Draft Environmental Assessment

Mount Molly Loop Trail Reroute Project

Capitol State Forest (managed by the Washington Department of Natural Resources)
Thurston County, Washington

FEMA-1734-DR-WA (Public Assistance)

October 2011

U.S. Department of Homeland Security
FEMA Region X
130 228th Street SW
Bothell, WA 98021

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Prepared for:

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Acronyms and Abbreviations

ACHP	Advisory Council on Historic Preservation
ArcIMS	Arc Internet Map Sever
APE	Area of Potential Effects
ATV	All-terrain vehicle
BMP	best management practice
B.P.	Before Present
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
Corps	U.S. Army Corps of Engineers
CWA	Clean Water Act
DAHP	Washington Department of Archaeology and Historic Preservation
DBH	Diameter at Breast Height
DNR	Washington Department of Natural Resources
DOC	Department of Corrections
EA	Environmental Assessment
Ecology	Washington State Department of Ecology
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
EMD	Washington Emergency Management Division (Military Department)
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
ESU	Evolutionarily Significant Unit
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
FPARS	Forest Practices Application Review System
FR	Federal Register
GIS	geographic information system
HCP	Habitat Conservation Plan
GLO	General Land Office
HUC	Hydrologic Unit Code
MBTA	Migratory Bird Treaty Act
MSA	Magnuson-Stevens Fishery Conservation and Management Act
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
OHW	ordinary high water
ORV	Off-road vehicle
PA	Public Assistance
PHS	Priority Habitats and Species

PNP	Private Non-Profit
RCW	Revised Code of Washington
SCS	Soil Conservation Service
SEPA	State Environmental Policy Act
SHPO	State Historic Preservation Officer
SPCC	Spill Prevention Control and Countermeasures
SW	Southwest
TESC	Temporary Erosion and Sediment Control
U.S.C.	United States Code
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
WCC	Washington Conservation Corps
WDFW	Washington Department of Fish and Wildlife
WISAARD	Washington Information System for Architectural and Archaeological Records Data
WNHP	Washington Natural Heritage Program
WRIA	Water Resource Inventory Area

1.0 Purpose and Need for Action

1.1 INTRODUCTION

Heavy rains in December 2007 caused severe landslides, mudslides, and flooding in western Washington. The rains caused slope failures (landslides) at two nearby sites in the Potosi Creek drainage in the Capitol State Forest (or Capitol Forest) in Thurston County, Washington. The landslides destroyed portions of the Department of Natural Resources (DNR) C-4500 Road and parallel sections (totaling approximately 400 linear feet) of the Mount Molly Loop Trail and another unnamed motorized recreation trail located near and downhill of the road (see Figure 1.1-1, *Project Location)*. The photo below shows the slope failure at one of the sites along the C-4500 Road that destroyed a 350-foot long section of motorized recreation trail downhill of the road.

The president declared the storm event a major disaster (FEMA 1734-DR-WA), making federal funding available for emergency work and repair or replacement of disaster-damaged facilities. DNR has decided not to rebuild the C-4500 Road at the two landslide areas due to the extremely high cost of repair. Rebuilding the forest road at the two damaged sites would require stabilizing steep slopes (50 percent and greater) (pers. comm., Wolff and Shedd, 2011), blasting a bench in solid rock, and placing large quantities of fill material for the road bed. The cost to restore the C-4500 Road to pre-disaster conditions has been estimated at $3.3 million at one site and $9,600 at the other site (FEMA 2010). Rebuilding the trails without rebuilding the road would still require much of the same slope stabilization, rock blasting, and fill placement. As DNR has decided not to rebuild the C-4500 Road, the damaged sections of motorized recreation trail cannot reasonably be rebuilt in their original locations. Therefore, DNR has applied through the Washington State Emergency Management Division (EMD) to the Federal Emergency Management Agency (FEMA) for funding of an alternate project. The alternate project would combine and reroute the damaged sections of the motorized recreation trail to bypass above the landslide areas. The alternate project does not include rebuilding or rerouting the damaged C-4500 Road.

This Draft Environmental Assessment (EA) has been prepared to help FEMA meet its environmental review responsibilities under the National Environmental Policy Act (NEPA) of 1969, the Council on Environmental Quality's (CEQ's) implementing regulations (40 Code of Federal Regulations [CFR] Parts 1500 through 1508), and FEMA's implementing regulations (40 CFR Part 10). FEMA is also using the EA to document compliance with other applicable federal laws and executive orders, including the Endangered Species Act (ESA), the Magnuson-Stevens Fishery Conservation and Management Act (MSA), the National Historic Preservation Act (NHPA), Executive Order (EO) 11988 (Floodplains), EO 11990 (Wetlands), and EO 12898 (Environmental Justice).

FEMA will use the findings in and public comments on this Draft EA to determine whether to prepare an Environmental Impact Statement (EIS). If the action is determined not to significantly affect the quality of the human and natural environments, then FEMA will make a Finding of No Significant Impact (FONSI), and preparation of an EIS will not be warranted.

This document describes the purpose and need for the Proposed Action, the project alternatives, the affected environment and potential impacts on that environment resulting from the alternatives, cumulative effects, public involvement, and resources consulted.

1.2 BACKGROUND AND LOCATION

The project is located near Larch Mountain in the northern half of the Capitol Forest, approximately 10 miles southwest of Olympia in Thurston County, Washington (see Figure 1.1-1). The Capitol Forest is a 91,650-acre "working forest" located southwest of Olympia in Thurston and Grays Harbor counties. The forest is managed by the DNR Pacific Cascade Region for timber production, wildlife habitat, and recreation and public access. The Capitol Forest has been open to the public since 1955 and draws an estimated 800,000 visitors each year for hiking, horseback riding, camping, mountain biking, off-road vehicle (ORV) use, hunting, nature study, sightseeing, and more.

The Capitol Forest is divided into to two parts to prevent conflicts between motorized and non-motorized recreation. Motorized recreation, such as ORV use, is allowed in the northern half of the forest, and horseback riding is limited to the south. Mountain bikers and hikers use both halves of the forest, with some trails limited to hikers only.

The Mount Molly Loop Trail is a 7.7-mile long motorized trail open to all-terrain vehicles (ATVs), motorbikes, mountain bikes, and hikers. The other unnamed trail damaged by the landslide is a motorized trail open for the same uses. DNR closed the damaged sections of both trails to all recreation use following the 2007 landslides due to the unsafe conditions (pers. comm., Wolff. and Shedd, 2011). Both the damaged trail sections and the proposed trail reroute

are located within Township 18 North, Range 4 West, Section 36 and Township 17 North, Range 4 West, Section 1. The coordinates of the damaged trail sections are: (Site 1) N 46.997 (latitude) / W-123.123 (longitude), and (Site 2) N 46.995 / W-123.125. The proposed trail reroute is approximately 1 mile long. The beginning and ending coordinates of the trail reroute are: (north end) N 46.998 / W -123.119 and (south end) N 46.993 / W-123.125 (see Figure 1.1-1, *Project Location*).

The parallel sections of motorized recreation trail that were destroyed in the December 2007 landslides were located near and downhill from the C-4500 Road. The proposed alignment for the rerouted trail would bypass above the landslide area. The rerouted trail would begin at the C-4000 Road and would follow the ridge slightly north of the C-4000 Road for a portion of the route, then cross over the road and drop down the hill to connect with an intact section of the C-4500 Road beyond the landslide area. The trail would follow the road for approximately 25 feet, then reconnect to the intact portion of the Mount Molly Loop Trail beyond the landslide area (see Figure 1.1-1, *Project Location*).

1.3 PURPOSE AND NEED

The purpose of the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1973 (Stafford Act), as amended, is to provide a range of federal assistance to state and local governments to supplement efforts and resources in alleviating damage or loss from major disasters and/or emergencies. The objective of the FEMA Public Assistance (PA) Grant Program is to provide assistance to state, tribal, and local governments, and certain types of Private Non-Profit (PNP) organizations so that communities can quickly respond to and recover from major disasters or emergencies declared by the president. Through the PA Grant Program, FEMA provides supplemental federal disaster grant assistance for debris removal, emergency protective measures, and the repair, replacement, restoration, or relocation of disaster-damaged, publicly owned facilities and the facilities of certain PNP organizations.

The need for the FEMA action is to provide funds to DNR to restore the trail function that was lost in the December 2007 landslides. The damaged trail sections provided through-access along the motorized trail network and off of the forest roads in the Larch Mountain area.

To meet the project need, DNR identified the following objectives:

- Reduce safety hazards arising from: (1) conflicts between recreationists and timber harvest activities by providing a trail for ATV, motorbike, mountain bike, and hiking use as an alternative to using the C-4000 Road; and (2) higher ORV speeds associated with traveling on roads rather than ORV trails, which are designed to reduce ORV speeds.

- Restore through-access along the motorized trail network in a geologically stable area to reduce the risk of future trail damage from landslides.
- Minimize ground disturbance, stream and wetland crossings, and tree removal.
- Minimize costs.

