the washout.

As a result of the March 2002 scoping the Hood Canal District Ranger decided to establish “restoring access” as the purpose and need, and included a decommission and convert to trail alternative in the EA. It was also decided to include “Type of Access” as a major issue, which looked at what type (motorized vs. non-motorized) of recreational and administrative access should be provided. An EA was prepared in May 2002 and based on a need for additional information the EA was revised in February 2003. The revised EA did not change the purpose and need, issues, or range of alternatives.

Before a decision was made on this project there was a change in who was the Responsible Official. To avoid confusion on the resolution of any administrative appeals to a decision made on this project the Olympic National Forest Supervisor became the Responsible Official. So it was the Forest Supervisor who made a decision in March 2004 to reestablish road access via a reroute located upslope and north of the washout. This decision was subsequently withdrawn to complete a more detailed analysis.

The Forest Supervisor continued as the Responsible Official for the more detailed analysis (contained in this EIS) and established a purpose and need statement focused on *motorized* access based on his review of the analysis in the February 2003 EA, comments received on the project, input from the park, and his identification of the desired condition as being road access to Forest and park recreation facilities to restore the opportunity for people to realize the benefits these facilities were developed for and were intended to provide. Consequently the April 2005 Project Initiation Letter; the August 12, 2005 Notice of Intent in the Federal Register; and August 16, 2005 EIS scoping letter all identified the purpose and need as reestablishing road

access.

The more focused purpose and need serves a valuable purpose in focusing and developing a reasonable range of alternatives. While there are those who have in the past and continue to support an alternative to decommission the road beyond the washout and convert it to a walking trail, the Responsible Official has determined that this alternative does not meet the project's need of motorized access. Comments supporting non-motorized access were not ignored by the Responsible Official in making his decision on focusing the purpose and need on motorized access but it would be misleading and inappropriate to analyze and consider any alternatives that do not meet the identified purpose and need and would not result in achieving the desired condition for the resource.

## **Purpose and Need for Action**

Purpose and need is defined by the Council on Environmental Quality's regulations as the underlying need to which an agency is responding. The existence of a need is established by disparities between the existing and desired condition in a given area, for a focused situation and element.

It is not uncommon for the Forest Service to pursue an action to meet another agency's or organization's need. The Forest surrounds the park for about 75% of the park's interior or non-Olympic Coast boundary. Consequently a majority of the motorized access routes into the interior portion of the park, which are integral to the park meeting its recreational objectives, first cross the Forest. This is the case for the Dosewallips Road and as such the Forest is taking action to meet the park's need.

## **Existing Condition**

As previously described the Dosewallips Road has sustained damage on both the Forest and park sections of the road, resulting in a lack of motorized access to the Forest's Elkhorn Campground, but most importantly to all the park facilities in the Dosewallips River drainage. These facilities include the Dosewallips Campground, ranger station and trailheads.

## **Development of Desired Condition**

The desired future condition (DFC) for recreation, both overall and specifically for the Dosewallips area, on both the Forest and the park is described in their respective planning documents (the park's General Management Plan and the Forest's Land and Resource Management Plan [with additional guidance in the August 2007 Recreation Facility Analysis]). While each agency has its own specific recreation management objectives as described below, in general they complement each other and were developed in response to the same demographic conditions (characteristics of a human population).

A more complete social/economic demographic analysis is contained in Chapter 3 of this document but is summarized here in order to provide an understanding of each agency's recreation objectives in the Dosewallips area. The context of the demographic analysis is the

Dosewallips market zone, which generally identifies where visitors come from that use the recreation facilities in the park and Forest in the Dosewallips area. The Dosewallips market zone includes users from the local Olympic Peninsula (about 50% of total users) and non-local users from the Puget Sound area (about 25% of total users).

Trends in demographic factors are important considerations in identifying desired recreation conditions. The following are some key trends for the Dosewallips market zone.

- The market zone population has increased overall and a higher rate than the US population. An estimated 7 million people are within 150 miles of the Dosewallips area.
- In addition to the overall population growth, there is a steady growth in the population between the ages of 45-70. The Forest has the highest percentage of users over the age of 50 (35%) of any forest in the Pacific Northwest Region.
- Walking is the most popular outdoor activity in Washington State. Walking with appropriate infra-structure is very important to seniors.
- Patterns and type of visitor use have changed. There is a shift from distant activities such as camping to local community based activities or “close to home” activities, such as walking.
- Use among youth and multicultural communities is low despite high representation in the region. Studies indicate that from 1997-2003 the proportion of 9-12 year old children who spent time on outdoor activities such as hiking fell by 50 percent and Pacific Northwest studies have shown Asian and Hispanic cultures prefer a higher development level of recreation infra-structure.

## **Olympic National Park DFC and Need**

The park contains about 922,650 acres and has averaged 3.2 million recreation visits a year for the period 1990 to 2006. A majority of the yearly recreation visits, particularly to the interior portion of the park, are concentrated in the frontcountry (non-wilderness areas of the park where park and concession facilities may be located) areas with road access. Since 95% of the park is designated wilderness, only the remaining 5% of the park consists of road accessible frontcountry. The park identified a need to retain road access to existing developed areas, and in the park’s recently approved General Management Plan (GMP) the decision was made to retain road access to existing frontcountry areas (USDI NPS 2008). Keeping access to the existing developed areas is critical to the park’s goal of providing a range of recreational opportunities for both frontcountry and wilderness users. Specifically the decision was made to provide seasonal road access (adjusted depending on weather conditions) to Dosewallips, and retain the existing facilities and open the ranger station and campground seasonally.

The park’s GMP developed three broad management zones (frontcountry, special, and wilderness) and subsets of these zones, and applied them to different areas of the park. The mix of these zones as designated in the GMP allows the park to meet a diverse range of visitor recreation activities within the park’s overarching management guidance. Frontcountry areas with road access provide opportunities for less strenuous kinds of visitor recreation experiences, such as short nature hikes, sightseeing, and facilities such as developed campgrounds. The frontcountry zone is divided into three sub-zones; development, day use, and low-use; with the low-use zone applicable to the Dosewallips Road Washout Project. Areas within the low-use zone include those frontcountry areas that have fewer facilities and services and provide a more

remote or isolated visitor experience. As compared to the other frontcountry zones there would be more opportunities for solitude, remoteness, and presence of natural sounds.

The east side of the park, where there are only two motorized access routes into the park (Staircase and Dosewallips), is only 40 miles due west of the Seattle-Tacoma corridor. Public use numbers for the eastern portion of the park (Hoodsport District which includes Staircase and Dosewallips) show a drop in yearly average use since the washout, indicating that this component of the park's recreation goal is not being met. For the post-washout period (2002-2005) as compared to the pre-washout period (1996-2001), the numbers of recreation visitors and campground users were down 25%, and numbers of trail users were down 58% and backcountry users down 21%. As compared to the park-wide use figures for the same periods, as a whole Hoodsport District use is significantly down for campground and recreation visitors use, with a marked decrease in trail users as compared to park-wide use for this data set. Backcountry use for the Hoodsport District is also down but more closely follows the overall park downward trend in backcountry use.

