

FINDING OF NO SIGNIFICANT IMPACT
Graves Creek and South Shore Road Rehabilitation
Olympic National Park, Washington
February 2009

This finding of no significant impact (FONSI), floodplain statement of findings (SOF), and the environmental assessment (EA) constitutes the record of the environmental impact analysis and decision-making process for the Graves Creek and South Shore road rehabilitation project. The National Park Service (NPS) will implement a combination of alternatives B and C, based on the concerns and feedback generated through the public review period. The selected alternative will restore and provide sustainable access to the Graves Creek and South Shore roads with the addition of selected improvements that incorporate protective measures for habitat restoration.

PURPOSE AND NEED FOR FEDERAL ACTION

The NPS will initiate rehabilitation of the Graves Creek and South Shore roads located in Olympic National Park (ONP) in Jefferson County, Washington. This action is needed to repair the damage to these roads by the December 3, 2007 flood event. Restoration of access to the Quinault Rain Forest roads and facilities is of vital concern to the NPS, local and regional communities, and park visitors.

The purpose of the proposed project is to restore permanent vehicular access on the Graves Creek and South Shore roads while protecting and restoring natural resource functions; and preserving for the benefit, use, and enjoyment of the people, access to the Quinault Rain Forest. Road repairs will be implemented to meet the following objectives:

- Re-establish sustainable two-lane access for park visitors and staff to the Quinault Loop Drive and to Graves Creek facilities, including the Graves Creek Ranger Station, campground, picnic area, and trails
- Protect the roads from future damage by developing more sustainable protective measures
- Restore the roads in a such manner as to protect and minimize adverse impacts to native fish and fisheries habitat in the Quinault River and tributaries
- Protect park natural and cultural resources and values

RANGE OF ALTERNATIVES CONSIDERED

The environmental assessment analyzed three alternatives: not implementing road rehabilitation and closing the Graves Creek Road to vehicular traffic (Alternative A—No Action); restoration of access with improvements to provide more sustainable access (Alternative B—management preferred alternative); and restoring access with the minimal repairs to restore vehicle access (Alternative C).

The FONSI includes several slight modifications. Changing conditions during the winter of 2008/2009 led to slight changes in bridge design at MP 3.1 and 3.4. At MP 3.1 and MP 3.4, instead of using the steel truss bridges proposed in Alternative B, steel spanner bridges will be used. These serve the same purpose as steel truss bridges, but they are movable should the channel move. Resource impacts from the use of spanner type bridges will be similar to those described for a truss bridge in the EA. The selected alternative is a combination of actions from alternatives B and C as described below.

SELECTED ALTERNATIVE

The selected alternative includes site-specific repairs and improvements at nine damaged sections of road to restore vehicle access to the Quinault Rain Forest and facilities. The intent of proposed improvements is to provide additional protective measures above those of the pre-storm condition that reduce the potential for damage from future storm events and to restore and improve the quality of habitat for fish and aquatic life in the Quinault River and tributaries. Rehabilitation and improvement activities by milepost (MP) are summarized below for each of the damaged road sections.

The selected alternative is also modified to address tribal and agency concerns generated during the review period. There were serious concerns brought forward related to the potential adverse effects from the construction of bank barbs and how these would affect future restoration efforts in the Quinault River. The construction of the barbs would include instream work, which could lead to increased sedimentation and loss of fisheries habitat, and could potentially adversely affect bull trout and salmon habitat. The Quinault Indian Nation expressed concerns that this would lead to an unacceptable impact to treaty resources. Therefore, no bank barbs will be installed at any of the proposed locations.

The U.S. Fish and Wildlife had concerns related to the short-term increases in sedimentation as a result of the instream construction of bank barbs, and the potential adverse effects to listed bull trout and bull trout critical habitat. Therefore, the selected alternative was modified slightly to allow the protection of the roadway while minimizing instream work.

The NPS has determined the selected alternative will consist of a combination of actions from alternatives B and C as described below.

SELECTED ALTERNATIVE

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Due to resource protection concerns brought forward during the public review period of the EA, the selected alternative has been slightly modified. The Quinault Indian Nation in government-to-government consultations expressed concerns related to the protection of spawning habitat, fisheries, and treaty and trust resources in the Quinault River, the potential short-term and long-term adverse effects from the installation of bank barbs anywhere in the project site, and planning for future restoration in the river system. They stated their preference was to use protection methods that are more easily removable and that would produce less adverse effects than the installation of bank barbs.

The U.S. Fish and Wildlife had concerns related to the short-term increases in sedimentation as a result of the instream construction of bank barbs, and the potential short-term adverse effects to listed bull trout and bull trout critical habitat. Therefore, the selected alternative was modified slightly to allow the protection of the roadway while minimizing instream work.

South Shore Road—MP 0.7 to 0.9

To protect the road from future washouts at this location, a wood reinforced floodplain structure will be installed along the Quinault River if river conditions allow for no instream work. No bank barbs would be placed at this site. Instead, the emergency repairs would serve as the permanent fix.

A wood reinforced floodplain (WRF) will be installed at this location if river conditions allow for work to occur in the dry. The WRF structure is an interconnected log structure ballasted with approximately 30-inch-diameter rock and stabilized further with log pilings and river bed material excavated to countersink the structure into the river bed. The structure will extend into the river channel from the bank from 30 to 60 feet and will be about 250 feet in length. The top of the structure will be planted with trees such that over the long term, the structure will replicate a natural floodplain where trees will become established and further serve to both protect the road and form a more natural interface with the river, as compared to riprap bank armor. The WRF will protect the roadbank and road by deflecting flows. The WRF is expected to create fish habitat superior to rock riprap.

Graves Creek Road—MP 1.2

This site will be repaired as described in Alternative C. The minimal amount of rip rap would be placed at this location to protect the road. Approximately 200 linear feet of rip rap would be installed (approximately 1,250 cubic yards) along the bank. This would be keyed into the bank (dug in and placed) and then rock would be placed along the bank to provide for road protection. Work will be done during the low flow periods of July and August and instream work would be minimal. Project work instream would occur over several days, with no more than 8 hours of instream work total.

Graves Creek Road—MP 1.7

At mile post 1.7, the project has been modified and will occur as described in Alternative C of the EA. No bank barbs would be placed at this location. The portion of the roadway washed out at this location is approximately 200 feet. Approximately 200 linear feet of rip rap would be installed at the wash out site (approximately 1,500 cubic yards) to ensure the protection of the roadway. The riprap bank armor will extend into the river about 18 to 22 feet, and the face of the armoring will be at a 1.5:1 slope. Rock material will be placed in the voids of the rock to serve as a growing medium for willow plantings. The project would be completed in the same manner as the work at MP 1.2. Project work instream would occur over a 1 to 2 day period, with no more than 8 hours of instream work total.

Graves Creek Road—MP 2.3 to 2.5

The 200 feet of washed-out road will be reconstructed with installation of a low water crossing to replace the 4-foot diameter culvert. This channel does not provide fish habitat; therefore, fish passage is not a consideration. Installation of the low water crossing will prevent future culvert plugging and reduce the potential for road damage and sediment delivery to the East Quinault River. The approximate 30-foot x 40-foot low water crossing will be constructed using large 6-inch fractured rock to prevent the road prism from being washed out. As an alternative, a concrete foundation or surface could be installed as determined during final design. Because the low water crossing will be about 8 feet lower than the elevation of the existing road approach to the stream crossing as a result of the storm damage, earthwork will be needed to lower the road grade on both sides of the low water crossing. The road surface will be capped with crushed rock to create the driving surface following completion of other road repairs.