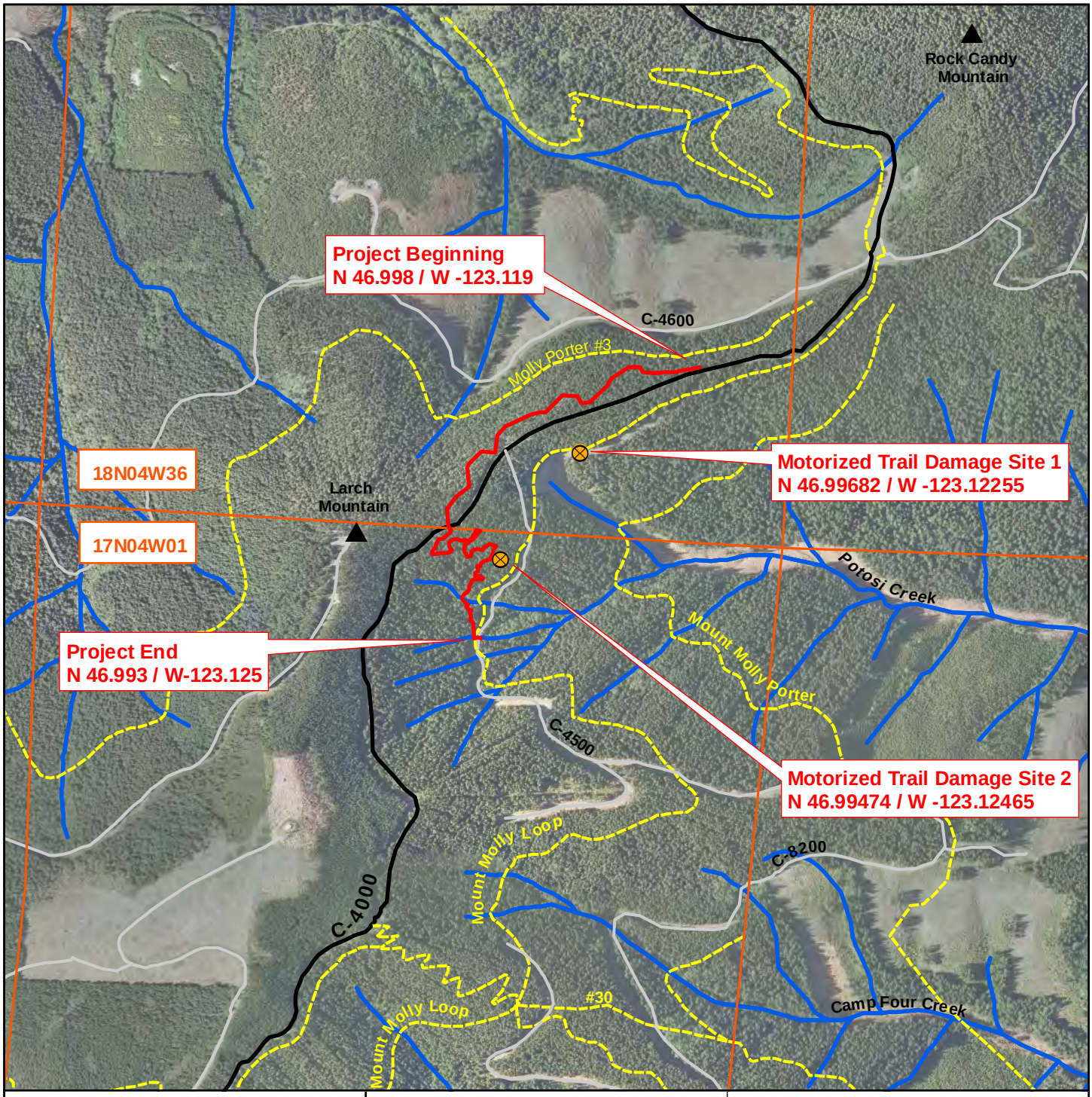
1.4 RELATED ACTIONS

As stated previously, the December 2007 storms damaged multiple facilities at various sites on forest land owned by the DNR. DNR has requested FEMA funding to repair some of these damaged sites and to fund other alternate projects such as removing or replacing culverts that block fish passage. Although these projects are related under the same disaster (FEMA 1734-DR-WA), they are being addressed under separate NEPA processes from the Mount Molly Loop Trail Reroute. DNR has no plans in the foreseeable future to repair the C-4500 Road. According to DNR, the timber harvest and other natural resources previously accessed via the C-4500 Road can be accessed via other routes. There are no known actions related to the Proposed Action evaluated in this EA.

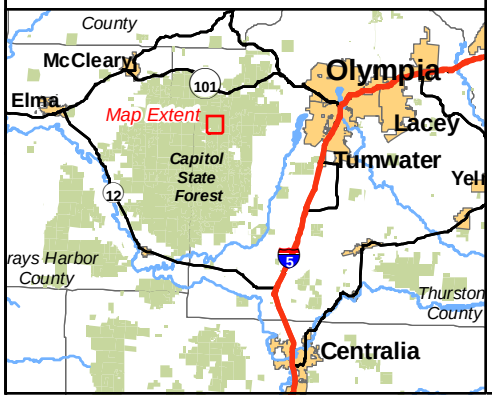
1.5 RESOURCE TOPICS NOT ADDRESSED IN DETAIL IN THE EA

The CEQ and FEMA regulations (44 CFR Section 10) that implement NEPA require NEPA documents to be concise, focus on the issues relevant to the project, and exclude extraneous background data and discussion of subjects that are not relevant or would not be affected by the project alternatives. Accordingly, the following subjects are not evaluated in detail for the following reasons:

Subject	Analysis
Land Use and Socioeconomics	The project alternatives would not affect land use or socioeconomic conditions in the project vicinity.
Transportation and Access	The project alternatives would not affect transportation and vehicle access in the project vicinity. Trail access is addressed under Recreation.
Air Quality	The project is located in a rural area with a low population density and low traffic volumes. Construction would create a limited amount of dust and minor vehicle emissions from vehicles bringing in materials; however, impacts would be temporary and minor. Air quality impacts are not expected to increase above current levels. No long-term reduction in air quality is expected once construction activities are completed.
Noise	The project is located in a motorized recreation area; it is not anticipated to change the existing noise environment. Noise-related impacts are addressed as appropriate in Section 3.4, *Fish and Wildlife.*



Map Location



Legend

- December 2007 Landslide Damage Sites
- Proposed Trail Reroute
- Motorized Recreation Trails
- Primary Forest Road
- Secondary Forest Road
- Streams
- Sections

Figure 1.1-1 Project Location

Mount Molly LoopTrail Reroute
Department of Natural Resources

1:12,000

0 600 1,200 Feet

2.0 Alternatives, Including the Proposed Action

The CEQ regulations require federal agencies to consider a reasonable range of alternatives that meet the purpose and need of a proposed action in their NEPA review. Reasonable alternatives are alternative ways of meeting a project need, but with varying degrees of environmental impact. Alternatives that would clearly result in substantially greater environmental impact than the Proposed Action do not require detailed analysis.

The following sections describe the alternatives being considered for the Mount Molly Loop Trail Reroute Project, and the process used to develop these alternatives. Although the December 2007 landslides in the Capitol State Forest also destroyed portions of the DNR C-4500 Road, the Proposed Action evaluated in this EA does not include rebuilding or rerouting the road. DNR has no plans in the foreseeable future to restore the access lost from the December 2007 landslide damage to the C-4500 Road. The timber harvest and other natural resources previously accessed via the C-4500 Road can be accessed via other routes.

This EA analyzes two alternatives for the project: Alternative A (No Action Alternative) and Alternative B (Proposed Action). It also describes alternatives that were considered but not carried forward for further analysis.

2.1 ALTERNATIVES CONSIDERED BUT NOT CARRIED FORWARD

Rebuild the Damaged Sections of the Motorized Recreation Trails near the C-4500 Road in their Original Locations

As described in Section 1.1 *(Introduction)*, DNR considered rebuilding the damaged C-4500 Road and damaged sections of motorized recreation trail to pre-disaster conditions in their original locations. However, this would require stabilizing the failed slope at both sites, blasting in solid rock to create a bench to perch fill on, and placing large quantities of fill to rebuild the road bed and trails. The cost to accomplish this is extremely high (estimated at $3.3 million for one site and $9,600 for the other site) in comparison to the Proposed Action, which is limited to a trail project to bypass the landslide area (estimated at $22,722 – $26,722). Given the steep slopes (50 percent and greater), bedrock, and shallow, exposed soils at the two damaged sites, rebuilding the C-4500 Road and damaged trail sections in the same locations would also have considerably greater impacts on geology, soils, and slope stability than the Proposed Action. For these reasons, rebuilding the motorized trail sections in their original locations was eliminated from further consideration.

2.2 ALTERNATIVE A – NO ACTION

Under the No Action Alternative, FEMA would not provide funding to DNR to reroute the Mount Molly Loop Trail to bypass the landslide areas. The damaged trail sections would remain unusable and closed to recreational use permanently.

DNR could choose to move forward with rerouting the trail without FEMA funding. However, the potential for this to occur is entirely speculative; therefore, the No Action Alternative assumes that the damaged trail sections would remain in their current condition indefinitely for the purposes of analysis in this EA.

2.3 ALTERNATIVE B – PROPOSED ACTION

Under the Proposed Action, FEMA would provide funding to DNR to construct a section of motorized recreation trail to bypass above the 2007 landslide area and the damaged C-4500 Road and trail sections. The Proposed Action includes the construction of approximately 1 mile of new motorized recreation trail, including one bridge, and the abandonment and rehabilitation of approximately 0.5 mile of trail not damaged in the landslide that would be bypassed by the new route (see Figure 1.1-1, *Project Location*).