The park has strongly supported restoring motorized access to their facilities at Dosewallips, as documented in letters to the Forest. In an April 3, 2003 comment letter on the 2003 EA the Acting Superintendent supported restoring motorized access to continue to provide access for park visitors to the Dosewallips Campground and trailheads. And in an April 15, 2009 letter the park superintendent stated the importance of the Dosewallips Road to the park. The Dosewallips area fills an important niche in providing for a wide range of visitor recreation experiences. It provides a camping experience in tune with the wilderness experience/concept for those people who do not have the ability to backpack and "rough it". It has been an important family camping area and prior to the washout was a very popular drive in area that provided a unique experience among the park's developed area campgrounds.

Administrative access is an additional need for restoring motorized access to the facilities at Dosewallips. There is over \$1,800,000 worth of infrastructure that cannot be adequately maintained without drive in access and much if not all of the infrastructure would likely be removed if drive in access is not restored.

## **Olympic National Forest DFC and Need**

The 1990 Land and Resource Management Plan or Forest Plan designated the Elkhorn Campground to management prescription A3 – Developed Recreation Sites and Administrative Sites. At the time the Forest Plan was developed Elkhorn Campground filled an important recreational need. It was one of five campgrounds that consistently exceeded theoretical capacity and was planned for expansion. The Forest Plan envisioned that Elkhorn Campground would help meet the goal of providing a wide variety of recreation opportunities. The Forest Plan used the Recreation Opportunity Spectrum (ROS) to describe the range of recreational opportunities provided by the Forest. Elkhorn Campground is one of only two campgrounds on the Forest in the Semi-Primitive Motorized class.

Additionally the Olympic National Forest Outdoor Recreation Strategy (USDA 2007a), a ten-year recreation strategy, established desired conditions for recreation program areas that closely

reflect direction in the Forest Plan, updated to incorporate recent analyses and new demographic information. It addresses the changing demographics, budgets, visitor trends, opportunities, and capacity on the Forest. Creation of the strategy was spurred by unprecedented growth in the communities surrounding the Forest over the last decade, particularly along the eastern and northern corridors, and changing recreational use patterns. The recreation niche identified in the strategy positions the Forest as a haven of day use opportunities. A key component of the strategy is the four “Cornerstones” which are developed campgrounds intended to serve as staging areas from which to access geographically unique day use activities. Seal Rock is one of the Cornerstones and is located just north of Brinnon, Washington along Highway 101.

Another component of the recreation strategy is developed recreation sites; which are campgrounds, picnic areas, and trailheads outside of the Cornerstones. According to the strategy the desired future condition for developed recreation sites near Cornerstones, which would include Elkhorn Campground as it is located about 12 miles from Seal Rock, is that these sites experience more intensive use and provide safe facilities accessible to a diverse public, including the physically challenged.

Management direction for Elkhorn Campground is also included in the Forest’s Recreation Facility Analysis (USDA 2007b) which is a document that describes the vision for the overall Forest recreation program and outlines proposals specific to individual developed recreation sites. According to the analysis Elkhorn Campground is included in the management category of sites that meet the Forest’s recreation niche, are environmentally sustainable within the capability and capacity of the natural resources, are supported by and provide support to local communities, and have a sustainable management cost-benefit ratio.

Similar to the park, the Forest needs motorized access to adequately maintain the infrastructure at Elkhorn Campground. Resources would not be available to maintain Elkhorn as a walk-in campground and without motorized access this site would be treated as a dispersed site without facilities. A dispersed site would not meet the Forest’s recreation program direction for Elkhorn Campground.

## **Project Purpose**

Based on the park’s need as demonstrated in the management direction in the 2008 GMP and the Forest’s need as demonstrated in the Forest’s management direction, the purpose of this project is to reestablish road access to pre-washout standards (road access is recommended in the park’s GMP and the Forest’s Access and Travel Management [ATM] Plan) on FSR 2610 and the park’s Dosewallips Road to ONP and ONF recreation facilities. Access for passenger cars, vehicles pulling trailers, and RVs would be provided to Elkhorn Campground; with passenger car access to the park’s Dosewallips Campground, ranger station, and trailheads.

## Proposed Action<sup>2</sup>

The FS and ONP propose to meet the purpose and need by restoring road access on FSR 2610 and Dosewallips Road to the access condition which existed prior to the storm events. Initially the proposed action was to rebuild FSR 2610 through the washout area with a low-water crossing, which was formerly Alternative E. However Alternative E was dropped from further consideration (see Alternatives Evaluated in Detail but Eliminated from Consideration discussion later in this summary) and now the proposed action is Alternative B. With Alternative B FSR 2610 would be rerouted along the hillslope above and to the north of the washout to restore access for passenger cars, recreational vehicles, and vehicles pulling trailers. Approximately 0.84 mile of single lane road with turnouts would be constructed using standard construction methods. At the damaged site on the park's Dosewallips Road approximately 225 feet of road would be repaired and reconstructed to current road standards. A retaining wall would be constructed and no in-stream work would be required.

Should Alternative B be selected, then the ONF would need to include a proposal for non-significant Forest Plan amendments, which would modify or drop certain standards and guidelines for Late-Successional Reserves, Riparian Reserves, and Survey and Manage program as identified in the Record of Decision for the Northwest Forest Plan and the 2001 Record of Decision for Amendments to Survey and Manage mitigating measures.

## Management Direction

ONF management direction is primarily provided by the Forest Plan. The Northwest Forest Plan is a major amendment to the Forest Plan and provides the following management direction.

- Late-Successional Reserves (LSR): The objective of this land allocation is to protect and enhance conditions of late-successional and old-growth forest ecosystems. The project area is within the Hood Canal North LSR.
- Riparian Reserves (RR): This allocation consists of portions of watersheds where riparian-dependent resources receive primary emphasis, which are required for maintaining hydrologic, geomorphic, and ecological processes that directly affect waterbodies. The entire ONF project area was considered to be within this allocation.
- Key Watershed: This is a component of the Northwest Forest Plan's Aquatic Conservation Strategy (ACS) and is a system of large refugia comprising watersheds that are crucial to at-risk fish species and provide high quality water. The Dosewallips watershed is a Tier 1 Key Watershed.
- Survey and Manage: Mitigation measures for management of known sites, site-specific pre-habitat disturbing surveys, and /or landscape scale surveys for rare or isolated species. It was not sure if these species, either because of rarity or lack of information, would be adequately protected by other elements of the Northwest Forest Plan.

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<sup>2</sup> A proposed action is a proposal to authorize, recommend, or implement an action to meet a specific purpose and need. It is formed at that stage in the development of an action when agencies, in this case the FS and NPS, have a goal and are actively preparing to make a decision on one or more alternative means to accomplish that goal (40 CFR 1508.23).

ONP activities are directed by their 2008 General Management Plan (GMP). The proposed repairs are consistent with this planning document.

## **Issues**

In addition to issues identified by the Agencies, comments from the public, other agencies, and tribes were used to identify issues concerning the proposed action that are truly significant to the action and thus deserving of study. The identified issues will also be used to aid in distinguishing and comparing the alternatives. The final decision will be based on a comparison of an alternative's ability to address the identified issues as well as the overall purpose and need for the proposed action.