Graves Creek Road—MP 3.1

The original plan discussed in the EA for MP 3.1 was construction of a single lane steel truss bridge across the new intermittent stream channel created by the flood event. Because of the instability of this dynamic drainage and the potential for further migration of the stream channel, the NPS and FHWA determined that use of a portable spanner type bridge would be more appropriate at this location. Additionally, it was observed during a recent storm that the original channel continues to carry streamflow; thus, two spanners will be needed to cross the two active channels. The spanners can easily be moved or removed as needed, should the channel location or drainage patterns change in the future. Also, as part of periodic maintenance, the spanners can be temporarily moved to clean any debris buildup under the spanner.

Installation of the spanners will require substantially less earthwork than the truss bridge because the spanners can be directly anchored to the ground or placed on precast concrete blocks. This will eliminate the need to build a long elevated approach to the drainage crossing. The area of disturbance for installation of the spanners will be equal or less than that for bridge installation and substantially less fill material will be needed to construct the approach to the spanner crossings. The specific method of installation will be determined in the field, but spanners will be placed at sufficient elevation to meet anticipated hydrologic flows and fish passage. The spanners will be 40 to 50 feet long with a width of 12 feet to accommodate one lane of traffic. A 2-inch x 8-inch tube steel section will be welded on to the sides of each spanner to act as a wheel curb.

During dry weather and prior to construction, large rock and debris in the stream channel will be removed. The existing three culverts that were buried and filled with debris following the storm will be left in place because of the disturbance that will be required to excavate them. Buried culverts will not be visible and will not interfere with road maintenance or placement of the spanners. The road surface approach to the spanners will be capped with crushed rock to create the driving surface, but asphalt paving of the approaches will no longer be necessary.

Graves Creek Road—MP 3.4

The three damaged culverts will be removed with a tracked excavator and hauled to an approved landfill outside of ONP. A steel spanner type bridge, as described for MP 3.1, will be installed across the stream channel. Construction techniques will be the same as described for MP 3.1. Rock debris deposited by the storm will be excavated and used for constructing the approach to the spanner bridge.

Graves Creek Road—MP 3.8

The damaged road subgrade will be repaired with suitable borrow material. The culvert inlet and outlet will be protected by placement of riprap rock material. The road surface will be capped with crushed rock to create the driving surface.

Graves Creek Road—MP 4.0

About 100 feet of riprap streambank armoring along the East Quinault River adjacent to the road will be installed. The large rock riprap will be installed with an excavator below the ordinary low water level without excavating the channel to prevent undercutting. The riprap bank armor will extend into the river about 18 to 22 feet, and the face of the armoring will be at a 1.5:1 slope. Rock material will be placed in the voids of the rock to serve as a growing medium for willow plantings.

Upstream of the riprap installation, up to about 275 feet of WRF may be installed in the East Quinault River to protect the streambank and road and to provide aquatic life habitat. Currently the proposed WRF installation site is located within an area of active channel that provides fish habitat. Installation of the WRF at this location will not occur until the river naturally changes course away from the streambank and the proposed installation site to avoid impacts to existing aquatic habitat. The WRF will be constructed in a similar manner as described for MP 0.7 to 0.9 should the stream change course.

Graves Creek Road MP 4.5

The damaged 4-foot-diameter culvert will be removed with a tracked excavator and hauled to an approved landfill outside of ONP. A new culvert(s) will be installed in the channel to meet hydrologic flows. This channel does not provide fish habitat; therefore, fish passage is not a consideration. The culvert inlet and outlet will be protected with riprap. Some of the downstream debris in the channel will be excavated to improve flow. A drivable waterbar will be constructed in the subgrade west of the culvert to divert flows and prevent scouring of the road prism. The road surface will be capped with crushed rock to create the driving surface.

Construction Activities and Schedule

Equipment and material storage and other staging activities will be located within the footprint of the existing road, pullouts, and other areas that are currently disturbed. Sections of the roads under construction will be closed to public access until repairs are completed. The conceptual design for road improvements and structural features (rip rap, WRFs, and spanners) may be modified slightly during final design to best accommodate site-specific conditions and minimize resource impacts.

All work will be conducted between July 15 and March 30 with several timing restrictions depending on location to protect aquatic resources and sensitive species. Instream channel work on the Quinault and East Quinault rivers will be done between July 15 and August 30 (prior to spawning) when water levels are low to minimize impacts to fish species. Instream work could be extended into the first week of September if snorkel activities indicated no fish or spawning in the project area. To avoid adverse impacts to breeding murrelets, any noise-producing construction activities above ambient noise levels within 35 yards of murrelet habitat will not begin until after August 6, during the murrelet late breeding season (August 6 to September 15). During the project work period between August 6 and September 15 within 35 yards of marbled murrelet habitat, no work that generates above-ambient noise levels will take place at night or within 2 hours of sunrise and sunset, when murrelets are known to be most active.

OTHER ALTERNATIVES CONSIDERED AND ANALYZED

In addition to the selected alternative, the EA considered a no action alternative (Alternative A) and an alternative to repair road conditions similar to what existed prior to the storm (Alternative C).

Alternative A—No Action

Under the No Action alternative, no additional road rehabilitation or repairs would occur. The emergency repairs completed in April 2008 on the South Shore Road would allow the road to remain open to vehicle traffic and allow continued connections and access to the Graves Creek, North Fork and North Shore roads, and maintain vehicular travel on the Quinault Loop Drive. This section of road would not receive additional streambank protection. No additional repairs would occur to the Graves Creek Road beyond the emergency repairs already completed except for minor actions, such as removal of washed-out

culverts. Road damage and streambank stabilization measures would not be implemented. Washed-out or plugged culverts would not be replaced. The road would be permanently closed to vehicle access near MP 1.0. The trailhead would remain open to the public. Pedestrian and bicycle access would be allowed on the road as long as it remains safe for travel. Visitor access could be suspended if further road damage or washouts make travel unsafe. The Graves Creek Campground, facilities, and ranger station would be closed or converted to backcountry use. A future planning effort would be needed to determine the long-term management of this area.

The No Action was not the selected alternative because it does not fulfill the project objectives. Vehicle access on the Graves Creek Road would not be restored and no protective measures would be implemented to prevent future damage that could jeopardize visitor access.

Alternative C—Restore Access through Replacement in Kind

Under Alternative C, the damaged sections of road would be repaired to conditions similar to that prior to the storm. There may be minimal improvements to the culverts to meet the hydrologic flows for the drainage areas, but no additional improvements would be implemented. Road repairs by milepost under Alternative C include:

South Shore Road—MP 0.7 to 0.9. No additional work would be conducted at this site beyond the emergency repairs already completed to restore vehicle access.

Graves Creek Road—MP 1.2. To stabilize the streambank adjacent to the road, 100 to 200 feet of rock riprap would be installed.

Graves Creek Road—MP 1.7. Riprap would be placed along about 100 to 200 feet of streambank to protect and stabilize the road from future washouts. The road would be laid back to reduce the slope and integrated into the riprap.

Graves Creek Road—MP 2.3 to 2.5. The washed-out 4-foot diameter culvert would be salvaged to the extent possible and replaced using available on-site rock debris to restore the road base. Because of the depth of the washout, the culvert would be located at a lower elevation than the previous location and the road on either side of the culvert would require excavation to lower the approach to the stream crossing.

Graves Creek Road—MP 3.1. Repair of this section of road would include replacement of the existing damaged culverts with new culverts sized to handle the hydrologic changes in the new channel cut by the storm flow. The plugged and buried culverts would be left in place. The grade of the road approaching the culvert would need to be raised about 5 feet because the bottom of the channel is higher from the debris deposited following the storm. The road surface would be capped with crushed rock to create the driving surface following completion of the road base.