The estimated cost to build the trail is $17,722.00 (FEMA 2010). The trail bridge is estimated to cost an additional $5,000 to $9,000 including engineering and materials (pers. comm., Wolff and Shedd, 2011). The estimate includes design, bridge engineering and fabrication, materials, and labor costs for the proposed project. General construction activities and best management practices (BMPs) identified as part of the project are described in detail below.

The project would include the following construction activities:

- **Mobilizing equipment and staging materials.** Construction equipment would include motorized/mechanical equipment and hand tools, including pick-up trucks for crew transport (three pick-ups trips per day at 2 hrs/day), three ATVs with trailer units to transport surfacing rock, a “trail machine” that is equivalent to a wheel loader-backhoe to load the rock into the ATV trailers, mini-excavators, chain saws, weed-eaters, and shovels. All equipment and materials would be staged (temporarily stored) within already-disturbed areas, such as wide areas along the C-4000 Road.

- **Clearing, brushing, and grubbing.** Vegetation clearing would involve the removal of shrubs and herbaceous vegetation to a 4-foot wide alignment along the trail length. The exact trail alignment would be determined in the field to avoid trees to the extent possible. It may be necessary to remove a few small trees (up to 5-inches diameter at breast height [dbh] maximum). Surface soil would be removed down to mineral soils along the 4-foot wide alignment for the length of the trail. Vegetation would be brushed (cut back) beyond the traveled surface width to 6 feet wide and 8 feet high along the trail length. Vegetation and soil removed for the project would be scattered onto the surrounding landscape.

- **Constructing the trail.** As described above, the trail would have a 4-foot wide travel surface and be brushed beyond the travel surface width to 6 feet wide and 8 feet high

along the trail length. Trail construction would primarily be accomplished using a mini-excavator with some work done by hand.

- **Hardening the trail.** Sections of the trail where the surface is soft and/or wet, primarily on both sides of the stream crossing (including the bridge approaches), would be hardened to reduce erosion. This would be accomplished by placing and compacting 2 inches of crushed rock up to 1½ inches in size in these areas. It is estimated that approximately 130 cubic yards of crushed rock would be required. The crushed rock would be purchased from a commercial source and transported from the C-4000 Road to sites as needed using ATV trailer units.

- **Installing/constructing drainage control structures.** The trail would be constructed to avoid continuous grades so that water will periodically flow from the trail, rather than along it. Water diversions, such as grade reversals and drain dips, would be constructed where necessary. Drain dips are shallow depressions in the trail surface typically filled with crushed rock that direct small amounts of surface water across the trail and avoid the collection of water on the uphill side of the trail.

- **Constructing/installing the bridge.** A 5- to 6-foot wide by 25- to 30-foot long steel I-beam bridge with railings would be constructed to support the new trail section across the seasonal stream along the new motorized trail alignment. DNR would determine the ordinary high water (OHW) of the stream (if one exists) and the boundaries of any associated wetlands that are identified during its wetland investigation. The bridge clearance above the stream is anticipated to be approximately 5–6 feet, but no less than at least 4 ½ feet. The bridge abutments/approaches would be located outside of the stream OHW and any associated wetlands that are identified. Depending on site conditions, the goal is to approach the bridge at a slightly uphill grade to ensure no sediment enters the stream from the trail. The bridge approaches would be constructed with modern pressure-treated wood and wrapped in geo-textile fabric to minimize erosion. If the grade of the bridge approaches is between 6 and 10 percent, a combination of concrete building blocks and crushed rock would be used. If the grade of the bridge approaches is less than 6 percent, only crushed rock would be used.

- **Abandoning and rehabilitating the trail alignment.** Approximately 0.5 mile of the original Mount Molly Loop Trail that was not destroyed in the 2007 landslides and that would be bypassed by the new route would be abandoned and rehabilitated. This would involve removing any built structures, loosening the trail surface soils with a mini-excavator, softening the slope of the abandoned trail to blend into the surrounding landscape, and planting native vegetation, such as salal (*Gaultheria shallon*) and swordfern (*Polystichum munitum*). Woody debris would be pulled across the abandoned

trail at the access points and along the trail to block access and discourage unauthorized use. The damaged sections of trail covered or destroyed by the landslides would not be rehabilitated.

Construction of the project is anticipated to take approximately 2–3 months using a 4-person crew with an additional crew member present to load surfacing rock for transport by ATV/trailer units. The project would be constructed by DNR staff, or a combination of DNR staff and Washington Conservation Corps (WCC) crew or Department of Corrections (DOC) labor under close supervision. Project construction would be scheduled to avoid wet soil conditions, and would probably occur during the late spring, summer, or early fall.

DNR would adhere to federal, state, and county regulations, permit conditions, and BMPs for the design, construction, and long-term maintenance of the proposed project, including, but not limited to:

- **Trail Design and Construction:** Trail design and construction would be in accordance with the U.S. Forest Service (USFS) ORV trail standards (USFS 1991).

- **Stream and Wetland Protection:** The project alignment crosses a small (less than 2-foot) wide), seasonal, non-fish bearing stream (described in detail in Section 3.2, *Hydrology, Water Quality, Floodplains, and Wetlands*). Vegetation observed within and around the stream during a September 2010 site visit included three species that are known to occur both in wetlands and in uplands (in moist to wet, shady forest conditions) (described in detail in Section 3.3, *Vegetation)*. One obligate wetland sedge species was also observed in or near the stream by a FEMA Wetland Scientist during the site visit. However, a complete wetland investigation, which would include a comprehensive field investigation of vegetation, soils, and hydrologic conditions to determine whether conditions at the site meet wetland definition criteria, was not conducted as part of the September 2010 site visit. Given the presence of some wetland associated plants in the stream vicinity, it is possible that wetland conditions occur as a wetland fringe along the stream channel in the vicinity of the project alignment. DNR will conduct a wetland investigation in the vicinity of the project alignment crossing through the stream drainage to determine whether wetlands are present and, if so, to determine the wetland boundary.

- **Installing Temporary Erosion Control:** Silt fencing would be installed around the stream and associated wetlands (if present) in the vicinity of the project alignment prior to construction of the bridge approaches and bridge and before any ground-disturbing activities are conducted in the area. Straw would be placed over disturbed and exposed soils around the stream and any associated wetlands after construction to minimize potential erosion and sedimentation until soils are stabilized.

- **Vegetation Clearing and Grubbing:** These specifications direct clearing operations, including removing, preserving, and trimming trees and other vegetation. They also address grubbing operations (i.e., removing roots) and limit the area of approved actions. These specifications protect vegetation both inside and outside approved work areas. Vegetation clearing and ground disturbance for the proposed project would be limited to that essential for the project and would be in accordance with the USFS ORV trail standards (USFS 1991). Vegetation would be cleared to 4 feet wide for the trail travel surface and brushed beyond the trail to 6 feet wide and 8 feet high. Trail alignment would be field determined to avoid trees to the extent possible. Any trees removed for the project would be no larger than 5 inches dbh.

- **Water Quality, Erosion, and Sediment Control**: These specifications require the implementation of a Temporary Erosion and Sediment Control (TESC) Plan to comply with federal, state, and local laws and regulations. Erosion and sediment control specifications typically focus on soil and slope protection and stabilization measures, followed by site restoration methods (including planting materials). TESC BMPs for the proposed trail project would involve installing silt fencing on both sides of the trail in the vicinity of the stream crossing prior to the start of ground disturbance in that area and prior to construction of the bridge approaches and bridge structure. Straw mulch would be place over disturbed and exposed soils around the stream after construction until soils are stabilized.

- **Environmental Protection**: These specifications require compliance with laws and regulations designed to protect sensitive environmental resources. To ensure that all construction-related pollutants are controlled and contained, a project-specific Spill Prevention, Control, and Countermeasures (SPCC) Plan would be developed and implemented. These specifications addresses hazardous waste and hazardous substances management, pollution control, protection of plant and animal species, protection of wetlands, and protection of cultural resources, as well as other applicable safety, health, and human resource issues.

2.4 SUMMARY OF EFFECTS

Table 2.4-1 summarizes the effects described and analyzed in Chapter 3 (*Affected Environment and Environmental Consequences)*. Levels of potential effect are defined as follows:

- **None/Negligible**: The resource area would not be affected, or changes would be non-detectable or, if detected, effects would be slight and local. Impacts would be well below regulatory limits.

- **Minor**: Changes to the resource would be measurable, although the changes would be small and localized. Impacts would be within or below regulatory limits. Mitigation measures may be necessary to reduce potential effects.

- **Moderate**: Changes to the resource would be measurable and have localized and potentially regional scale impacts. Impacts would be within or below regulatory limits, but historical conditions would be altered. Mitigation measures may be necessary to reduce potential effects.

- **Major**: Changes would be readily measurable and would have substantial consequences on a local and/or regional level. Impacts would exceed regulatory limits. Mitigation measures to offset the effects would be required to reduce impacts, although long-term changes to the resource would be possible.

The criteria and thresholds of significance used in the analysis are defined by resource in Chapter 3.

Table 2.4-1. Summary of Effects of the Project Alternatives for the Mount Molly Loop Trail Reroute Project.