### Road Management

The proposed action would have short-term construction and long-term maintenance costs, and user safety is an important consideration.

### Geotechnical Considerations and Geomorphic Processes

Concerns were expressed regarding the uncertainty of geotechnical conditions along the proposed reroute alternatives for FSR 2610, especially in the area of slope stability. Also an understanding of the geomorphic processes (those processes which create or shape land forms) is important in evaluating the alternatives, especially in the dismissal of those alternatives which would repair FSR 2610 approximately on the original road location along the river. Geomorphic processes have the potential to affect future structure failures and sediment supply.

### Soil Productivity

Some concerns were expressed that newly constructed or reconstructed roads have the potential to locally reduce soil productivity and negatively impact site productivity, water quality and aquatic habitat conditions. These and other associated management activities could result in soil compaction, surface erosion, mass wasting (such as landslides), modifications of surface and subsurface hydrology, alteration of wetland functions, and sedimentation into nearby streamcourses. Others think that these concerns can be addressed through appropriate project design and implementation of mitigation measures.

### Aquatic Species and Habitat Conditions

Fish bearing streams within the project area include the Dosewallips River and an unnamed tributary located just downstream of the washout. Some are concerned that road reconstruction may alter channel dynamics, sediment delivery, and riparian conditions in these waterbodies. They think the proposed action could affect the amount and quality of spawning and rearing habitat for a number of anadromous fish species, including Endangered Species Act (ESA) listed Chinook salmon. Others think that road access can be restored in an environmentally acceptable

manner and that effects to aquatic habitat can be kept to acceptable levels through project design and mitigation measures.

### Terrestrial Species and Habitat

Some are concerned that proposed activities may affect Threatened and Endangered (T&E) species; FS Sensitive species; Management Indicator Species (MIS); Species of Concern; the habitat functions of Late-Successional Reserves; or the functions of marbled murrelet and northern spotted owl critical habitat units. Others think that road access can be restored in an environmentally acceptable manner and the effects to terrestrial wildlife and habitat can be kept to acceptable levels through project design and mitigation measures.

### Botanical Species and Habitat

Concerns were expressed that project activities have the potential to affect botanical species and habitat.

### Invasive Plants

There are existing populations of invasive plants in the project area. Road construction activities, resulting in the exposure of mineral soil, create conditions favorable to the spread of invasive plants.

### Recreation Use and Social Analysis

There are concerns with reestablishing the road and thereby allowing motorized use past the washout area. Some think that non-motorized access past the washout area provides opportunities to enjoy the features of the area (river corridor and adjacent wilderness areas) in a quieter and more slow-paced manner. They think the relatively easy walk on the road past the washout provides a valuable, low-elevation hiking opportunity. Others believe it is important to provide road access past the washout in order to provide access to all users and not restrict visitation to those physically able or having the time to make the walk past the washout. They want everyone to be able to experience the more remote Forest and park areas that exists past the washout. There are also concerns associated with the increasing and changing recreation needs associated with the growing population in the Forest's market zone.

## Wilderness

Project activity is proposed within a narrow corridor between the Buckhorn and The Brothers Wilderness areas. While no activities are proposed within the Wilderness areas themselves, there could be impacts to wilderness values.

## Potential Wilderness Areas (specific to ONF)

There are concerns about project impacts to an area on the Forest between the Buckhorn Wilderness and the Dosewallips River in the project area that could affect its future inclusion into the wilderness system.

## Economic

Some have expressed concerns with respect to the economic effects of on-going restricted access past the washout to the communities along Highway 101 in the vicinity of the Dosewallips River. They think that road access to Forest and park recreational facilities past the washout are an important aspect of the local and southern Jefferson County economies. Others think that the economic impacts of the restricted access are overstated and that reopening the road would cost too much.

## Visual Quality (specific to ONF)

Proposed activities could affect the visual quality of the project area.

## Climate Change

Concerns were expressed regarding the potential for the project to affect or be affected by climate change, including issues related to stream flows, invasive species, carbon sequestration, and greenhouse gas emissions.

## Private Land Access (specific to ONF)

The New Elkhorn Group of Mining Claims, eighty one acres of private land, is located upriver from the washout near the park boundary, about ¼ mile north of FSR 2610. The legal description is T.26N., R.04W., Sections 13 and 24. There are no roads directly accessing these claims, and FSR 2610 had provided the closest road access to the claims. One of the claimants responded during the comment period on the 2003 EA with a request for road access along FSR 2610. A comment was also received during the DEIS comment period from the private property landowner of the New Elk Horn parcel requesting that vehicle access be restored as is guaranteed under the Alaska National Interest Lands Conservation Act of 1980 (ANILCA).

### Soundscapes (specific to ONP)

A National Park Service (NPS) policy states that the NPS will strive to preserve the natural quiet and natural sounds associated with the physical and biological resources of parks. The noise associated with the proposed repair on ONP land could temporarily adversely affect park resources by modifying or intruding upon the natural soundscape.

### Park Operations (specific to ONP)

Park operations refer to the quality and effectiveness of their facilities. For the proposed project, an issue was developed regarding the park's ability to maintain the Dosewallips Road in order to adequately protect and preserve vital resources, maintain existing facilities and trails in the Dosewallips area, and provide for a successful visitor experience.

## **Forest Plan Amendments**

All action alternatives include non-significant amendments as defined under the National Forest Management Act (NFMA) to the 1990 Olympic National Forest Land and Resource Management Plan. The need for these amendments is due to changed physical conditions, i.e. the road washout. These proposed amendments are site-specific and only apply to the Dosewallips Road Washout project area.

The amendments involve plan components established in the 1994 Northwest Forest Plan Record of Decision (1994 NWFP ROD). The implementation section of the 1994 NWFP ROD (E-18) states "Changes or adjustments to these standards and guidelines may be made through amendments to those plans [Forest Plans] required by regulations as described above. The authority to change or amend those plans remains as specified in applicable regulations. The amendments will be reviewed by the Regional Interagency Executive Committee to assure consistency with the objectives of these standards and guidelines". A review by the Regional Interagency Executive Committee will be conducted prior to the Olympic National Forest Supervisor signing a ROD for this proposed project.

## **Alternatives Evaluated in Detail but Eliminated from Consideration**

Although Alternatives D and E were evaluated in detail by the interdisciplinary team (IDT)<sup>3</sup> prior to the release of the DEIS they were eventually eliminated from further consideration. In a December 20, 2006, interagency meeting the Agency executives considered the results of the IDT alternative evaluations and scoping input from National Oceanic Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS). NMFS stated serious concerns about replacing the washed-out road into the Dosewallips River channel, as this potential placement could result in a serious long-term affect so great as to jeopardize the

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<sup>3</sup> An interdisciplinary team is an interagency team of experts such as biologists, geologists, engineers, etc. who help to develop the project and study its effects.

continued existence of the Puget Sound Chinook salmon Evolutionary Significant Unit (ESU). Based on their review the Agency executives determined that the two alternatives (Alternatives D and E) which propose establishing the road bed into the river channel have unacceptable environmental impacts and will be dismissed from further consideration.