Graves Creek Road—MP 3.4. The existing damaged culverts would be removed and new culverts sized to handle the hydrologic drainage would be installed at the same location. Some of the downstream debris in the channel would be excavated to improve flow.

Graves Creek Road—MP 3.8. The washed-out section of the road would be filled with suitable borrow material and a crushed rock cap would be used to finish the road surface. The culvert inlet and outlets would be armored with rock. The road surface would be capped with crushed rock to create the driving surface.

Graves Creek Road—MP 4.0. To protect the eroded streambank adjacent to the road, 100 feet of riprap rock would be installed.

Graves Creek Road—MP 4.5. The existing damaged and buried culvert would be excavated and a new culvert sized to handle the hydrologic drainage would be installed. Some of the downstream debris in the channel would be excavated to improve flow. The road surface would be capped with crushed rock to create the driving surface.

Portions of Alternative C were integrated into the selected alternative for repairs at mile 1.2 and 1.7. Other portions were not integrated, including the replacement of culverts, because, although these actions would fulfill project objectives of reestablishing vehicle access and repairing damaged roads, they would not provide for fish passage and resource protection as well as Alternative B.

ALTERNATIVES CONSIDERED AND REJECTED

The park considered several alternatives for this project and conducted a detailed evaluation to determine the most feasible alternatives. Alternatives considered, but rejected because they did not meet the project purpose and objectives include the following:

Close All Access to the Graves Creek Road. Under this alternative, public access on Graves Creek Road would be closed at the intersection of South Shore Road. Existing facilities such as the Graves Creek Ranger Station and campground would be removed. A future planning process would be required to determine if the road would be decommissioned and converted to a trail, if a new trail would be constructed in a different area, or if trail access would be eliminated. This alternative would result in an unacceptable impact to the Graves Creek Ranger Station, which is a historic structure listed in the National Register of Historic Places. This alternative does not meet the project purpose of providing permanent two-lane access to the Quinault Rain Forest and park facilities at Graves Creek, which are a component of the General Management Plan and a park goal for maintaining existing vehicle access and preserving historic resources. Therefore, this alternative was eliminated from further analysis.

Relocate All or Portions of the South Shore Road and Graves Creek Road. Relocation of these roads at the locations where they currently abut the Quinault River (MP 0.7 – 0.9) or East Quinault River (MP 1.2, MP 1.7, and MP 4.0) is not technically feasible. The road at these locations is bounded by steep bedrock outcrops and terrain unsuitable for road relocation. Short segments of the Graves Creek Road at MP 1.2 and MP 1.7 have already been shifted as far from the river as feasible during previous repairs. Excavation or blasting into the hillsides to shift the road farther is likely to result in substantial erosion, mass wasting, and environmental damage. For these reasons, this alternative was eliminated from further consideration.

Construct Culverts at MP 3.1 and 3.4 to Meet Fish Passage Requirements. The crossings at MP 3.1 and 3.4 are unstable and dynamic crossings. Storms occur periodically and bring large debris flows, blocking culverts and redirecting the streamflows into different areas. However, the streams are intermittent and dry during the summer months. To meet fish passage requirements, the culverts would be extremely oversized based on bankfull width during the winter months, and would require an increased road grade on the approaches, resulting in an approximately 10-foot grade change from existing conditions. This would create a berm in the forest floor and prevent natural sediment transport processes from occurring. Erosion due to streamflow would result in a perched culvert over time, which would preclude any advantage to fish from installing the oversized culverts. Fish passage would not be possible in the long term. It is also likely that even with the oversized culverts, debris flows would plug the

culverts and periodic maintenance would be necessary. For these reasons, this alternative was eliminated from further consideration.

Keep the Graves Creek Road closed until a Long-term Restoration Plan can be Developed for the Quinault River System. The Quinault Indian Nation (QIN) has requested that the NPS and other key stakeholders work together to develop a comprehensive restoration plan for the Quinault River and its watershed that guides the park toward a more sustainable means of access over the long term. Through the general management plan process, the park has committed to pursuing opportunities to improve management within the park and across administrative boundaries by pursuing cooperative conservation with American Indian tribes in accordance with Executive Order 13352 (Facilitation of Cooperative Conservation) and Management Policies 2006 (4.1.4). The park will collaborate with the QIN and other partners for restoration planning for the Quinault River. This study can proceed and is separate from the proposed short-term repairs to the Graves Creek and South Shore roads. The proposed repairs are part of the Emergency Relief Federally-Owned (ERFO) program and funds are limited in scope of use and timing. Funds cannot be used for long-term planning and can only be used at those locations damaged from the flood event. Funding availability is limited to the end of the second fiscal year following the fiscal year in which the disaster occurred. The NPS is committed to working with the QIN and area stakeholders on a long-term plan. This long-term planning process would not be encumbered by the proposed repairs that will allow vehicular access to be restored to Graves Creek. Proposed repairs could be modified or removed if future long-term planning indicates other measures are more appropriate. Therefore, this alternative was dismissed from further analysis.

ENVIRONMENTALLY PREFERRED ALTERNATIVE

The “environmentally preferred” alternative is determined by applying the criteria cited in the National Environmental Policy Act of 1969 (NEPA), and in accordance with the Council on Environmental Quality (CEQ) regulations. The CEQ provides direction that “[t]he environmentally preferred alternative is the alternative that would promote the national environmental policy as expressed in section 101 of NEPA, which considers:

1. Fulfilling the responsibilities of each generation as trustee of the environment for succeeding generations.
2. Assuring for all generations safe, healthful, productive, and esthetically and culturally pleasing surroundings.
3. Attaining the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences.
4. Preserving important historic, cultural, and natural aspects of our national heritage and maintaining, wherever possible, an environment that supports diversity and variety of individual choice.
5. Achieving a balance between population and resource use that would permit high standards of living and a wide sharing of life’s amenities.
6. Enhancing the quality of renewable resources and approaching the maximum attainable recycling of depletable resources” (NEPA, section 101).

The NPS is required to identify the environmentally preferred alternative(s) for any of its proposed projects. In essence, the environmentally preferred alternative would be the one(s) that “causes the least damage to the biological and physical environment; it also means the alternative which best protects, preserves, and enhances historic, cultural, and natural resources.”

While Alternative A would preserve existing conditions, it would not be considered the Environmentally Preferred Alternative because not repairing the damaged road and improving bank stability would not

meet the goals of providing the widest range of beneficial uses without degradation and risk of health or safety. Alternative A is not the Environmentally Preferred Alternative for the following reasons: (1) implementing this alternative would not improve road safety or allow vehicle access, (2) this alternative would not allow park managers to effectively preserve and maintain park resources and facilities in the Quinault River Valley because access to the ranger station would be limited, (3) this alternative would reduce visitor access and recreation opportunities, (4) damaged roads would continue to erode and result in stream sedimentation if not repaired, and (5) there is a higher likelihood the road would not withstand large flood events, which would result in road closure, making it more difficult for visitors and staff to access the park complex. Thus, Alternative A would not meet NEPA Section 101 goals 2, 3, 5, and 6.

Alternative C would restore vehicle access on the Graves Creek Road similar to conditions prior to the storm damage. While this would meet the purpose and need of the proposed project, it would not provide the additional sustainable protective measures to reduce the potential for road damage during high flows or improvements designed to protect or restore fish habitat. Alternative C would meet NEPA Section 101 goals, but not to the same extent as the Preferred Alternative.