Resource Area	Alternative A – No Action Alternative	Alternative B – Proposed Action
Geology, Soils, and Slope Stability	No effect on local geology; negligible adverse effect on soils and slope stability in the form of erosion potential at closed trail segment.	Negligible adverse effect on soils and slope stability in Potosi Creek from soil disturbance associated with the new trail reroute and related erosion potential.
Hydrology, Water Quality, Floodplains (EO 11988) and Wetlands (EO 11990)	No effects on floodplains; potential for negligible erosion of soils on the closed trail segment to contribute to negligible sediment-related effects on aquatic resources located downslope.	No effects on floodplains or wetlands. Negligible effects on hydrology and water quality from construction-related activities.
Vegetation	Negligible adverse effect on vegetation along the closed trail segment.	Minor adverse effect on vegetation from clearing approximately 0.5 acre along the new trail reroute. No effect on any rare, unique, wetland, or otherwise protected plant species or communities.
Fish and Wildlife	No effect on fish or wildlife.	No effect on fish. Minor short-term effects from construction and minor long-term effects from permanent loss of wildlife habitat.
Recreation and Visual Resources	Moderate long-term adverse effect on motorized recreation in the Capitol Forest from trail closure and reduced safety. No effect on visual resources (no change in site- or landscape-level views).	Moderate long-term beneficial effect by providing through-access on trail system and increased safety. Negligible adverse effect on visual resources from vegetation clearing for new trail reroute.
Cultural Resources	No effects on cultural resources.	No effects on cultural resources.
Environmental Justice (EO 12898)	No effects on environmental justice.	No effects on environmental justice.
Climate Change	No effect on climate change.	Negligible short-term effect on climate change from construction activities. Minor long-term beneficial effect by reducing threat of trail damage from future storm events which may be aggravated by climate change.
Cumulative Impacts	No cumulative effects.	Negligible cumulative effect associated with vegetation removal and soil disturbance.

3.0 Affected Environment and Environmental Consequences

The following sections describe the affected environment (including regulatory considerations) and environmental consequences of the Proposed Action on physical, biological, recreational, visual, and cultural resources in the project area. The level of detail for each resource topic is commensurate with the scale and context of the proposed project and the potential impacts of the project alternatives on that resource. As described in Chapter 1, certain resource topics are not evaluated in detail because the project alternatives would have no effect on those resources or effects are known and minimal. These include land use, socioeconomics, transportation, and air quality. Access in the context of the proposed project is related to recreation and is addressed in Section 3.5, *Recreation and Visual Resources*. Noise within the context of the proposed project is addressed in Section 3.4, *Fish and Wildlife*.

3.1 GEOLOGY, SOILS, AND SLOPE STABILITY

This section describes the existing condition of the physical landscape in the project vicinity, including geology, soils, and slope stability, with additional information on topography and landforms as applicable, and describes the potential effects of the project alternatives on these resources.

3.1.1 AFFECTED ENVIRONMENT

The project is located near Larch Mountain in the Capitol Forest (see Figure 1.1-1, *Project Location*). The Capitol Forest is located in part of a low-lying mountain range along the western boundary of Thurston County known as the Black Hills (DNR 2005). The Black Hills are within the Willapa Hills physiogeographic province and are part of the Coast Range (Lasmanis 1991). Mountains in the Black Hills are mainly rounded peaks and ridges of basalt (SCS 1990). They include Capitol Peak, Fuzzy Top, Rock Candy, and Larch Mountain. The elevation of the Capitol Forest ranges from 200 feet along the Chehalis River up to its highest point atop Larch Mountain at 2,660 feet (DNR 2005).

The proposed project alignment traverses a ridge running approximately north-south between Larch Mountain and Rock Candy Mountain for approximately 0.46 mile, and then switches back down the east face of the slope within the Potosi Creek drainage for approximately 0.41 mile (see Figure 1.1-1, *Project Location*). The ridge between Larch Mountain and Rock Candy Mountain separates the Waddell Creek drainage (to the east) from the North Fork Porter Creek drainage (to the west). The Potosi Creek drainage is one of several small and steep headwater drainages on this east-facing slope that form Waddell Creek. Along the ridge, the proposed project alignment begins at an elevation of approximately 1,710 feet (above mean sea level), and rises to a maximum elevation of approximately 2,010 feet. The proposed project alignment then drops down the eastern face of the slope within the Potosi Creek drainage to approximately 1,790

feet in elevation where it intersects the remaining portion of the C-4500 Road. The damaged trail sections are located along the C-4500 Road to the east, on steep slopes (greater than 50 percent) in the Potosi Creek drainage, and at elevations of approximately 1,700 and 1,800 feet.

While clay-based soils are inherent throughout much of the Capitol State Forest (DNR 2005), soils in the project area are mapped as Katula very cobbly loam (NRCS 2009). These soil types are found on narrow ridgetops and back slopes in upland areas in the project vicinity. Depth to lithic bedrock ranges from 20 to 40 inches (NRCS 2009; SCS 1990). Both of these soils types are considered to be well drained (NRCS 2009). Permeability is moderate in the Katula soil (SCS 1990). On 20–30 percent slopes, runoff is slow and water erosion hazard is slight on Katula soils (SCS 1990). On 30–65 percent slopes, runoff and water erosion hazard are medium (SCS 1990).

Debris slides, avalanches, and debris flows occurred in the Potosi Creek drainage as a result of the December 3, 2007 storm event, including the slope failures that damaged the motorized trail sections to be replaced by this project (see Figure 3.1-1, *Recent Landslides in the Potosi Creek Drainage*). The December 3, 2007 debris slides and avalanches originated high in the watershed, between approximately 1,700 and 1,800 feet in elevation, on steep (40–50 percent) slopes in the upper reaches of small, seasonal streams that drain the slope and flow into Potosi Creek. Debris flows occurred lower in the drainage along both stream channels and along the entire length of Potosi Creek up to its confluence with Waddell Creek (DNR 2010a).

3.1.1.1 Regulatory Context

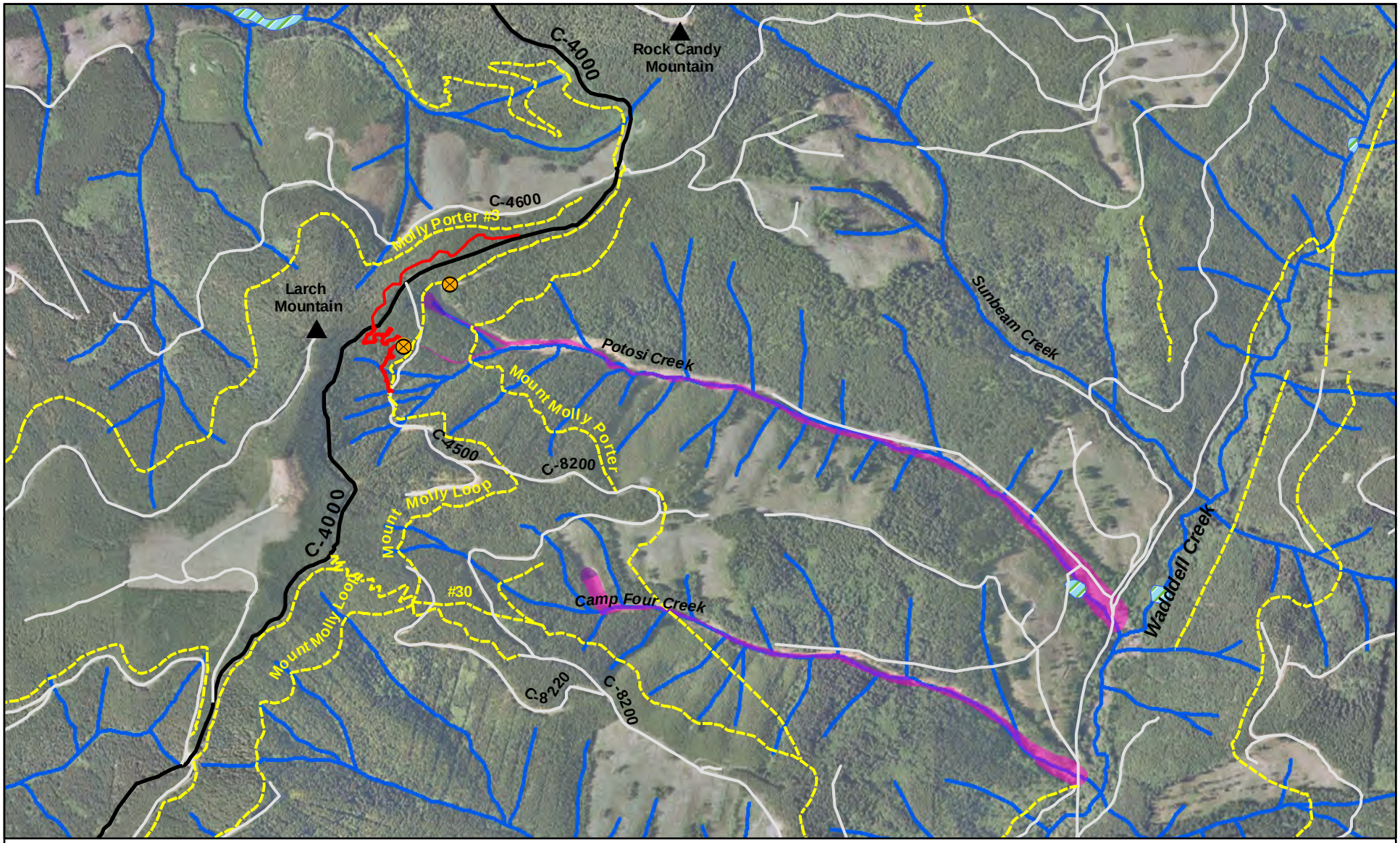
No specific regulations or requirements directly target geology, soils, or slope stability within the Capitol Forest.