A more complete description of these alternatives can be found in Appendix A, and a detailed analysis can be found in Appendix B and project specialist reports. The analysis for these two alternatives has not been updated since prior to the release of the DEIS as they were eliminated from consideration.

### **Replace-in-Kind – Formerly Alternative D**

This alternative was designed to meet the project's purpose and need, minimize impacts to terrestrial habitats by avoiding the clearing associated with road construction in LSR, and minimize construction costs. This alternative would reestablish road access in the washout area as close to the preexisting conditions as possible.

A single lane road about 500 feet in length would be reconstructed similar to what existed prior to the washout. It would provide access for passenger cars, recreational vehicles, and vehicles pulling trailers. The horizontal alignment would swing into the hillside as much as possible without undercutting the slope while also providing sufficient catchment area at the base of the slope to accommodate bank sloughing and ravel. Near the upstream portion of the washout the road fill would occupy about one-half of the existing bankfull channel width. The bluff slope would be laid back to a slope angle of 1 horizontal:1 vertical to create a more stable slope. This would require moving the top of the slope back about 60 feet and removing about 0.7 acre of ground. There would be clearing of danger trees for approximately 100 feet from the top of the laid back slope, involving about 1 acre of forest within LSR. Road bank protection (most likely in the form of rip rap) would extend along the new construction area and approaches for a distance of about 680 feet.

This alternative would also include mitigation activities of the construction of approximately five constructed log complexes near the project area. These complexes would be designed to dissipate the increased flow energy being translated downstream from the project site, redirect flow toward the south stream bank at the mid-level terrace to encourage channel migration in that direction and possible recruitment of spawning gravels and large wood from a high terrace, and create cover, rearing, and spawning habitat.

The cost of road construction, including construction related road maintenance and log jam mitigation, was estimated at \$1.72 million (estimate was made in the spring of 2006 and has not been updated).

This alternative would include two site-specific, non-significant amendments to the Forest Plan. These amendments are associated with Aquatic Conservation Strategy (ACS) objectives and management direction for Key Watersheds.

Additionally the Dosewallips Road at milepost 0.85 would be repaired. This section of road is

in the vicinity of the Dosewallips Falls. Approximately 120 feet of road that was constructed in the 1940's on log retaining wall/structures failed in late 2003. The road would be repaired by removing the old road fill material and reconstructing the road prism by using riprap and crushed rock to form a foundation on which structural backfill would be constructed. Stabilization techniques would be used to protect the stabilized fill from erosion. All of the construction would be above the ordinary high water line of the river.

### **Low-water Revetment – Formerly Alternative E**

This alternative was designed to meet the project's purpose and need, minimize impacts to terrestrial habitats by avoiding the clearing associated with road construction in LSR, and minimize construction costs. It would also lessen aquatic habitat and riparian function impacts by reducing the reconstructed road's encroachment into the river, thereby allowing some gravel recruitment from the high bank.

About 500 feet of single land road would be reconstructed. It would provide seasonal access for passenger cars, recreational vehicles, and vehicles pulling trailers. The horizontal alignment would be similar to former Alternative D and would swing into the hillside as much as possible without undercutting the slope, while also providing sufficient catchment at the base of the slope to accommodate bank sloughing and ravel. In the area close to the upstream portion of the washout the road fill would occupy about one-third of the existing bankfull channel width. There would be no scaling back of the bluff slope but there would be clearing of danger trees for approximately 100 feet from the top of the slope, involving about 1 acre of forest within LSR.

The height of the roadway surface would be at a grade to minimize the road's footprint while meeting design criteria for a 10-year flood (Q10). The design would be such that the road would be overtopped by the river during moderately large flood events, such as a 10-year flood.

The cost of road construction, including log jam mitigation, was estimated at \$1.40 million (estimate was made in the spring of 2006 and has not been updated). This alternative also would have long-term road maintenance needs due to slope ravel and repairs to the road's surface after flood events.

This alternative would include two site-specific, non-significant amendments to the Forest Plan. These amendments are associated with Aquatic Conservation Strategy (ACS) objectives and management direction for Key Watersheds.

Additionally the Dosewallips Road at milepost 0.85 would be repaired. This section of road is in the vicinity of the Dosewallips Falls. Approximately 120 feet of road that was constructed in the 1940's on log retaining wall/structures failed in late 2003. The road would be repaired by removing the old road fill material and reconstructing the road prism by using riprap and crushed rock to form a foundation on which structural backfill would be constructed. Stabilization techniques would be used to protect the stabilized fill from erosion. All of the construction would be above the ordinary high water line of the river.

## **Alternatives Considered but Eliminated from Detailed Study**

### *Alternatives to ONF Proposed Action*

#### **Southern Road**

This alternative would establish road access beyond the washout site on the south side of the river by utilizing FSR 2610-010 (Six Mile bridge) and FSR 2610-012, and constructing a 2-mile connector road to FSR 2610-040 (Ten Mile bridge). This alternative was eliminated from detailed consideration for the following reasons: the route crosses The Brothers Wilderness (a Wilderness area boundary adjustment would require congressional approval), it is longer than the reroutes on the north side of the river (2 miles new construction and 2.5 miles reconstruction), the route crosses areas of very steep ground and cliff line, and the route crosses stands of late-successional character which are higher quality (than the re-route alternatives) because they are farther from existing roads than the late-successional stands crossed by two of the alternatives considered in detail.

#### **Eight Percent Grade Reroute**

This alternative would relocate FSR 2610 above and north of the current washout site utilizing an 8 percent grade to facilitate easier access for large recreational vehicles. This alternative was eliminated from detailed consideration because: an 8 percent slope road would construct approximately 50 percent more road than the reroute alternatives; would encroach on the Buckhorn Wilderness; vehicles would still have to negotiate the existing 18 percent grade to reach the facilities in the park (the park does not recommend large recreational vehicles or vehicles pulling trailers use this section of road); and an improvement to the previous road condition would not qualify for ERFO funding.

#### **Wetland Avoidance**

This alternative would relocate FSR 2610 above and north of the current washout site with an alignment that would avoid impacts to the wetlands located adjacent to FSR 2610 east of the washout. This alternative was eliminated from detailed consideration because: the reroute would have been longer with a greater impact on late successional reserve habitat and more of the reroute would have been on steep and potentially unstable slopes.

#### **Decommission FSR 2610 and Convert to Trail**

This alternative would decommission FSR 2610 and the park's Dosewallips Road above the washout and convert the road to a non-motorized trail. With this as the main theme several variations were suggested which included building new campground and ranger station facilities below the washout and constructing a new trail network to tie into the existing trail system above the washout. While the decommission/convert to trail alternative was considered in the 2003 EA, it was eliminated from detailed consideration in this analysis because it would not meet the project's purpose and need of restoring road access for motorized vehicles on FSR 2610 to the ONF and ONP recreational facilities and the park's Dosewallips Road. Many of those commenting on the DEIS supported this alternative and some felt that their opinions were ignored by not fully considering this alternative. The agency Responsible Officials did consider public input on this issue but determined that the management action needed to meet agency

goals and objectives for the project areas was to establish motorized access.