Even with the modifications to the selected alternative, it is still considered the Environmentally Preferred Alternative. The modified Alternative B surpasses the other alternatives in realizing the full range of national environmental policy goals as stated in Section 101 of NEPA. Selective placement of wood reinforced floodplains and riprap along the South Shore and Graves Creek roads adjacent to the Quinault and East Quinault rivers, along with installation of spanner bridges and culverts will provide the widest range of beneficial uses without degradation, and will reduce risks to health and safety because it will provide sustainable vehicular access to the facilities and trailheads in the upper Quinault River Valley. Implementing Alternative B will best preserve the natural aspects of streams because it protects the road while seeking to restore natural hydrologic stream conditions on the tributaries (goals 1 and 4). Road improvements will allow for more unimpeded access (i.e., fewer road closures from storm damage) to the recreational opportunities in the Quinault River Valley (goals 2, 3, and 5). Alternative B provides for the reuse of rock debris from the storm damage to restore the road base in several locations (goal 6).

WHY THE SELECTED ALTERNATIVE WILL NOT HAVE A SIGNIFICANT EFFECT ON THE HUMAN ENVIRONMENT

The following summary reviews impact considerations and highlights key safeguards of implementing the selected alternative. Mitigation measures will be employed to minimize these impacts during and after completion of the proposed project. The EA provides detailed consideration of the factors supporting the determination of non-significance.

Geology. Installation of WRFs and riprap at locations on the Quinault and East Quinault rivers is intended to redirect stream energy away from the road and protect the roadbank. These measures will have a minor adverse effect on the natural geomorphologic processes in the stream channel from the introduction of structural features that will alter streamflow and channel formation. Excavation and removal of culverts at MP 2.3, 3.4 and 4.5 will disturb alluvial deposition within the channel. Excavation of storm-deposited debris in the stream channel to provide adequate hydraulic capacity prior to installation of spanners at MP 3.1, and 3.4 will require a minor disturbance to alluvial deposits. All of these construction related disturbances will have a minor localized impact on geologic resources.

Vegetation: A negligible amount of existing streamside vegetation will be affected by construction of rip rap. Over time, by implementing mitigation measures, native plants will become established in the voids between the rocks. Installation of WRFs will be beneficial primarily by establishing native woody riparian vegetation. The road repairs and culvert removal and replacement will have a negligible effect on vegetation because of previous disturbances and the lack of vegetation at the sites. Installation of spanners

on three intermittent drainages, and the removal of existing culverts at two locations will have a negligible level of disturbance to vegetation adjacent to the roadway. The establishment and spread of exotic plants is possible during construction, but revegetation, weed-control measures, and other BMPs will minimize the potential for the introduction of invasive plants.

Wildlife. Noise and human activity during road repairs will result in temporary behavior modification and avoidance reactions to resident wildlife. Construction timing will be used to avoid impacts to particularly vulnerable life stages for most wildlife species. Project-related disturbances will occur primarily in areas already degraded or affected by the existing road corridor and the effects of the 2007 storm. Reopening of the Graves Creek Road to vehicular traffic, will displace or force relocation of some wildlife, particularly small mammals and birds, outside the project limits. The displacement could result in a slight population depression adjacent to the road corridor. Wildlife will be at risk from collisions with automobiles, and the disturbance associated with vehicle use and noise similar to conditions prior to road closure. The overall impact to wildlife is expected to be negligible. The construction of WRFs within the Quinault River is expected to increase wetland and riparian habitat, resulting in a beneficial effect on wildlife.

Fisheries. Installation of riprap will generate a short-term increase in sediment transport downstream. Increases in suspended sediments potentially affect juvenile fish by damaging gills, reducing feeding, increasing avoidance of construction areas, reducing reactive distance, suppressing production, increasing mortality, and reducing habitat capacity. Elevated levels of suspended sediments may also degrade nearby spawning habitat and reduce survival from egg to fry emergence. Direct adverse impacts to individual fish or their eggs will largely be avoided by scheduling instream construction from July 15 to August 30 to coincide with typical low-flow periods and to avoid sensitive reproductive periods for coho and Chinook salmon.

These projects would result 550 linear feet of rip rap being placed adjacent to salmon habitat. The loss of habitat from the placement of rip rap will be about 0.1 percent of the total linear feet of streambank habitat available in the Quinault River from the outlet of Lake Quinault upstream. The short-term effects of placing rip rap would be less than the effects of placing barbs, with less instream work and shorter project duration. In river habitat would not be impacted in the short-term by the placement of rip rap, and the project duration would be reduced to no more than 16 hours total of instream work. Instream work would include keying the rip rap into the stream bank and road bed, and placing the base layer of rocks into the stream channel using heavy equipment. Placement of rip rap into the edge of the active channel will generate short-term sediment transport downstream during the project duration.

The long-term effects of the project would be the presence of rip rap until future restoration projects could be planned and implemented. At the locations where rip rap would be placed, the river flows adjacent to the roadway. By placing rip rap, river alignment will likely stay adjacent to the bank in the future, not allowing the natural meandering to occur. These activities are not expected to measurably affect population trends or reproductive capability of the local populations (which are located upriver of the action area), or alter the distribution of salmon within the Quinault River. However, the placement of rip rap would result in direct short-term moderate adverse impacts to habitat from temporary increased sedimentation during instream work.

While placement of the rip rap result in short-term moderate adverse effects on fish due to temporary increased sedimentation, and long-term moderate adverse effects from the presence of rip rap adjacent to the river and salmon habitat, the adverse effects on Essential Fish Habitat (EFH) would be a small proportion of the overall EFH in the Quinault River basin (less than 1 percent). NOAA Fisheries concurred with this determination in their response memorandum dated January 30, 2009.

Construction of up to two WRFs will occur in dry conditions, so there will be no sediment transport, but there will be a loss of potential fish spawning habitat when flows are high. WRFs are intended to enhance fish habitat and will result in beneficial effects on fish, which will offset the initial adverse effects over time. WRFs will promote the establishment of riparian vegetation, which is needed to increase sources of woody debris that create high quality fish habitat. Although construction of the WRFs and installation of the riprap will have minor adverse effects on fish and EFH, impacts will be minimized through implementation of the mitigation measures and BMPs described in Table 1.

Activities planned within tributaries to the Quinault River are removal and installation of new culverts, culvert removal, installation of spanner bridges, and repair of damaged road sections. These activities could adversely affect fish by disturbing the stream channel and increasing suspended sediment at several locations. However, construction will occur during the low- or no-flow period, and all of the tributaries are intermittent or ephemeral so impacts will be negligible. Installation of spanners will restore normal flows in the stream channel and allow fish passage when flows are present. The spanners will allow possible development of spawning grounds and colonization of the streambed by aquatic macroinvertebrates that are a food source for many fish.

Special Status Species. The northern spotted owl is unlikely to occur near the project area and no suitable nesting or critical habitat will be modified or removed. Foraging owls may be disturbed by machinery noise during construction, causing owls to temporarily avoid the project area. The project will start after July 15, during the late breeding season, when breeding owls and their young will be less vulnerable to disturbance.

The project will occur near suitable habitat for marbled murrelets, but no trees large enough to contain suitable habitat for murrelets will be cut. To avoid adverse impacts to breeding murrelets, construction activities within 35 yards of suitable murrelet habitat will not begin until August 6, during the murrelet late breeding season (August 6 to September 15). Any work that generates noise above ambient levels prior to September 15 will not take place at night or within 2 hours of sunrise and sunset during the periods when murrelets are known to be most active. The noise of construction could temporarily affect murrelets in the area in the form of aversion responses. However, construction timing restrictions to avoid disturbances during murrelet high-activity periods will minimize effects to the species.