3.1.2 Methodology and Thresholds of Significance

The potential effects of the project alternatives on geology, soils, and slope stability were evaluated in terms of ecological context and intensity. AECOM ecologists gathered and reviewed available information regarding geologic hazards and soils in the project vicinity (primarily within the Potosi Creek drainage area), and conducted a site visit on September 29, 2010 to collect information on general site conditions along the proposed project alignment. Direct impacts on soil resources were quantified, while the potential indirect impacts of the project alternatives were qualitatively identified based on best professional judgment.

Based on the location of the proposed project alignment along a ridgetop and steep side slope with seasonal stream drainages, past landslide activity, and recreational uses, a project alternative was determined to result in a significant effect on geology, soils, or slope stability if it would:

- Present a substantial risk to people or property due to geologic hazards such as landslides.
- Cause substantial long-term erosion of soils.
- Result in a substantial accumulation of sediment in downstream aquatic habitats.



Legend

- December 2007 Landslide Damage Sites
- Proposed Trail Reroute

Recent Landslides

- Debris slide and avalanches
- Debris flow
- Motorized Recreation Trails
- Primary Forest Road
- Secondary Forest Road
- Streams
- NWI Wetlands

1:20,000

0 1,000 2,000 Feet

Figure 3.1-1 Recent Landslides in the Potosi Creek Drainage

Mount Molly Loop Trail Reroute
Washington Department of Natural Resources

3.1.3 Environmental Consequences

This section describes the potential effects of the project alternatives on geology, soils, and slope stability in the project area. Measures to avoid, reduce, or mitigate for any identified impacts on recreational and visual resources are also identified.

Alternative A (No Action)

Under the No Action Alternative, FEMA would not provide funds to support DNR in rerouting the Mount Molly Loop Trail to bypass above the December 2007 landslides that damaged sections of two motorized recreation trails in that area. Without FEMA funding, DNR would not construct the proposed trail reroute or rehabilitate the intact sections of trail leading to the landslide area.

Under the No Action Alternative, no ground-disturbing activities would occur along the proposed project alignment or the closed trails. Since the compacted surface soils on the closed trails would not be loosened and the slopes softened to blend into the surrounding landscape, some erosion potential would remain. However, understory shrubs that were previously brushed back from the trail travel way would grow back relatively quickly (within approximately 1–2 years) and would intercept some precipitation, reducing erosion potential in the near term. Species, such as red alder (*Alnus rubra*), that successfully establish themselves in disturbed and compacted soils would also begin to grow within the trail travel way relatively quickly (within approximately 1–5 years), further reducing erosion potential as they mature and intercept more precipitation. Over time, forest litter (leaves, needles, twigs, etc.) would accumulate, and along with natural forest soils processes, would encourage the growth of other vegetation, eventually reducing erosion potential on the closed trail to levels similar to adjacent areas.

The No Action Alternative would have no effect on local geology and would have a negligible adverse effect on soils and slope stability.

Alternative B (Proposed Action)

Under the Proposed Action Alternative, FEMA would provide funds to support DNR in rerouting the Mount Molly Mount Molly Loop Trail to bypass above the December 2007 landslides that damaged sections of two motorized recreation trails in that area.

Roughly 0.5 acre of soil would be disturbed during construction of the proposed trail reroute. Soil along the trail travel way would be permanently compacted and would be hardened in some areas with crushed rock. Trail design and construction, erosion and sediment control BMPs described in Section 2.3 (*Alternative B – Proposed Action*), and ongoing trail maintenance practices would reduce soil erosion during construction and operation of the project to negligible levels.

DNR has completed a preliminary field determination of the proposed project alignment. The trail reroute would follow the ridge line for approximately 0.46 mile where there is little to no risk to slope stability. The trail reroute would then switch back down the east slope of the ridge, where it would follow relatively flat to low-gradient (0–5 percent) natural benches in the slope along much of the route. The steepest gradients occur in the last quarter mile of the route, including switchbacks, where slopes are estimated to range between 10 and 30 percent. The December 2007 landslides in the Potosi Creek drainage originate on steeper slopes (50 percent and greater) lower in the drainage.

The location of the proposed trail reroute on lower gradient slopes high up in the drainage, away from all but the uppermost reach of one small undefined seasonal stream drainage, along with adherence to USFS ORV trail design standards and drainage control structures, would have a negligible effect on slope stability and present a negligible risk to people or property from landslides.

Permanent closure of the trail sections to be bypassed with the proposed project alignment, softening the slope to blend into the surrounding slope, and planting native vegetation (primarily swordfern and salal) along the closed trail would reduce erosion potential in that area to negligible levels.

Overall, the Proposed Action would have a negligible adverse effect on soils and slope stability in the Potosi Creek drainage.

Mitigation Measures

The No Action and Proposed Action alternatives would have no effect on local geology and would have negligible adverse effects on soils and slope stability. The Proposed Action incorporates avoidance, minimization, and mitigation measures into the project design and implementation and would adhere to the BMPs listed in Section 2.3. No additional mitigation measures are proposed for geology, soils, and slope stability.

Significant Unavoidable Adverse Effects

The No Action and Proposed Action alternatives would have no significant effects on geology, soils, or slope stability.

3.2 HYDROLOGY, WATER QUALITY, FLOODPLAINS, AND WETLANDS

This section describes hydrology, water quality, floodplains, and wetlands in the project vicinity, and the potential effects of the project alternatives on these resources.

3.2.1 AFFECTED ENVIRONMENT

Watershed Setting and Hydrology

The project vicinity is located in the Upper Chehalis Water Resource Inventory Area (WRIA) 23, near a north-south ridgeline. The project area is in the Waddell Creek basin (6th field Hydrologic Unit Code [HUC] 171001030505) within the greater Black River watershed. Total annual precipitation for the area is about 51 inches (SCS 1990) and is the major source of water, both surface and subsurface flow, in the project vicinity. The Waddell Creek basin (11,380 acres) includes several steep, relatively straight, headwater creeks including: Sunbeam Creek, Potosi Creek, Camp Four Creek, and Noski Creek. However, the damaged sites and proposed trail alignment are near the top of the ridgeline, and only a small unnamed headwater tributary (project area tributary) to Potosi Creek is present along the proposed alignment (Figure 3.1-1). Although the upper reach of Potosi Creek has an average gradient of 12 to 20 percent (WDFW 2011), the proposed location of the bridge over the project area tributary has a much lower gradient, suitable for the proposed trail crossing. The narrow project area tributary has seasonal flow; it was observed as dry during the summer by DNR, and had 2 inches of water in small step pools during the site visit on September 29, 2010.

Forest Practices Application and Review System mapping indicates that the project area tributary is a Type N water that does not meet the physical criteria to be potentially used by fish (DNR 2011). Type N (formerly type 4 or 5) waters make up approximately 90 percent of the stream network on DNR-managed forest lands (DNR 1997c). These streams (including the project area tributary) are major links between hillslopes and fish-bearing streams (DNR 1997c, Pitlick and Wilcock 2001). These links enhance aquatic environments downstream by providing areas for sorting sediment and delivering stream substrate (Pitlick and Wilcock 2001).

Water Quality

Washington's Water Quality Assessment lists the status of water quality for a particular location in one of five categories recommended by the U.S. Environmental Protection Agency (EPA) and Section 303(d) of the Clean Water Act (CWA). Administered in Washington state by the Department of Ecology (Ecology), the 303(d) list reports on Category 5 waters, which are impaired waters of the state. Waters placed on the 303(d) list require the preparation of a plan to improve water quality by limiting pollutant loads. No waters in the project area are 303(d) listed as an impaired water of the state (Ecology 2008a).

Waddell Creek is one of the sites with the highest mean turbidity in the WRIA 23 and is considered sediment rich (Green et al. 2009). Turbidity tends to be highest during the winter,

particularly after storms and flood events, and lowest during the summer (Green et al. 2009). As described in Section 3.1 (*Geology, Soils, and Slope Stability*), the damaged sites are actively eroding and delivering more sediment to headwater stream channels that are already sediment rich.

Floodplains

The project is not located within a floodplain (FEMA 1982). FEMA regulations define a floodplain as "the lowland and relatively flat areas adjoining inland and coastal waters including, at a minimum, that area subject to a 1 percent or greater chance of flooding in any given year" (44 CFR 9.4). The project location is mapped on the FEMA Flood Insurance Rate Map (FIRM) for Thurston County, Washington (unincorporated areas) (Community Panel Numbers 5301880275C and 5301880250C) as "Zone C" (FEMA 1982). These are areas of minimal flood hazard.