### **Footbridge**

An alternative was proposed that would construct a footbridge over the washout area and utilize a shuttle system to transport visitors to Elkhorn Campground and the park's facilities. This alternative was eliminated from detailed consideration because without standard motorized access past the washout it would not be possible to adequately maintain the road for use by a shuttle system. It would also not meet the project's purpose and need of restoring road access for motorized vehicles on FSR 2610 and the park's Dosewallips Road.

### **Light Traffic Bridge**

A proposal was suggested to construct a bridge over the washout area that would be suitable for use by vehicles such as wheelchairs, all terrain vehicles (ATVs), and light pick-ups (to be used for administrative purposes). This alternative was eliminated from detailed consideration because without standard motorized access past the washout it would not be possible to adequately maintain the road for use by light vehicle traffic. It would also not meet the project's purpose and need of restoring road access for motorized vehicles on FSR 2610 and the park's Dosewallips Road.

### **Private Land Purchase**

A suggestion was made to include the purchase of private land in the lower Dosewallips River valley and the decommissioning of roads within these areas as part of the alternatives. This proposal is outside the scope of the decision to be made for this project and for this reason was eliminated from detailed consideration.

### **Reroute Alternatives with LSR/AMA Exchange Forest Plan Amendment**

A variation of the two reroute alternatives (Alternatives B and C) was considered which proposed a Forest Plan amendment to redesignate a block of Adaptive Management Area (AMA) Forest Plan allocation to LSR to mitigate the removal of LSR acres under the reroute alternatives. A potentially suitable stand of AMA was identified near Mt. Turner but after a field visit to the stand the proposal was eliminated from detailed consideration because the stand has lower quality biological and physical features when compared to the area of LSR affected by the reroute alternatives.

### *Alternatives to ONP Proposed Action*

#### **Bypass**

A suggestion was made to construct a bypass uphill of the failed section of the park's road away from the Dosewallips River. This proposal was eliminated from detailed consideration because the side slope is extremely steep and rocky and the road would need to be constructed on a very steep grade, well over 18 percent. The financial cost of this option would be too high, and the environmental impacts would be unnecessarily severe as compared to the proposed action to restore this section of road.

## **Alternatives Considered in Detail**

### **Alternative A - No Action**

#### **Objective**

This alternative would allow current geological processes, including the continued deterioration of FSR 2610 and Dosewallips Road to continue with the associated risks and benefits. This alternative provides a baseline for comparison with other alternatives.

#### **Description**

Motorized access on FSR 2610 would end at or near the washout. Only measures to provide for public safety at the washout site would be implemented, such as blocking FSR 2610 near the washout to prevent a vehicle from plunging into the river. The road would be blocked with a traffic barrier (such as a jersey barrier) and would be signed to warn motorists of the road closure. Similarly, the Park's failed section of the Dosewallips Road near the Dosewallips Falls would not be repaired.

Current FS management plans would continue to guide management of the project area on ONF lands. Existing uses, such as parking along the edge of the road near the washout and in the adjacent dispersed camping area, would continue. The Elkhorn Campground would remain closed and would not be maintained.

On ONP lands, the Dosewallips Campground and pit toilet would remain open on a limited basis as a walk-in campground. The park's ranger station and quarters would continue to be closed or possibly converted to a backcountry site.

A future decision likely would be needed to determine appropriate management of the Forest and park roads and recreational facilities located beyond the washout.

#### **Forest Plan Amendment**

Selection of the No Action alternative would not require a site-specific non-significant amendment (as defined under the NFMA) to the Forest Plan.

### **Alternative B – Reroute 1 Bench Emphasis**

#### **Objective**

This alternative is designed to meet the project's purpose and need by rerouting FSR 2610 past the washout site out of the river floodplain utilizing standard road construction techniques. This alternative was developed to minimize impacts to aquatic habitat and riparian function that would otherwise occur with eliminated Alternatives D and E by allowing gravel recruitment from the high bank by the river.

#### **Description**

FSR 2610 would be rerouted along the hillslope above and to the north of the washout to restore access for passenger cars, recreational vehicles, and vehicles pulling trailers. Approximately 0.84 mile of single lane road with turnouts would be constructed using standard construction

methods. Construction would occur over a 2-year period. Standard (for the conditions) construction methods involve trying to balance cuts and fills with no particular emphasis on minimizing the foot print of cleared area. Construction would involve the clearing of about 7.1 acres of LSR lands. Most of the route (95 percent) would be new road construction, with the remaining 5 percent following the alignment of an old timber harvest spur road. The road would have sustained grades up to a maximum of about 10 percent. Danger trees would be removed from along the reroute following Forest Service regional direction.

The estimated cost to reconstruct FSR 2610 along this reroute is \$2.68 million. Estimated annual maintenance costs for the reroute would be \$35,900 for the first 5 years and annually \$4,720 long-term (with an additional \$14,920 every other year). Estimated deferred maintenance on FSR 2610 from the washout up to the park boundary would be \$18,980 initially, with long-term annual maintenance estimated at \$11,320.

During construction, FSR 2610 would be closed to the public from the Forest boundary up to the washout site to provide for public safety. Portions of FSR 2610 and previously disturbed dispersed camping areas (approximately 2 acres) near the washout would be used for construction equipment staging areas. The dispersed camping areas would be rehabilitated at the conclusion of construction activities. Rehabilitation would include soil improvement work, scattering of large wood, seeding/planting, and treatment for invasive species.

About 0.7 mile of FSR 2610, located on either side of the washout to the take off points for the reroute, would be decommissioned. The section of road to be decommissioned is in the riparian area, but not within the active (100 year) floodplain (see Figure 33). Decommissioning the section of road upstream of the washout would involve removal of drainage structures and the road fill in draws and drainage pathways, but it is possible that not all of the fill that is present would be removed. The surfacing would be removed, the roadbed would be ripped or otherwise de-compacted and it would be replanted with appropriate native, woody vegetation. Decommissioning the section of road downstream of the washout would involve removal of drainage structures and the road fill to an extent to facilitate wetland restoration.

Additionally ONP would repair the Dosewallips Road at MP 0.85 in the vicinity of the Dosewallips Falls, at an estimated cost of \$475,000. The construction would take about 90 days to complete and would begin after access was restored on FSR 2610. A section of road that was constructed in the 1940's on log retaining wall/structures and more recently placed gabion filled baskets needs to be stabilized and roadway drainage improved, involving about 225 feet of road. The road would be repaired by removing the old road fill material and remaining log structural members and reconstructing the road prism by connecting to and extending the remaining gabion baskets and adding riprap and crushed rock to form a foundation on which structural backfill would be constructed. Stabilization techniques and the development of roadway drainage paths would be used to protect the stabilized fill from erosion. All of the construction would be above the ordinary high water line of the river. The park would need to conduct road maintenance that has been deferred on the Dosewallips Road prior to the repair work at an estimated cost of \$65,000.