A temporary increase in sediment near construction sites along the Quinault River will have minor effects on bull trout near these activities. It is assumed that some suitable bull trout spawning habitat will be impacted at the location of the WRFs. The WRF will enhance fish habitat and could result in long-term beneficial effects on bull trout, which will offset the initial adverse effects over time. The WRFs will promote the establishment of riparian vegetation, which is needed to increase sources of woody debris that create high quality bull trout habitat.

By placing rip rap, river alignment will likely stay adjacent to the bank in the future, not allowing the natural meandering to occur. These activities are not expected to measurably affect population trends or reproductive capability of either of the local populations (which are located upriver of the action area), or alter the distribution of bull trout within the Quinault River core area. However, because the Proposed Project would result in direct short-term moderate adverse impacts to bull trout from temporary increased sedimentation, the project would result in a may affect, likely to adversely affect determination for bull trout. Because the project area is localized over 550 feet, and would only affect a small portion of the Quinault River and bull trout habitat, the effects of the project are considered insignificant and localized, this project would not result in adverse modification to bull trout critical habitat.

Instream work will be scheduled from July 15 through August 30, avoiding high-flow periods and prime bull trout spawning and egg-laying periods. To avoid impacts to spawning bull trout, snorkel surveys will be conducted prior to project work in the active channel of the Quinault River, and periodically during construction. If spawning is found, work will be delayed at that particular area. Instream construction should be completed before any bull trout fry hatchings. Work could be extended into the first week of September should snorkel surveys show no fish or spawning in the project area.

The project may affect, but is not likely to adversely affect, northern spotted owls and marbled murrelets; and is likely to affect bull trout. There will be no impact on federally listed plants in the project area because there are none present. The park submitted a Biological Assessment to the U.S. Fish and Wildlife Service (FWS) evaluating impacts to threatened and endangered species. The FWS provided a biological opinion to the park on February 4, 2009, and determined that the project would not likely jeopardize the recovery of survival of the bull trout, and they concurred with the determination for the marbled murrelet and northern spotted owl.

The road improvements at each of the damaged road sections will be designed to provide additional protective measures to reduce the potential for damage from future storm events. The placement of WRFs and rip rap bank armor in the Quinault River will result in slight changes in channel morphology and stream velocity in a small portion of the river system. Installation of WRFs will protect the streambank and road, and deflect flows away from the road. Installation of spanner bridges instead of culverts will prevent future culvert plugging and reduce the potential for road damage and sediment delivery to the Quinault River. Installation of spanners will greatly expand the channel capacity by allowing normal and high flows to pass unimpeded and will reduce the potential for erosion and impacts to water quality. Spanners can easily be relocated as necessary to respond to changes in stream channel location or drainage conditions. Installation of adequately sized culverts and spanners will result in more natural streamflows and reduced erosion of the channels and banks. Construction activity will likely generate short-term erosion and sediment transport to streams at each location until the sites are stabilized. Best management erosion control practices for drainage and sediment control will be implemented including regular inspections and repairs or improvements as needed to prevent or reduce nonpoint source pollution and minimize soil loss and sedimentation in drainage areas.

Floodplain. The riprap bank armor and WRFs will reduce the width of the floodplain and alter the natural movement of the active channel and the aggradation and degradation of sediment within the floodplain. The installation of these structures is designed to protect the road and streambank and will reduce the potential for slumping, erosion and future washouts. These small structures will not appreciably affect channel capacity and the ability of the river to accommodate flood flows. Road improvements will not change the ability of the floodplains to convey and store floodwaters, and rehabilitation of the roads will not contribute to flooding during or after construction. Because of the limited area of these road protection measures, substantial changes in floodplain values and functions are not expected.

Installation of new culverts and spanners on intermittent tributaries that cross Graves Creek Road will improve the capacity of these drainages to carry stormflows and will reduce the potential for road damage and sediment delivery to the Quinault River. Floodplain values will not be adversely affected at any of the road improvement sites. A floodplain statement of findings was completed as part of the EA and is included as an attachment to this FONSI.

Ethnographic Resources and Treaty Resources. A number of executive orders provide management direction for the NPS. The Presidential Memorandum of April 29, 1994 addresses the unique legal relationship with Native American tribal governments as set forth in the Constitution of the United States, treaties, statutes, and court decisions. In accordance with the April 29, 1994 memorandum, as executive

departments and agencies undertake activities affecting Native American tribal rights or trust resources, such activities should be implemented in a knowledgeable, sensitive manner respectful of tribal sovereignty. Each executive department and agency shall assess the impact of federal government plans, projects, programs, and activities on tribal trust resources and ensure that tribal government rights and concerns are considered during the development of such plans, projects, programs, and activities.

The Quinault River is the primary holder of treaty resources (salmon fisheries) for the Quinault Indian Nation (QIN), and as such, the potential adverse impact to these resources and input from the QIN throughout the planning process is important. While the overriding mandate for the NPS is to manage the park units in the national park system consistent with park laws and regulations, the federal government, including the NPS, has a trust responsibility to protect Indian rights and advance their interests.

Restoring vehicle access on Graves Creek Road will allow tribal members vehicular access for traditional use, fisheries management, and research. However, the QIN has expressed concerns over reestablishing vehicular access on the Graves Creek Road and the use of bank barbs due to the potential adverse effects to fisheries resources (The effects to fisheries are evaluated in the Fishery Resources section discussed previously.). The park seriously considered their concerns and modified the selected alternative to reduce potential adverse effects to tribal treaty resources. The park has committed to work with the QIN to develop a long-term plan for the future restoration of the Quinault River that allows for more sustainable access for visitors.

Visitor Experience and Recreational Resources. This project will reopen permanent vehicle access to the Graves Creek Trailhead, campground, and ranger station. Visitors, including those with limited mobility, will be able to access upper Quinault Rain Forest by vehicle. Road rehabilitation will reduce the potential for future road closures, thus improving the visitor experience and public use. Pedestrians will be adversely affected when the road is reopened to vehicular traffic.

Public Health, Safety, and Park Operations. Restoring vehicle access on Graves Creek Road into the Quinault Rain Forest will allow NPS response to medical emergencies, searches and rescues, and fires; and will allow access for research, resource management, and facility and trail maintenance. Maintenance operations will continue as before the road was closed. Proposed road improvements will reduce the potential for future road closure and disruption in park operations.

Cumulative Impacts: As described in the EA, cumulative impacts were determined by combining the impacts of the selected action with other past, present and reasonably foreseeable future actions. Past, present, and future actions that may have potential to cumulatively impact resources include:

- Historical logging and land management practices in the early 1900s that cleared old-growth forests from terraced streambanks in the Quinault River valley.
- Homesteaders and others have attempted to manage the Quinault River by removing natural logjams from the river, installing riprap for bank protection, or taking measures to redirect river flow.
- Road construction, including the North Shore Road to South Shore Road bridge across the Quinault River, has influenced river-forming processes.
- The establishment of ONP has resulted in beneficial effects to the natural resources in the area by protecting large amounts of habitat.
- Previous road repairs inside and outside the park boundary, such as streambank stabilization on the South Shore Road and Graves Creek Road from other storm events have contributed to both temporary and long-term disturbances to the quality of the environment.

- The QIN, in cooperation with the U.S. Forest Service, is planning to install a reinforced logjam in the floodplain of the Quinault River near Alder Creek to create fish habitat and provide streambank protection.
- The QIN has developed a restoration plan for the Quinault River. The plan includes measures to restore degraded portions of the river to restore and improve the quality of fish habitat.
- Grays Harbor County planned road improvements, such as increasing paved shoulder width near Lake Quinault Lodge, minor road realignment, and replacing a culvert with a bridge on the South Shore Road outside of the park.
- Current development outside the park boundaries in the Quinault River Valley, such as construction and the protection of private property, continues to influence river processes.