Wetlands

Information was gathered from U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) maps (USFWS 2011a, WDFW 2010) and the DNR Forest Practices Application Review System (DNR 2011); these sources showed no wetlands in the project area. The closest wetlands are mapped approximately 1.5 miles east of the project area near the confluence of Potosi Creek and Waddell Creek (Figure 3.1-1). As described in Section 3.1 (*Geology, Soils, and Slope Stability*), clay-based soils are inherent throughout much of the Capitol Forest (DNR 2005); however, soils in the project area are mapped as Katula very cobbly loam (NRCS 2009). In general, the Katula series consists of deep, well-drained soils with a low water capacity on uplands formed from weathered basalt (SCS 1990). The Katula soil series is not listed as hydric on the national (NRCS 2011a) or Thurston County hydric soil lists (NRCS 2011b).

As described in more detail in Section 3.3 (*Vegetation*), vegetation along the project alignment is primarily Douglas-fir (*Pseudotsuga menziesii*) forest with a narrow corridor of red alder that is associated with the unnamed tributary. Piggyback plant (*Tolmiea menziesii*), blue wildrye (*Elymus glaucus*), lady fern (*Athryium felix-femina*), and inside-out flower (*Vancouveria hexandra*) were observed within and along the small, undefined stream channel. One obligate wetland species was also observed in the stream vicinity by a FEMA Wetland Scientist during the site visit. These plant species are known to occur in both wetland and upland areas and are typical of forest sloped areas that retain surface water for a few days after rain events with moist to wet conditions. Small areas of ponded water were observed in the unnamed project tributary but not in adjacent areas.

As described in more detail in Section 2.3 (*Alternative B - Proposed Action*), a complete wetland investigation, which would include a comprehensive field investigation of vegetation, soils, and hydrologic conditions to determine whether conditions at the site meet wetland definition criteria, was not conducted as part of the September 2010 site visit. Given the presence of some wetland associated plants in the stream vicinity, it is possible that wetland conditions occur as a wetland fringe along the stream channel in the vicinity of the project alignment. DNR will conduct a wetland investigation in the vicinity of the project alignment crossing through the stream drainage to determine whether wetlands are present and, if so, to determine the wetland boundary.

3.2.1.1 Regulatory Context

Federal, state, and local regulations addressing hydrology, water quality, floodplains, and wetlands in the affected environment are summarized below.

Federal Requirements

Clean Water Act (Sections 401 and 404)

Projects funded by FEMA must comply with permit requirements for the U.S. Army Corps of Engineers (Corps) under the CWA. Actions affecting waters of the United States (waters of the U.S.) and that involve the discharge of dredged or fill material into waters of the U.S., including wetlands, are regulated by Section 404 of the CWA. Section 401 of the CWA, administered by Ecology, requires that activities permitted under Section 404 meet state water quality standards.

DNR manages its forest landscapes, including the Capitol State Forest, under the guidance of the State Trust Lands Habitat Conservation Plan (HCP) (DNR 1997c). This multi-species HCP was developed to address state trust land management issues related to compliance with the federal Endangered Species Act (16 United States Code [U.S.C.] 1531 et seq.). The HCP is a partnership among the National Marine Fisheries Service (NMFS), the USFWS, and DNR, and guides the management of approximately 1.8 million acres of forested state trust lands within the range of the northern spotted owl. The HCP includes a riparian conservation strategy that defines a riparian management zone and riparian buffers for different stream types, and the types of activities that can occur in these areas. Implementation of BMPs in accordance with the HCP would meet or exceed CWA standards (pers. comm., Mettler 2011).

Executive Orders 11988 (Floodplain Management) and 11990 (Protection of Wetlands)

EO 11988 (Floodplains) requires federal agencies to reduce the risk of flood loss; minimize the impact on human health, safety, and welfare; and restore the natural and beneficial values served by floodplains. Under FEMA's implementing regulations at 44 CFR Part 9, FEMA must evaluate the potential effects of any actions it may take in a floodplain and consider alternatives to avoid adverse effects. Similarly, EO 11990 (Wetlands) requires that federal agencies take action to minimize the destruction, loss, or degradation of wetlands, and to preserve and enhance

the natural and beneficial effects of wetlands. In planning their actions, federal agencies are required to consider alternatives to wetland sites and limit potential damage if an activity affecting a wetland cannot be avoided. Federal agencies are also required under 44 CFR Part 9 to provide public notice and review of plans for actions in floodplains and wetlands. The public notice for this disaster and public review of the Draft EA meet FEMA's public notice and review obligations. As described below in Section 3.2.2 (*Environmental Consequences*), the Proposed Action would not affect wetlands or floodplains.

Coastal Zone Management Act

Federal activities or projects proposed within any of Washington's 15 coastal counties (including Thurston County) must be consistent with the policies of Washington's coastal zone management program. DNR is responsible for obtaining a federal consistency determination from Ecology and providing this determination to FEMA.

3.2.2 Methodology and Thresholds Of Significance

The potential effects of the project alternatives on hydrology, water quality, floodplains, and wetlands in the project area were evaluated in terms of both regulatory considerations and ecological context and intensity. This was determined by gathering and reviewing information regarding rivers and streams, wetlands, floodplains, and water quality conditions in the project area; determining which of these resources are present in areas potentially affected by the project alternatives; and evaluating how the project alternatives could impact resources present in the affected environment based on the known effects of similar projects from available literature sources and best professional judgment.

The presence or absence of wetlands was determined in accordance with CFR 44 Part 9.4, which defines wetlands as those areas inundated or saturated by surface water or groundwater with a frequency sufficient to support, or that under normal hydrologic conditions do or would support, a prevalence of vegetation or aquatic life typically adapted for life in saturated or seasonally saturated soil conditions. This definition is intended to be consistent with the definition of wetlands in Cowardin et al. (1979) (44 CFR 9.4). In Washington state, the Corps Wetland Delineation Manual (Environmental Laboratory 1987) and Regional Supplement (Environmental Laboratory 2010) are the field methods used to evaluate whether hydrologic, vegetation, and soils conditions meet the definition of a wetland as in 44 CFR 9.4.

It was determined that the potentially affected environment for the Proposed Action is limited to hydrology, water quality, and potential wetlands; no floodplains are present in the project vicinity. The project alternatives were determined to have a significant effect on hydrology, water quality, or wetlands if they would:

- Violate water quality standards or cause prolonged alteration to baseline water quality conditions.

- Alter the existing drainage pattern of streams or wetlands in a manner that would violate or exceed the standards of any required permits.
- Cause adverse effects on wetlands that are not minimized in accordance with FEMA's standards in 44 CFR 9.11.
- Violate any local, state, or federal regulations concerning hydrology, water quality, wetlands, or floodplains.

3.2.3 Environmental Consequences

This section describes the potential effects of the project alternatives on hydrology, water quality, and wetlands within the affected environment. Measures to avoid, reduce, or mitigate any identified impacts on these resources are also identified.

Alternative A (No Action)

Under the No Action Alternative, as described in Section 2.2 (*Alternative A - No Action*), FEMA would not provide funds to DNR for the Proposed Action. Without FEMA funding, DNR would not construct the proposed trail reroute or rehabilitate the intact sections of the original trail leading to the landslide area that are permanently closed to recreational use.

Under the No Action Alternative, no ground-disturbing activities would occur along the proposed project alignment or the closed trails. As described in Section 3.1 *(Geology, Soils, and Slope Stability)*, without rehabilitation of the closed trails, the compacted surface soils in those areas are expected to contribute to some erosion potential in the near term, although it is expected to be negligible. Natural regrowth and reestablishment of vegetation, and the accumulation of forest litter, is expected to reduce erosion potential along the closed trails even further within approximately 1–5 years. While most soil erosion would be intercepted by the immediately surrounding landscape, the steep slopes could contribute to the transport of some materials farther downslope. Any erosion-related delivery of sediments to aquatic resources downslope of the closed trails and associated effects on hydrology, water quality, or wetlands are expected to be negligible.

Alternative B (Proposed Action)

Under the Proposed Action, FEMA would provide funds to DNR for construction of approximately 1 mile of new motorized recreation trail, including one bridge, and the abandonment and rehabilitation of approximately 0.5 mile of trail not damaged in the landslide that would be bypassed by the new route (as described in Section 2.3, *Alternative B - Proposed Action*).

As described in more detail in Section 2.3 (*Alternative B - Proposed Action*), a complete wetland investigation was not conducted as part of the September 2010 site visit. DNR will conduct a

wetland investigation in the vicinity of the project alignment crossing through the stream drainage to determine whether wetlands are present and, if so, DNR will also determine the wetland boundary. If wetlands are present, DNR will avoid impacts on wetland resources; therefore, there will be no net loss of wetland function.

Effects on water quality and hydrology in the unnamed tributary would be limited to construction-related activities. Construction-related activities for the bridge would occur during the summer when little or no water would be in the creek channel. The bridge would also be built outside and above the project tributary and potentially present wetlands and be designed to accommodate natural hydrologic and sedimentation processes typical of these high gradient headwaters. Construction-related activities from trail and bridge construction would disturb soils and alter surface runoff and sheet flow. In addition, temporary and permanent erosion control BMPs would ensure that construction and operation of the Proposed Action would be limited to negligible short- and long-term impacts on hydrology and water quality.

Mitigation Measures

The Proposed Action incorporates avoidance, minimization, and mitigation measures into the project design and implementation and would adhere to water quality BMPs in accordance with the HCP. No additional mitigation measures are proposed for hydrology and water quality.

Significant Unavoidable Adverse Effects

No significant unavoidable effects on hydrology, water quality, floodplains, or wetlands are anticipated from either of the alternatives.