### **Forest Plan Amendments**

Selection of this alternative would include six site-specific, non-significant amendments (as defined under the NFMA) to the Forest Plan. These amendments are to certain standards and guidelines for LSR (pre-project survey requirements, protection of murrelet habitat, neutral or beneficial requirement, and minimize adverse road impact requirements), Riparian Reserves (wetland avoidance), and Survey and Manage (fungi equivalent-effort surveys) as identified in the Record of Decision for the Northwest Forest Plan and the 2001 Record of Decision for Amendments to Survey and Manage mitigating measures.

### **Alternative C – Reroute 2 Retaining Structure Emphasis**

#### **Objective**

This alternative is designed to meet the project's purpose and need by rerouting FSR 2610 past the washout site out of the river floodplain. Instead of using standard construction practices as described for Alternative B, this alternative would narrow the road's footprint to limit the amount of clearing and excavation needed for the proposed construction. This alternative was also developed to minimize impacts to aquatic habitat and riparian function that would otherwise occur with eliminated Alternatives D and E by allowing gravel recruitment from the high bank by the river.

#### **Description**

This alternative would generally follow the same alignment as proposed under Alternative B. However, some slight shifts in grade and horizontal alignment may be used to help minimize disturbance in the LSR as compared to Alternative B.

FSR 2610 would be rerouted along the hillslope above and to the north of the washout to restore access for passenger cars, recreational vehicles, and vehicles pulling trailers. Approximately 0.84 mile of single lane road with turnouts would be constructed. Construction would occur over a 2 year period. Construction of structures, such as retaining walls and potential reinforcement built into fills, would minimize the disturbed area. About 6.5 acres of LSR as designated in the Forest Plan would be cleared, about 9 percent less disturbance than Alternative B. Most of the route (95 percent) would be new road construction, with the remaining 5 percent following the alignment of an old timber harvest spur road. The road would have sustained grades up to a maximum of about 10.7 percent. Danger trees would be removed from along the reroute, following Forest Service regional direction.

The estimated cost to reconstruct FSR 2610 along this reroute is \$3.96 million. Estimated annual maintenance costs for the reroute would be \$35,940 for the first 5 years and annually \$4,720 long-term (with an additional \$14,920 every other year). Estimated deferred maintenance on FSR 2610 from the washout up to the park boundary would be \$18,980 initially, with long-term annual maintenance estimated at \$11,320.

During construction FSR 2610 would be closed to the public from the Forest boundary up to the washout site to provide for public safety. Portions of FSR 2610 and previously disturbed dispersed camping areas (approximately 2 acres) near the washout would be used for construction equipment staging areas. The dispersed camping areas would be rehabilitated at the

conclusion of construction activities. Rehabilitation would include soil improvement work, scattering of large wood, seeding/planting, and treatment for invasive species.

About 0.7 mile of FSR 2610, located on either side of the washout to the take off points for the reroute, would be decommissioned. The section of road to be decommissioned is in the riparian area, but not within the active (100 year) floodplain (Figure 33). Decommissioning the section of road upstream of the washout would involve removal of drainage structures and the road fill in draws and drainage pathways, but it is possible that not all of the fill that is present would be removed. The surfacing would be removed, the roadbed would be ripped or otherwise de-compacted and it would be replanted with appropriate native, woody vegetation. Decommissioning the section of road downstream of the washout would involve removal of drainage structures and the road fill to an extent to facilitate wetland restoration.

Additionally ONP would repair the Dosewallips Road at MP 0.85 in the vicinity of the Dosewallips Falls, at an estimated cost of \$475,000. The construction would take about 90 days to complete and would begin after access was restored on FSR 2610. A section of road that was constructed in the 1940's on log retaining wall/structures and more recently placed gabion filled baskets needs to be stabilized and roadway drainage improved, involving about 225 feet of road. The road would be repaired by removing the old road fill material and remaining log structural members and reconstructing the road prism by connecting to and extending the remaining gabion baskets and adding riprap and crushed rock to form a foundation on which structural backfill would be constructed. Stabilization techniques and the development of roadway drainage paths would be used to protect the stabilized fill from erosion. All of the construction would be above the ordinary high water line of the river. The park would need to conduct road maintenance that has been deferred on the Dosewallips Road prior to the repair work at an estimated cost of \$65,000.

### **Forest Plan Amendments**

Selection of this alternative would include five site-specific, non-significant amendments (as defined under the NFMA) to the Forest Plan. These amendments are to certain standards and guidelines for LSR (pre-project survey requirements, protection of murrelet habitat, and neutral or beneficial requirement), Riparian Reserves (wetland avoidance), and Survey and Manage (fungi equivalent-effort surveys) as identified in the Record of Decision for the Northwest Forest Plan and the 2001 Record of Decision for Amendments to Survey and Manage mitigating measures.

## **Alternative F – Bridge**

### **Objective**

This alternative is designed to meet the project's purpose and need, reduce impacts to the adjacent LSR as compared to Alternatives B and C, and lessen aquatic habitat and riparian function impacts (relative to the previously considered build in place Alternatives D and E) by allowing a relatively normal degree of gravel recruitment by the river from the high bank.

### **Description**

A single lane bridge, about 700 feet long spanning the washed out area, would be constructed to restore access to passenger cars, recreational vehicles, and vehicles pulling trailers. The bridge would be constructed of pre-cast spans, which would be supported by intermediate piers. There would be no scaling back of the bluff slope, there would be an adequate distance between the bluff and bridge to prevent debris from landing on the bridge deck. There would be clearing of danger trees for approximately 100 feet from the top of the slope, involving about 1 acre of forest within LSR.

The cost of bridge construction is estimated at \$9.21 million. Estimated annual bridge maintenance and inspections costs would be \$5,370. Estimated deferred maintenance on FSR 2610 from the washout up to the park boundary would be \$18,980 initially, with long-term annual maintenance estimated at \$11,320.

During construction periods FSR 2610 would be closed to public access from the Forest boundary up to the washout site to provide for public safety. Portions of FSR 2610 and previously disturbed dispersed camping areas (approximately 2 acres) near the washout would be used for construction equipment staging areas. The dispersed camping areas would be rehabilitated at the conclusion of construction activities. Rehabilitation would include soil improvement work, scattering of large wood, seeding/planting, and treatment for invasive species.

Additionally ONP would repair the Dosewallips Road at MP 0.85 in the vicinity of the Dosewallips Falls, at an estimated cost of \$475,000. The construction would take about 90 days to complete and would begin after access was restored on FSR 2610. A section of road that was constructed in the 1940's on log retaining wall/structures and more recently placed gabion filled baskets needs to be stabilized and roadway drainage improved, involving about 225 feet of road. The road would be repaired by removing the old road fill material and remaining log structural members and reconstructing the road prism by connecting to and extending the remaining gabion baskets and adding riprap and crushed rock to form a foundation on which structural backfill would be constructed. Stabilization techniques and the development of roadway drainage paths would be used to protect the stabilized fill from erosion. All of the construction would be above the ordinary high water line of the river. The park would need to conduct road maintenance that has been deferred on the Dosewallips Road prior to the repair work at an estimated cost of \$65,000.