Cumulative impacts to geology; vegetation; wildlife; fisheries; special status species; soils; hydrology and water quality; floodplains; ethnographic resources and treaty resources; visitor experience and recreation resources; public health, safety, and park operations; and socioeconomics were analyzed for the selected action. As described in the EA, the cumulative effects of past, present, and future actions in the area, combined with the impacts of the selected action, are not anticipated to produce any significant adverse cumulative effects. In general, the selected action will contribute slightly to the overall cumulative resource effects.

BASIS FOR DECISION

The preferred alternative as modified and described in this document is the NPS selected course of action. The project was modified in part due to tribal concerns expressed during both informal and formal government-to-government consultations. Consultations occurred in accordance with Executive Order 13175 of November 6, 2000, which states that the United States will work with Indian tribes on a government-to-government basis to address issues concerning Indian self-government, tribal trust resources, and Indian tribal treaty and other rights. In addition to the tribal concerns, the USFWS had concerns related to the construction of bank barbs and the potential adverse effects to bull trout and bull trout habitat due to sedimentation due to extensive instream work needed for barb construction.

Components of the selected alternative were evaluated in the EA, and there are no additional impacts as a result of the slight modifications to the project. The project could be implemented without any major adverse impacts to environmental, cultural, and socioeconomic resources. No highly controversial effects were identified during either the preparation of the environmental assessment or the public review period, and the impact analysis has not been highly debated. The nature of this project is such that it does not involve highly uncertain, unique, or unknown risks. The available information on which to base this decision is adequate.

The selected actions are not directly related to any larger proposal. The project does not establish a precedent or constrain any future considerations of use in the area. The NPS followed required compliance processes to ensure that this project does not violate any federal, state, or local environmental protection laws or requirements.

MITIGATION MEASURES

Mitigation measures have been incorporated into the selected alternative to avoid or reduce impacts as part of the proposed project. All mitigation measures are summarized in Table 1 below.

Table 1. Mitigation Measures.

Resource Area	Mitigation	Responsibility
General Considerations	<p>Construction zones will be identified and fenced with construction tape, snow fencing, or some similar material prior to any construction activity. The fencing will define the construction zone and confine activity to the minimum area required for construction. All protection measures will be clearly stated in the construction specifications and workers will be instructed to avoid conducting activities beyond the construction zone. Disturbances will be limited to roadsides, culvert areas, and other areas inside the designated construction limits.</p> <p>No machinery or equipment will access areas outside the construction limits. Construction equipment staging will occur within the roadway for active work areas or at designated turnouts. Vehicle and equipment parking will be limited to areas within construction limits, existing roadways, parking lots, or the access routes.</p> <p>Area staff will be notified when the project start date is known.</p> <p>Hauling restrictions: Material and equipment hauling will comply with all legal load restrictions. Load restrictions on park roads are identical to state load restrictions with such additional regulations as may be imposed by the Park Superintendent. Information regarding rules and regulations for vehicle traffic on park roads may be obtained from the Chief Ranger's office. A special permit will not relieve the Contractor of liability for damage that may result from moving equipment.</p> <p>Construction vehicle engines will not be allowed to idle for extended periods of time. All tools, equipment, barricades, signs, surplus materials, and rubbish will be removed from the project work limits upon project completion.</p>	FHWA and NPS Project managers
Vegetation	<p>All disturbed ground will be reclaimed using appropriate best management practices (BMPs) that include planting native flora. Until the soil is stable, measures will be implemented to prevent sediment from reaching streams. During and following construction, disturbed areas will be stabilized, contoured to fit existing natural conditions, and revegetated with native soil and plant species, as approved by NPS biologists. Native species will be used in all revegetation. Erosion control measures are designed to reduce sediment production and keep sediment from reaching the stream channel.</p> <p>Temporary barriers will be provided to protect existing trees, plants, and root zones. Trees or other plants will not be removed, injured, or destroyed without prior approval.</p> <p>To prevent the introduction of, and minimize the spread of, nonnative vegetation and noxious weeds, the following measures will be implemented during construction:</p> <ul style="list-style-type: none"> • Soil disturbance will be minimized. • All construction equipment will be pressure washed and/or steam cleaned before entering the park to ensure that all equipment, machinery, rocks, gravel, and other materials are cleaned and weed free. • All haul trucks bringing fill materials from outside the park will 	NPS Resources Management Specialist, Vegetation

Resource Area	Mitigation	Responsibility
	<p>be covered to prevent seed transport.</p> <ul style="list-style-type: none"> • Vehicle and equipment parking will be limited to within construction limits. • All fill, rock, and additional topsoil will be obtained from the project area, if possible; and if not possible, then weed-free fill, rock, or additional topsoil will be obtained from sources outside the park. NPS personnel will certify that the source is weed free. • Monitoring and follow-up treatment of exotic vegetation will occur after project activities are completed. <p>A tarp or other protective barrier will be laid down prior to stockpiling the crushed gravel/ cobble material. In addition, the tarp will be used to cover the stockpile to reduce the accumulation of and the spread of seeds when the crushed material is used in the park.</p>	
<p>Water Quality and Soils</p>	<p>Best management erosion control practices for drainage and sediment control will be implemented to prevent or reduce nonpoint source pollution and minimize soil loss and sedimentation in drainage areas. These practices may include, but are not limited to, silt fencing, filter fabric, temporary sediment ponds, check dams of pea gravel-filled burlap bags or other material, and/or immediate mulching of exposed areas to minimize sedimentation and turbidity impacts as a result of construction activities.</p> <p>Silt fencing fabric will be inspected daily during project work and weekly after project completion, until removed. Accumulated sediments will be removed when the fabric is estimated to be approximately 75% full. Silt removal will be accomplished in such a way as to avoid introduction into any flowing water bodies.</p> <p>Although soil side-cast during construction may be susceptible to some erosion, such erosion will be minimized by placing silt fencing around the excavated soil. Excavated soil may be used in the construction project; excess soil will be stored in approved areas outside the high water mark.</p> <p>If weather conditions during project operations generate and transport sediment to the stream channel, operations will cease until weather conditions improve. During these work stoppage periods, project personnel will continue to check the silt fences and check dams, maintain the silt fences in effective conditions, and remove accumulated sediment, as necessary, to ensure stabilization is maintained. The operation of ground-disturbing equipment during large precipitation events will increase the production of sediment that may be transported to flowing waters. This measure is designed to reduce the production of fine and coarse sediments, which may affect spawning gravels, substrate embeddedness, pool frequency/quality and the development of large pools if they reach the stream channel.</p> <p>Streambanks will be properly sloped to an angle of stability (natural repose) when removing culverts. This measure can reduce sediment production from bank erosion, undercutting, and slumping as the stream channel reestablishes following culvert removal. Fine and coarse sediment transported to the stream channel may affect spawning gravels, substrate embeddedness, pool frequency, and quality and development of</p>	<p>FHWA and NPS Project managers</p>