3.3 VEGETATION

This section describes vegetation communities and special status plant species in the project vicinity, and the potential effects of the project alternatives on these resources.

3.3.1 AFFECTED ENVIRONMENT

Vegetation Communities

The project is located in the Capitol Forest, a 91,650-acre "working forest" southwest of Olympia in Thurston and Grays Harbor counties. The Capitol Forest is both a timber-producing forest and a popular recreation destination. The forest is managed by the DNR Pacific Cascade Region for timber production, wildlife habitat, and recreation and public access.

The project is located in previously harvested, second-growth, Douglas-fir forest that was commercially thinned in 1995 (FEMA 2010). The understory consists primarily of Douglas-fir saplings, red huckleberry *(Vaccinium parvifolium)*, swordfern, salal, and Oregon grape (*Mahonia* sp.); all upland species. The overstory transitions to red alder where the proposed project alignment crosses the small seasonal stream drainage described in Section 3.2 *(Hydrology, Water Quality, Floodplains, and Wetlands)*. The understory is similar within this drainage, except within and along the narrow, undefined stream channel. Several herbaceous plants often found in moist to wet, shady forest conditions were observed in this area during the September 2010 site visit. The predominant plant observed along the stream channel was piggyback plant. Others included blue wildrye *(Elymus glaucus)*, lady fern, and inside-out flower *(Vancouveria hexandra)*. Piggyback plant and lady fern are sometimes found in wetlands, while blue wildrye and inside-out flower are upland plants. The FEMA Wetland Scientist present during the September 2010 site visit also observed a sedge species in the vicinity of the stream. The species was not identified at the time, but it is thought to have been an obligate wetland species. Wetlands are described in detail in Section 3.2 *(Hydrology, Water Quality, Floodplains, and Wetlands)*. Invasive species are not a major component of vegetation communities in the project vicinity, and none were observed along the proposed project alignment during the September 2010 site visit (see Figure 3.3-1, *Photos of Representative Vegetation*).

Special Status Plants and Rare Ecological Communities

In this EA, special status plant species are defined as plants that are federally listed as either listed or proposed as threatened or endangered under the Endangered Species Act (ESA), or that are otherwise considered sensitive by state resource conservation agencies.

Two plants listed under the ESA occur in Thurston County: golden paintbrush *(Castilleja levisecta)* and water howellia *(Howellia aquatilis)* (USFWS 2010). DNR maintains the Washington Natural Heritage Program (WNHP), a database of current and historic locations of ESA-listed and sensitive plant species in Washington.

Second-growth Douglas-fir forest

Understory vegetation

Understory vegetation

Understory vegetation

Seasonal stream and streamside vegetation

Season stream and streamside vegetation

Figure 3.3-1. Photos of Representative Vegetation.

Neither golden paintbrush nor water howellia are documented by WNHP within the Potosi Creek drainage or within the surrounding headwater drainages that form Waddell Creek (DNR 2010b). Golden paintbrush is found in open grasslands in the Puget Trough lowlands (DNR 1997a); in western Washington, water howellia is found in low elevation wetlands (DNR 1997b). Habitat conditions in the project vicinity are not suitable for either of these species.

3.3.1.1 Regulatory Context

Federal, state, and local regulations addressing vegetation are summarized below. While no ESA-listed plants occur in the project vicinity, regulatory considerations pertaining to the ESA are summarized along with a brief explanation of why no further actions are needed to meet regulatory requirements.

Endangered Species Act

The ESA serves as the primary federal protection for species and habitat, by providing a formal designation and implementing programs through which the conservation of both populations and habitats may be achieved. Two agencies are responsible for the administration of the ESA: the USFWS and NMFS. The USFWS is responsible for plants under the ESA. Because no ESA-listed plants or suitable habitat for ESA-listed plants that occur in Thurston County are present in the project vicinity (USFWS 2010; DNR 1997a, 1997b, 2010b), no further action is required by FEMA under the ESA for listed plants.

Executive Order 13112 – Invasive Species

EO 13112 requires federal agencies to prevent the introduction of invasive species, provide for their control, and minimize the economic, ecological, and human health effects that invasive species cause. In accordance with the Environmental Protection BMPs described in Section 2.3 *(Proposed Action)*, DNR would implement its standard BMPs for preventing the spread of invasive species in the Capitol Forest. No further action is required by FEMA under EO 13112.

3.3.2 Methodology and Thresholds of Significance

The potential effects of the project alternatives on vegetation were evaluated in terms of both regulatory considerations and ecological context and intensity. AECOM ecologists gathered and reviewed available information regarding special status plants and rare ecological communities documented in Thurston County and the project vicinity (primarily the Waddell Creek and surrounding drainages), and conducted a site visit on September 29, 2010 to collect information on general site conditions, vegetation communities, and special habitat features (e.g., wetlands, suitable habitat for special status plants) along the proposed project alignment. The vegetation resources present in areas that could potentially be affected by the project alternatives were identified. Direct impacts of the project alternatives on vegetation resources were quantified, while potential indirect impacts of the project alternatives were qualitatively identified based on best professional judgment.

A project alternative was determined to have a significant effect on vegetation if it would:

- Substantially disturb or degrade sensitive natural communities, such as riparian or wetland habitats.
- Directly or indirectly alter sensitive, threatened, or endangered plants or their habitat.
- Conflict with applicable federal, state, or local regulations.

3.3.3 Environmental Consequences

This section describes the potential effects of the project alternatives on vegetation resources in the project area. Measures to avoid, reduce, or mitigate any identified impacts on these resources are also identified.

Alternative A (No Action)

Under the No Action Alternative, FEMA would not provide funds to support DNR in rerouting the Mount Molly Loop Trail to bypass above the December 2007 landslides. Without FEMA funding, DNR would not construct the proposed trail reroute or rehabilitate the intact sections of the trail leading to the landslide area.

Under the No Action Alternative, no vegetation clearing would occur along the proposed project alignment and no vegetation would be planted along the closed trails. The intact sections of the Mount Molly Loop Trail leading to the areas damaged in the December 2007 landslides would remain permanently closed to all recreation uses. Understory shrubs that were previously brushed back from the trail travel way, and species such as red alder that successfully establish in disturbed and compacted soils, would grow over and within the closed trail relatively quickly (approximately 1–5 years). Over time, forest litter (leaves, needles, twigs, etc.) would accumulate, and along with natural forest soils processes, would encourage the growth of other vegetation. However, it could take many years for plants such as red huckleberry, swordfern, salal, and Oregon grape, common in the surrounding landscape, to re-establish on the closed trail.

The No Action Alternative would have a negligible adverse effect on vegetation.

Alternative B (Proposed Action)

Under the Proposed Action Alternative, FEMA would provide funds to support DNR in rerouting the Mount Molly Mount Molly Loop Trail to bypass above the December 2007 landslides.

Approximately 0.5 acre of relatively dense understory vegetation, consisting primarily of swordfern, salal, and Oregon grape, would be permanently cleared during construction of the proposed trail reroute. Some red huckleberry and small trees may also be removed. However, the

final trail alignment would be routed to avoid the removal of any mature trees. Understory shrubs would be brushed back as necessary (as described in Section 2.3, *Alternative B – Proposed Action*) both during construction of the proposed trail reroute and as a long-term maintenance activity. Vegetation along the small, undefined stream channel would be avoided during construction of the trail bridge to the extent possible. However, it is probable that some trampling of vegetation would occur in this area during bridge construction.

Compacted soils would be loosened, trail structures removed, and native plants, primarily swordfern and salal, would be planted along approximately 0.5 mile of the Mount Molly Loop that would be bypassed by the proposed trail reroute. Vegetation previously brushed back during ongoing trail maintenance activities has grown, and would continue to grow, back quickly (approximately 1–2 years). Other native species, such as red alder, would begin to self-establish relatively quickly (approximately 1–5 years). The loosened soils, accumulation of forest litter, and natural forest soils processes would encourage the spread of other, slower growing plants that are common in the surrounding forest over time.

The plant species that would be removed for the proposed trail reroute are common and widespread understory species in both conifer and mixed conifer-hardwood communities within the Capitol Forest and throughout western Washington. The herbaceous plant species observed along the project area stream channel are also common and widespread in moist to wet, shady forest conditions throughout western Washington. The rehabilitation, including planting of swordfern and salal, along 0.5 mile of the closed and bypassed Mount Molly Loop Trail, would partially offset the vegetation removal associated with the proposed trail reroute. However, there would still be some net loss. This loss would be a minor adverse effect on vegetation locally or regionally, and would have no effect on any rare, unique, wetland, or otherwise protected plant species or communities.

Mitigation Measures

The No Action and Proposed Action alternatives would both have negligible adverse effects on vegetation that is common and widespread both locally and regionally, and no effect on any rare, unique, wetland, or otherwise protected plant species or communities. The Proposed Action incorporates avoidance, minimization, and mitigation measures into the project design and implementation and would adhere to the BMPs listed in Section 2.3. No additional mitigation measures are proposed for vegetation.

Significant Unavoidable Adverse Effects

The No Action and Proposed Action alternatives would have no significant effects on vegetation.

3.4 FISH AND WILDLIFE

This section describes fish and wildlife resources in the project vicinity and the potential effects of project alternatives on these resources. No federally listed threatened or endangered species or suitable habitats are documented in the project area (NMFS 2011; USFWS 2011b; WDFW 2010, 2011).