**Forest Plan Amendments**

Selection of this alternative would include two site-specific, non-significant amendments (as defined under the NFMA) to the Forest Plan. These amendments are to a standard and guideline for Riparian Reserves (wetland avoidance) as identified in the Record of Decision for the Northwest Forest Plan and for Survey and Manage (fungi equivalent-effort surveys) as identified in the 2001 Record of Decision for Amendments to Survey and Manage mitigating measures.

## Environmental Consequences (Comparison of Alternatives)

ISSUE	ALTERNATIVE A No Action	ALTERNATIVE B Reroute 1 Bench Emphasis	ALTERNATIVE C Reroute 2 Retaining Structure Emphasis	ALTERNATIVE F Bridge
<p><b>ROAD MANAGEMENT</b></p> <p><u>Estimated Costs</u></p> <ul style="list-style-type: none"> <li>• Construction           <ul style="list-style-type: none"> <li>○ Short-term               <ul style="list-style-type: none"> <li>▪ Deferred \$0</li> <li>▪ 1<sup>st</sup> 5 years \$0</li> </ul> </li> <li>○ Long-term               <ul style="list-style-type: none"> <li>▪ Annual \$0</li> <li>▪ Every 2 years \$0</li> </ul> </li> <li>○ Bridge inspection</li> </ul> </li> </ul> <p><u>User Safety</u></p>	<p>ONF = \$5,300 ONP = \$0</p> <p>\$0</p> <p>\$0</p> <p>\$0</p> <p>\$0</p> <p>Block FSR 2610 with traffic barrier</p>	<p>ONF = \$2,682,000 ONP = \$475,000</p> <p>\$18,980</p> <p>\$35,920</p> <p>\$4,720</p> <p>\$14,920</p> <p>Treat danger trees</p>	<p>ONF = \$3,960,000 ONP = \$475,000</p> <p>\$18,980</p> <p>\$35,940</p> <p>\$4,720</p> <p>\$14,920</p> <p>Treat danger trees</p>	<p>ONF = \$9,210,000 ONP = \$475,000</p> <p>\$18,980</p> <p>\$4,140</p> <p>\$4,140</p> <p>\$0</p> <p>\$1,230</p> <p>Treat danger trees</p>

ISSUE	ALTERNATIVE A No Action	ALTERNATIVE B Reroute 1 Bench Emphasis	ALTERNATIVE C Reroute 2 Retaining Structure Emphasis	ALTERNATIVE F Bridge
<p><b>GEOTECHNICAL CONSIDERATIONS AND GEOMORPHIC PROCESSES</b></p> <ul style="list-style-type: none"> <li>• Slope stability</li> <li>• Fluvial processes</li> <li>• Sediment supply (spawning gravels)</li> </ul>	<p>Natural conditions</p> <p>Natural conditions</p> <p>Natural conditions</p>	<p>Segment 2 has areas of pre-existing slope movement and ground water seepage. Construction of new cuts up to 60 to 80 feet high could result in potentially unstable slopes and minor landslides. Natural conditions at the high bank would continue</p> <p>Same as Alt. A.</p> <p>Same as Alt. A.</p>	<p>Same as Alt B.</p> <p>Same as Alt. A.</p> <p>Same as Alt A.</p>	<p>Similar to Alt A in the short-term. Continued shallow slope movement on high bank until stable angle naturally achieved.</p> <p>Similar to Alt A in the short-term. Reduced river effect on high bank in the long-term.</p> <p>Similar to Alt A in the short-term. Reduction in supply in the long-term.</p>
<p><b>SOIL PRODUCTIVITY</b></p>	<p>No additional road. 3.9 miles of abandoned road. 42 acres in detrimental soil condition with slow natural recovery. Erosion continuing on abandoned road. No effect to slope stability or hillslope hydrology.</p>	<p>0.84 mile of new road. 0.7 mile of road decommissioning. 44.7 acres in long-term detrimental conditions. Increased short-term erosion from construction and long-term from storm events. Second highest risk of slope instability. Effects to hillslope hydrology.</p>	<p>0.84 mile of new road. 0.7 mile of road decommissioning. 44.1 acres in long-term detrimental conditions. Increased short-term erosion from construction and long-term from storm events, higher than Alt. B. Highest risk of slope instability. Effects to hillslope hydrology, same as Alt. B.</p>	<p>700 foot long bridge. 42.0 acres in long-term detrimental conditions. Minimal surface erosion. Lowest risk of slope instability among action alternatives. No effect to hillslope hydrology.</p>

<b>ISSUE</b>	<b>ALTERNATIVE A No Action</b>	<b>ALTERNATIVE B Reroute 1 Bench Emphasis</b>	<b>ALTERNATIVE C Reroute 2 Retaining Structure Emphasis</b>	<b>ALTERNATIVE F Bridge</b>
<b>AQUATIC HABITAT</b> (Matrix Indicators: Project Scale/Watershed Scale)				
Temperature	M/M	M/M	M/M	M/M
Sediment	D/M	D (tribs) M (Dose)/M	D (tribs) M (Dose)/M	D/M
Substrate Embeddedness	D/M	D (tribs) M (Dose)/M	D (tribs) M (Dose)/M	D/M
Chemical Contaminants	M/M	M/M	M/M	M/M
Physical barriers	M/M	M/M	M/M	M/M
Large Woody Debris	M/M	D/M	D/M	M/M
Pool Freq and Quality	M/M	M/M	M/M	M/M
Large pools	M/M	M/M	M/M	M/M
Off-channel Habitat	M/M	D/M	D/M	M/M
Refugia	M/M	M/M	M/M	M/M
Width/Depth Ratio	M/M	M/M	M/M	M/M
Streambank Condition	M/M	M/M	M/M	D/M
Floodplain connectivity	M/M	M/M	M/M	M/M
Peak/Base flows	M/M	D/M	D/M	M/M
Drainage Network	M/M	D/M	D/M	M/M
Road Density/Location	M/M	M/M	M/M	M/M
Disturbance history	M/M	M/M	M/M	M/M
Function of Rip Reserves	M/M	D/M	D/M	M/M
Puget Sound Chinook	No Effect	NLAA	NLAA	LAA
Chinook Critical Habitat	No Effect	NLAA	NLAA	LAA
Puget Sound Steelhead	No Effect	LAA	LAA	LAA
Hood Canal summer chum	No Effect	No Effect	No Effect	NLAA
Summer chum Critical Habitat	No Effect	No Effect	No Effect	NLAA
Coastal Puget Sound bull trout	No Effect	NLAA	NLAA	NLAA

(M)aintain = project may affect indicator, but impact is neutral.

(D)egrade = project is likely to have a negative impact on the habitat indicator.