Resource Area	Mitigation	Responsibility
	<p>large pools. This measure can also reduce the recovery time of impacted streambanks at the project site, affecting streambank conditions.</p> <p>Excess material (spoils) will be disposed of at least 300 feet from the active stream channels. This measure is designed to keep fine and coarse sediments from reaching flowing waters where they can be transported downstream, which may affect spawning gravels, substrate embeddedness, pool frequency/quality, and development of large pools.</p> <p>The culvert to be installed will be designed to accommodate, at minimum, the hydrologic flows of the drainage area.</p> <p>Erosion-control and contamination-control measures, such as the installation of silt fences, sediment traps, stream diversions, and spill-protection controls, will be implemented.</p> <p>Erosion-control measures will be left in place, where appropriate, until the site is revegetated.</p> <p>Construction erosion-control measures will be inspected weekly or after a major storm, whichever is sooner. Repairs and maintenance of structures will be performed, when necessary, after installation.</p> <p>Vegetable oils will be used in place of petroleum-based oils and hydraulic fluids in all heavy equipment that will be used in the river and its tributaries. Construction equipment not used in the river will be checked daily and maintained to reduce the likelihood of hazardous fluid leaks.</p> <p>The WRFS at the MP 0.7–0.9 site will be installed in the late summer or early fall when there is typically no streamflow at the construction site. If streamflows are found due to digging down to subterranean flows, a small berm using riverbed material will be created with an excavator and bulldozer to prevent streamflow from entering the area during construction. The berm will be removed after construction is completed. The WRFS at the MP 4.0 site will be installed only if the main channel moves away from the site.</p> <p>A storm water site plan (SWSP) will be developed and approved by the park prior to commencing any near-water activities.</p> <p>Regular site inspections will be conducted to ensure that erosion control measures are properly installed and functioning effectively.</p> <p>Prior to starting work each day, all machinery will be inspected for leaks (e.g., fuel, oil, and hydraulic fluid) and all necessary repairs will be made before the commencement of work. This measure is designed to avoid/minimize the introduction of chemical contaminants associated with machinery used in project implementation.</p> <p>Any machinery maintenance involving potential contaminants (e.g., fuel, oil, and hydraulic fluid) will occur outside the riparian area, defined as the entire channel migration zone or a distance greater than 150 feet from the stream edge. This measure is designed to avoid/minimize the introduction of chemical contaminants associated with machinery used in project implementation.</p>	

Resource Area	Mitigation	Responsibility
	Hazardous spill clean-up materials will be on-site at all times. This measure is designed to avoid/minimize the introduction of chemical contaminants associated with machinery (e.g., fuel, oil, and hydraulic fluid) used in project implementation. Chemicals may have a toxic effect on aquatic organisms, including salmonids.	
Special Status Species	<p>Project activities that do not affect flows in the Quinault or the East Quinault Rivers will begin August 6th or later, during the late breeding season for owls (after July 15) and murrelets (after August 6th).</p> <p>No trees large enough to contain suitable habitat for spotted owls or murrelets will be cut.</p> <p>To avoid adverse impacts to breeding murrelets, any noise-producing construction activities above ambient noise levels within 35 yards of murrelet habitat will not begin until after August 6th, during the murrelet late breeding season (August 6 to September 15), and will be initiated as late as possible. This will ensure that heavy equipment operation will occur outside of the prime breeding season, yet provide a window for construction to be completed before winter weather and bull trout spawning seasons begin.</p> <p>During the project work period between August 6 and September 15 within 35 yards of marbled murrelet habitat, no work that generates above ambient noise levels will take place at night or within 2 hours of sunrise and sunset, when murrelets are known to be most active.</p> <p>The park will maintain strict garbage control to prevent scavengers (e.g., jays and crows), which are predators on murrelet nests, from being attracted to the project area. No food scraps will be discarded or fed to wildlife.</p> <p>Mitigation for bull trout will be the same as described for Fisheries Resources.</p>	FHWA and NPS Project managers and NPS Wildlife Biologist
Fisheries Resources	<p>Snorkel surveys will be conducted at the Quinault River in-channel work locations before work begins and periodically during construction. If spawning salmon or bull trout are found, work will be delayed at that particular area.</p> <p>In accordance with Washington Department of Fish and Wildlife work windows, instream work will be scheduled from July 15 through August 30, during periods of low flow and before spawning, to minimize impacts to bull trout or Chinook salmon. Instream construction should be completed before any bull trout or salmon fry hatchings.</p> <p>Work could be extended into the first week of September should snorkel surveys show no fish or spawning in the project area.</p> <p>Large woody material removed from a culvert inlet will be returned to the stream, downstream of the culvert. This measure will preserve large woody debris already in the stream channel. The removal and loss of large woody debris can affect sediment, substrate embeddedness, large woody debris, pool frequency and quality, large pools, and off-channel habitat.</p>	FHWA and NPS Project managers and NPS Fisheries Biologists

Resource Area	Mitigation	Responsibility
	<p>Large woody debris and plants will be incorporated into the design of bank protection projects whenever possible, and in consultation with park and tribal biologists.</p> <p>At a minimum, all culverts will be designed to accommodate hydrologic flows of the drainage areas.</p> <p>Erosion control measures, such as the installation of silt fences, sediment traps, stream diversions, and spill-protection controls, will be implemented to minimize potential effects of sedimentation on bull trout. Erosion control measures will be left in place, where appropriate, until the site is revegetated. Construction erosion control measures will be inspected weekly or after a major storm. Repairs and maintenance will be performed, where necessary.</p> <p>Wood reinforced floodplain structures will be installed in the late summer when there is typically no streamflow at the construction site. If streamflows are encountered, a small diversion structure or berm using riverbed material will be created with an excavator and bull dozer to prevent streamflow from entering the area during construction. Diversions will be conducted in a manner to minimize disturbance and sedimentation. Following construction, the diversion will be removed and natural flow will be unimpeded after construction is completed.</p> <p>During and following construction, disturbed areas will be stabilized, contoured to fit existing natural conditions, and revegetated with native soil and plant species as approved by NPS biologists.</p> <p>Construction equipment will be checked daily and maintained to reduce the likelihood of hazardous fluid leaks. Hazardous spill containment measures will be located on site.</p> <p>A qualified biologist will conduct a site inspection prior to and after construction and will be present on-site during construction/monitoring as often as needed to assure compliance with the conservation measures, regulatory requirements, and implementation and effectiveness of best management practices.</p> <p>Conservation measures as specified in the Biological Opinion will be adopted and implemented. Compliance status shall be included in the monitoring report described in the Biological Opinion.</p>	
<p>Visitor Experience and Recreational Resources</p>	<p>Visitors will be informed in advance of construction activities.</p> <p>The road will be closed to all visitors during construction activities. If a visitor inadvertently comes upon construction, they will be escorted through the construction zone and/or routed away from construction activities.</p> <p>The Wilderness Information Center will be notified when the project start date is known so that they may inform wilderness users.</p> <p>The ONP Public Information Officer will be provided with the project schedule (as soon as it is known) and periodic updates of project work to inform visitors of project status and access.</p>	<p>FHWA and NPS Project managers; NPS Public Information Officer, WIC supervisor, and Chief of Interpretation</p>

Resource Area	Mitigation	Responsibility
Cultural Resources	Should any archeological resources be uncovered during construction, work will be halted in the area and the park archaeologist, Office of Archeology and Historic Preservation (OAHP), and appropriate Native American Tribes will be contacted for further consultation.	FHWA and NPS Project managers and NPS Cultural Resources Specialist
	Park cultural resources staff will be available during construction to advise or take appropriate actions should any archeological resources be uncovered during construction. In the unlikely event that human remains are discovered during construction, provisions outlined in the Native American Graves Protection and Repatriation Act (1990) will be followed.	
	The NPS will ensure that all contractors and subcontractors are informed of the penalties for illegally collecting artifacts or intentionally damaging archeological sites or historic properties. Contractors and subcontractors also will be instructed on procedures to follow in case previously unknown archeological resources are uncovered during construction.	
	Equipment and material staging areas will avoid known archeological resources.	

NON-IMPAIRMENT OF PARK RESOURCES

The implementation of the selected alternative will result in no more than moderate adverse impacts to geology, vegetation, wildlife, fishery resources, special status species, soils, hydrology and water quality, floodplain, ethnographic resources and treaty resources, visitor experience and recreational resources, public health, safety, and park operations, and socioeconomics in and around the project area. Mitigation measures implemented as part of the project will reduce impacts to vegetation, fish and wildlife, special status species, water quality, visitors, and cultural resources.