Tribes = tributaries

NLAA = Not Likely to Adversely Affect determination as made under the Endangered Species Act (ESA)

LAA = Likely to Adversely Affect determination as made under the ESA

<b>ISSUE</b>	<b>ALTERNATIVE A No Action</b>	<b>ALTERNATIVE B Reroute 1 Bench Emphasis</b>	<b>ALTERNATIVE C Reroute 2 Retaining Structure Emphasis</b>	<b>ALTERNATIVE F Bridge</b>
<b>TERRESTRIAL HABITAT</b>				
Northern Spotted Owl (NSO)	No habitat impact No Effect	Remove 7.1 acres suitable habitat (one activity center below habitat threshold); 38 acres noise disturbance; LAA	Remove 6.5 acres suitable habitat (one activity center below habitat threshold); 38 acres noise disturbance; LAA	Degrade 1 acre suitable habitat (one activity center below habitat threshold); 3.5 acres noise disturbance LAA
NSO Critical Habitat	No habitat impact No Effect	Remove 7.1 acres constituent element (nesting, roosting, foraging, or dispersal habitat); LAA	Remove 6.5 acres constituent element; LAA	Degrade 1 acre constituent element; LAA
Marbled Murrelet	No habitat impact No Effect	Remove 7.1 acres suitable habitat; 38 acres noise disturbance; LAA	Remove 6.5 acres suitable habitat; 38 acres noise disturbance; LAA	Degrade 1 acre suitable habitat; 3.5 acres noise disturbance; LAA
MM Critical Habitat	No habitat impact No Effect	Remove 7.1 acres, constituent element; LAA	Remove 6.5 acres, constituent element; LAA	Degrade 1 acre of constituent element; LAA

ISSUE	ALTERNATIVE A No Action	ALTERNATIVE B Reroute 1 Bench Emphasis	ALTERNATIVE C Reroute 2 Retaining Structure Emphasis	ALTERNATIVE F Bridge
<b>BOTANICAL SPECIES AND HABITAT</b>				
Vascular plants	No risk to species viability or a trend toward Federal listing	Same as Alt A	Same as Alt A	Same as Alt A
Bryophytes	No risk to species viability or a trend toward Federal listing	Same as Alt A	Same as Alt A	Same as Alt A
Fungi	No risk to species viability or a trend toward Federal listing	May impact species or habitat, very low likelihood of risk to species viability or trend toward Federal listing	Same as Alt B	Same as Alt A
Lichens	No risk to species viability or a trend toward Federal listing	Same as Alt A	Same as Alt A	Same as Alt A
<b>RECREATION and SOCIAL</b>	Non-motorized access only beyond washout on FSR 2610. Maintains non-motorized trail experience in non-wilderness area. Campgrounds remain closed or limited services	Access restored to pre-washout conditions. Easier access to ONP for elderly & small children, persons with disabilities, and day visitors. Campgrounds open.	Same as Alt. B.	Same as Alt. B.
Deferred maintenance and start-up costs	park = \$0 Forest = \$0	park = \$125,000 Forest = \$190,000	park = \$125,000 Forest = \$190,000	park = \$125,000 Forest = \$190,000

ISSUE	ALTERNATIVE A No Action	ALTERNATIVE B Reroute 1 Bench Emphasis	ALTERNATIVE C Reroute 2 Retaining Structure Emphasis	ALTERNATIVE F Bridge
<b>WILDERNESS</b>	No effect.	Minor short-term effects to solitude (noise) and unconfined recreation during construction. No long-term effects.	Same as Alt. B.	Same as Alt. B.
<b>POTENTIAL WILDERNESS AREAS</b>	No effect.	No effect.	No effect.	No effect.
<b>ECONOMIC</b>	Some continued reduction in income for local service businesses. Present Value of Discounted Costs (PVDC): Forest = \$5,300. park = NA.	Increased income for local service businesses. Dosewallips area again a visitor destination attraction. PVDC: Forest = \$3,287,000. park = \$610,000.	Social same as Alt. B. PVDC: Forest = \$4,565,000. park = \$610,000.	Social same as Alt. B. PVDC: Forest = \$9,614,000. park = \$610,000.
<b>INVASIVE SPECIES</b>	Minimal manual control of existing populations. No control of new infestations.	Newly exposed ground and imported rocks and soil susceptible to invasive plant colonization. Positive results in prevention of invasive plant spread and treatment of current and new infestations	Same as Alt B	Same as Alt B
<b>VISUAL QUALITY</b>	No change, long-term vegetative recovery of high bank	FS Visual Quality Objective (VQO) of retention met	Same as Alt B	FS VQO of partial retention met

<b>ISSUE</b>	<b>ALTERNATIVE A No Action</b>	<b>ALTERNATIVE B Reroute 1 Bench Emphasis</b>	<b>ALTERNATIVE C Reroute 2 Retaining Structure Emphasis</b>	<b>ALTERNATIVE F Bridge</b>
<b>CLIMATE CHANGE</b>	No effect	Some benefit from moving road away from river. Otherwise effects so minor as to be a negligible consideration.	Same as Alt B	Bridge would be designed for expected streamflow. Otherwise effects so minor as to be a negligible consideration.
<b>SOUNDSCAPES</b>	No adverse impact	Short-term, moderately adverse impacts to soundscapes. Would be consistent with park management planning efforts.	Same as Alt B	Same as Alt B
<b>PARK OPERATIONS</b>	Continued deterioration of trails and facilities. Increase flight time for air support to trail maintenance and search and rescue operations.	Improved maintenance of trails, reduced time and funding requirements. Improved search and rescue operations.	Same as Alt B	Same as Alt B
<b>WETLANDS AND WATERS OF THE U.S.</b>	No effect	0.019 acre impacted, no net loss	0.020 acre impacted, no net loss	0.016 acre impacted, no net loss Placement of piers in the river and riprap for abutment stabilization could alter river channel in the future.
<b>ESTIMATED IMPLEMENTATION COMPLETE</b> (assumes ROD signed in Summer 2010)	2010	2012	2012	2012
<b>FOREST PLAN AMENDMENTS</b>	None	4 Terrestrial, 1 Aquatic, 1 Survey and Manage	3 Terrestrial, 1 Aquatic, 1 Survey and Manage	1 Aquatic, 1 Survey and Manage

## **Mitigation Measures and Management Requirements**

The proposed action includes mitigation measures and management requirements that have been established in order to minimize adverse effects. These are listed in the FEIS in Chapter 2, with one set common to the reroute alternatives and another set common to the river floodplain alternative.

Measures and requirements include:

- vegetation - emphasizing prevention of the spread of invasive plants;
- watershed - designed to protect water quality;
- fish and wildlife – designed to minimize effects to aquatic and terrestrial species and habitat;
- cultural resources – providing protection for previously unidentified cultural properties.

## **Monitoring**

Implementation monitoring would be conducted as part of all construction activities. Effectiveness monitoring would include observations of construction sites, aquatic sites, wetland sites, and mitigation areas. This monitoring would be done during the first winter after implementation, during periodic road inspections, and while inspecting for invasive species.

## **Preferred Alternative**

The preferred alternative is the alternative which the agency believes would fulfill its statutory mission and responsibilities, giving consideration to economic, technical and other factors. Alternative C, Reroute 2 Retaining Structure Emphasis, has been identified by the agency Responsible Officials as the preferred alternative.

## **Environmentally Preferred Alternative**

The environmentally preferred alternative is that alternative which will promote the national environmental policy as expressed in NEPA's Section 101. It is the alternative which best responds to the six goals established in Section 101. Alternative F, Bridge, has been identified by the agency Responsible Officials as the environmentally preferred alternative.