The NPS has determined that the selected alternative will not constitute an impairment to ONP resources and values. This conclusion is based on a thorough analysis of the environmental impacts described in the EA, public comments received, relevant studies, and professional judgment of the decision-makers guided by direction in *NPS Management Policies 2006*.

UNACCEPTABLE IMPACTS

The impact threshold at which impairment occurs is not always readily apparent. Therefore, the NPS applies a standard that offers greater assurance that impairment will not occur. The NPS does this by avoiding impacts that it determines to be unacceptable. These are impacts that fall short of impairment, but are still not acceptable within a particular park's environment. The NPS has determined that the preferred alternative will not result in unacceptable impacts to ONP resources. This conclusion is based on a thorough analysis of the environmental impacts described in the EA, public comments received, relevant studies, and professional judgment of the decision-makers guided by direction in *NPS Management Policies 2006*.

PUBLIC ENGAGEMENT AND AGENCY COORDINATION

Public Scoping

ONP conducted public scoping from January 31 to March 5, 2008 via posting on the park website and on the NPS Planning, Environment and Public Comment (PEPC) website, and with a news release provided to about 80 individuals, park neighbors, organizations, area tribes, and agencies on the park's mailing list. An article providing project information and requesting public input was published in the Peninsula Daily

News on February 6, 2008, on the Tacoma News Tribune website, and on the Washington Trails Association website on February 7, 2008. The public scoping outreach resulted in two comments from an interested individual and a group, the National Parks and Conservation Association. The main concerns which surfaced were protecting watershed and floodplain values, and the protection of fisheries.

Public Review of the EA

The EA prepared by the NPS in cooperation with the Federal Highway Administration, was released for a 30-day public review on September 12, 2008. A press release was circulated to about 80 individuals, park neighbors, organizations, area tribes, local news media, and agencies on the park's mailing list. Approximately 40 printed copies of the EA were provided to the public, and an electronic version of the EA was broadly available to the public through a posting on the NPS PEPC website and linked to the park's public website. In addition, printed copies of the EA were available at several area libraries, including the North Olympic Library System libraries in Port Angeles and Forks; and the Timberland Regional Libraries in Aberdeen, Shelton, and Hoquiam.

The public review and comment period for the EA was open until October 15, 2008. The park received 11 comments during the public review period of the EA; nine from individuals and two from interest groups. Each comment was considered and reviewed by park staff. The park received one comment related to the continued flow of water at MP 2.3 and the potential need for a bridge at that site. Commenters generally expressed support for the bank barb concept, however had some concerns related to the long-term sustainability of these structures and the maintenance requirements.

The commenters did not provide any additional, new, or substantive information that would require revising the EA for additional public review or that would change the determination of effects.

Consultation and Coordination

Informal consultation was initiated with the U.S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration (NOAA) Fisheries Division in February 2008. Information was provided to the U.S. Army Corps of Engineers (COE) and the Washington State Department of Ecology (DOE) on the emergency actions and to request input for the long-term repairs. In April 2008 the park consulted with the Washington Department of Archeology and Historic Preservation and the area of potential effect for the proposed project. The park conducted a site review with the USFWS and Quinault Tribe on May 21, 2008 to review proposed actions and potential issues and areas of concern.

Tribal input was initiated with the QIN directly after the storm. Site visits occurred on December 14, 2007, January 8 (the QIN was invited, but did not attend), and February 8, 2008. A letter was sent to the QIN on January 29, 2008 to formally request tribal input and to offer opportunities for government-to-government consultations. The QIN requested formal consultation with the park, and a meeting was held at the QIN headquarters on April 25 with the QIN President and staff, and the ONP Superintendent and staff. The QIN requested that the park participate in long-term planning for Quinault River restoration and requested that the NPS collaborate with the QIN throughout the planning process. The QIN submitted a letter to the park on May 5 requesting ONP's participation in the development of short-term alternative for repairs, and in the development of a long-term plan for the Graves Creek and other park roads in the Quinault River Valley and Upper Quinault River watershed.

The park met with the tribal representative in the project area on May 12 and May 21, 2008 to discuss rehabilitation alternatives and mitigation plans. Park staff met again with tribal representatives on November 20 to review the EA. At this meeting, the tribal representatives expressed concerns related to

the construction and use of bank barbs as road protective measures, and provided specific information on area fisheries and the importance of protecting treaty resources. The QIN representatives were opposed to the use of bank barbs at any location in the Quinault River. Consultation and coordination continued through the development of the FONSI to determine tribal concerns related to the project and to refine alternatives and mitigation to protect area fisheries.

To assess impacts to federally listed threatened and endangered species the NPS prepared a Biological Assessment (BA) as required under Section 7 under the Endangered Species Act. The BA was submitted to the U.S. Fish and Wildlife Service on August 15, 2008, and project updates were provided on December 22, 2008 and January 6, 2009. The FWS issued a Biological Opinion dated February 4, 2009 which evaluated the effects of the project on the threatened northern spotted owl, marbled murrelet, and bull trout. The FWS determined that the project as proposed is not likely to jeopardize the continued existence or recovery of these species.

The Quinault River and its tributaries are within the area designated as Essential Fish Habitat (EFH) for Chinook and coho salmon. To meet the requirements for EFH consultation for coho salmon (*O. kisutch*) and chinook salmon (*O. nerka*) that inhabit the Quinault River Basin within ONP, the NPS initiated consultations with NOAA Fisheries on November 11, 2008. This EFH consultation is pursuant to the Magnuson-Stevens Fishery Management and Conservation Act. The Magnuson-Stevens Fishery Conservation and Management Act (MSA), as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), requires federal agencies to consult with NOAA Fisheries on activities that may adversely affect EFH.

The NPS determined that adverse effects of the proposed action on Chinook or coho salmon EFH would be short-term and moderate because of the disturbance to potential spawning habitat, but would result in only a long-term minor effect because of the small proportion of effects compared to the overall area of EFH present in the Quinault River basin (less than 1 percent). NOAA Fisheries concurred with this determination in a memorandum dated January 30, 2009.

No resources eligible for listing on the National Register of Historical Places were found during surveys by the park of the area of potential effect. The Washington State Historic Preservation Office was consulted on the results of these findings and concurred with the findings of no effect to historic properties in ONP from the selected alternative.

The park has prepared a Joint Aquatic Resource Permit Application to secure a 404 Permit and 401 water quality certification for work in waters of the U.S. Permits will be obtained prior to the start of construction.

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CONCLUSION

Based on the conservation planning and environmental impact analysis documented in the EA, with due consideration of the nature of the public comments and consultations with other agencies, and given the capability of the mitigation measures to avoid, reduce, or eliminate impacts, the NPS has determined that selected actions do not constitute a federal action that normally requires preparation of an environmental impact statement (EIS). The selected actions will not have a significant effect on the quality of the human environment or the park's cultural resources, or natural resources, and would not jeopardize the continued existence of threatened or endangered species.

There are no unmitigated adverse impacts on public safety, sites, or districts listed in, or eligible for listing in, the National Register of Historic Places, or other unique characteristics of the region. No highly uncertain or controversial impacts, unique or unknown risks, cumulative effects or elements of precedence were identified. Implementation of the action will not violate any federal, state, or local environmental protection law. Based on the foregoing, it has been determined that the selected actions may be implemented as soon as practicable.

Recommended:



Karen Gustin
Superintendent, Olympic National Park

2/4/09
Date

Approved:



Jonathan B. Jarvis
Regional Director, Pacific West Region

2/5/09
Date