3.4.1 AFFECTED ENVIRONMENT

Fish

As described in Section 3.2 (*Hydrology, Water Quality, Floodplains, and Wetlands*), the project area includes an unnamed tributary to Potosi Creek with seasonal flow that does not have suitable habitat to support fish species (DNR 2011). A search of the Washington Department of Fish and Wildlife (WDFW) Priority Habitats and Species (PHS) database (WDFW 2010) and SalmonScape (WDFW 2011) for the project area indicated no fish presence in the project area tributary. The closest fish occurrence data indicated fish presence 2,000 feet downstream in Potosi Creek, outside of the project area, where coastal cutthroat trout (*Oncorhynchus clarki clarki*) is present (WDFW 2010, 2011).

Information on special-status fish species and priority habitats potentially occurring in the project area was obtained from NMFS (NMFS 2011), USFWS (USFWS 2011b), WDFW PHS (WDFW 2010), and SalmonScape (WDFW 2011). No federally listed threatened or endangered species or suitable habitat is present in the project area. The closest special status fish species data indicate fish presence 5,800 feet downstream in Potosi Creek outside of the project area and includes the historical presence of Southwest Washington (SW) Evolutionarily Significant Unit (ESU) coho salmon (*O. kisutch*), a state candidate species (WDFW 2010). NMFS has determined that the SW ESU coho salmon does not warrant listing as federally threatened or endangered under the ESA (NMFS 2011).

Wildlife

As described in Section 3.3 (*Vegetation*), the project vicinity is primarily fragmented Douglas-fir forest and upland riparian areas associated with the project area tributary. These wildlife habitats include areas for nesting and foraging, cover, and connectivity to the larger Waddell Creek watershed and patches of mature forest. Common wildlife species in the project vicinity include winter wren (*Troglodytes troglodytes*), American robin (*Turdus migratorius*), and dark-eyed junco (*Junco hyemalis*). Other wildlife species include black-tailed deer (*Odocoileus hemionus columbianus*).

Information on special-status wildlife species and priority habitats potentially occurring in the project area was obtained from the USFWS (USFWS 2011b) and WDFW PHS (WDFW 2010). No wildlife species federally listed as threatened or endangered under the ESA are documented in the project vicinity (WDFW 2010, USFWS 2011b). This includes no documented occurrence

of the northern spotted owl (*Strix occidentalis caurina*) or marbled murrelet (*Brachyramphus marmoratus*) in the project vicinity. No federally listed threatened or endangered species, nor suitable habitat, were observed during the site reconnaissance. The project area is maintained as a "working forest," which is currently fragmented and lacks structural complexity and habitat elements required for the northern spotted owl and marbled murrelet.

Tailed Frog - Photo credit Brad Moon - Burke Museum

The WDFW PHS Program data obtained for the project vicinity (T17N, R4W, Section 1 and T18N, R4W, Section 36) include 20 occurrences of tailed frog (*Ascaphus truei*) within 1 mile of the project area (WDFW 2010). The tailed frog is a state monitor species and a federal species of concern (WDFW 2008, 2010; USFWS 2011b). Survey efforts occurred in 1992, 1998, 1999, 2002, and 2003. Each occurrence documented 1 to 88 individuals (WDFW 2010). The nearest documented occurrence is approximately 4,800 feet downstream of the project area (WDFW 2010). Tailed frogs live and breed in clear, cold, fast-flowing streams with rock or gravel bottoms and are most active in spring and fall (Lawrence et al. 2005). Suitable habitat for this species is not present in the project area.

3.4.1.1 Regulatory Context

Endangered Species Act

The ESA serves as the primary federal protection for species and habitat, by providing a formal designation and implementing programs through which the conservation of both populations and habitats may be achieved. The USFWS and NMFS are responsible for the administration of the ESA. As previously described, DNR manages its forest landscapes, including the Capitol State Forest, under the guidance of the State Trust Lands HCP (DNR 1997c). HCPs under section 10(a)(1)(B) of the ESA provide for partnerships with non-federal parties to conserve the ecosystems upon which listed species depend, ultimately contributing to their recovery.

Washington's State Trust Lands HCP (DNR 1997c) is an ecosystem-based forest management plan developed by DNR to provide habitat for species such as the northern spotted owl, marbled murrelet, and riparian-dependant species such as salmon (*Oncorhynchus* sp.) and bull trout (*Salvelinus confluentus*). These species are at some level of risk of extinction — listed as threatened or endangered under the ESA. The HCP applies to Washington's forested State Trust lands within the range of the northern spotted owl. The Proposed Action is consistent with the strategy, objectives, provisions, and BMPs of the HCP.

Magnuson Stevens Act – Essential Fish Habitat

The MSA mandates federal agencies that fund activities that may adversely affect the essential fish habitat (EFH) of federally managed fish species to consult with NMFS regarding the

potential adverse effects of their actions on EFH. Three federal fishery management plans and their associated EFHs are applicable to projects and activities within Washington state: the Pacific coast ground fish fishery, the coastal pelagic species fishery, and the Pacific coast salmon fishery. EFH does not occur in the project area, and no indirect effects on EFH are anticipated. Therefore, EFH determination for the Proposed Action is "no adverse effect" under MSA, and no consultation with NMFS is required. In addition, the DNR HCP (DNR 1997c) satisfies consultation requirements of the MSA (USFWS and NMFS 2004).

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) prohibits persons, unless by permit, "to pursue, take, or kill…any migratory bird, or any part, nest or egg of any such bird." Direct and indirect acts are prohibited under this definition, although harassment and habitat modification are not included unless they result in the direct loss of birds, nests, or eggs. The current list of species protected by the MBTA includes all native birds, including many commonly found in western Washington forested habitats. DNR would conduct preconstruction surveys for birds, nests, and eggs within the construction footprint of the project. If any species covered under the MBTA are nesting within the construction footprint, DNR would coordinate with the USFWS and/or WDFW to determine appropriate avoidance or minimization measures and ensure compliance with the MBTA.

Bald and Golden Eagle Protection Act

Administered by the USFWS, this law provides for the protection of the bald eagle (*Haliaeetus leucocephalus*) and the golden eagle (*Aquila chrysaetos*) by prohibiting, except by permit, the taking, possession, and commerce of such birds. Golden eagle sightings are relatively rare in western Washington. There are no documented occurrences of bald eagles within 1 mile of the project area (WDFW 2010).

3.4.2 Methodology And Thresholds Of Significance

The potential effects of the project alternatives on fish and wildlife were evaluated in terms of both regulatory considerations and ecological context and intensity. Potential effects were determined by gathering and reviewing information regarding fish, wildlife, habitat, and special status species, and qualitatively evaluating how the project alternatives could impact fish, wildlife, habitat, and special status species based on available literature sources, project details, and best professional judgment. Data gathering included a site visit by project ecologists and environmental planners to evaluate habitat in the project vicinity.

A project alternative would reach the significance threshold for effects on fish or wildlife if it would:

- Substantially interfere with the breeding, feeding, or necessary life-cycle movement of fish and wildlife.

- Substantially conflict with any state or local regulations protecting fish, wildlife, or habitat.
- Substantially conflict with the provisions of an applicable species or habitat management plan.
- Result in the long-term degradation of streams or riparian forested habitat in the project area or vicinity.

3.4.3 Environmental Consequences

This section describes the potential effects of the project alternatives on fish and wildlife in the project area. Measures to avoid, reduce, or mitigate any identified impacts on these resources are also identified.

Alternative A (No Action)

Under the No Action Alternative, FEMA would not provide funding for the relocation of the Mount Molly Trail as described in Section 2.2 (*Alternative A - No Action*). Terrestrial and aquatic habitat elements important to fish and wildlife would remain unaltered from their current condition. There would be no effects on fish and wildlife related to the No Action Alternative.

Alternative B (Proposed Action)

Under the Proposed Action, FEMA would provide funds to DNR for construction of approximately 1 mile of new motorized recreation trail, including one bridge, and the abandonment and rehabilitation of approximately 0.5 mile of trail, as described in Section 2.3 (*Alternative B - Proposed Action*).

Fish

Because there is no suitable fish habitat in the project area, implementation of the Proposed Action would not result in short- or long-term effects on fish.

Wildlife

Under the Proposed Action, construction would take place during the drier season, reducing the potential effects from run-off and sedimentation during construction. BMPs and a TESC Plan would be implemented to prevent run-off and sedimentation from reaching streams and downstream aquatic wildlife habitats. Wildlife habitat would be affected by construction-related activities such as grading and clearing for the trail and to install a bridge over Potosi Creek. These activities are considered a minor short-term and long-term impact on wildlife from a direct loss of habitat from construction of 1 mile of new motorized trail (0.5 acre). However, rehabilitation of approximately 0.5 mile of trail not damaged in the landslide would provide new wildlife habitat in the long term.

Short-term effects on wildlife caused by construction-related activities would result in noise and activity from light equipment and construction personnel, as described in Section 2.3, (*Alternative B - Proposed Action*). Noise and other disturbances caused by construction crews may cause wildlife to temporarily move away from the construction area. This noise would be in addition to baseline noise from recreation activities such as the use of motorized ORVs. Since the habitats found in the project area are connected to other similar habitats, many species would temporarily relocate in these nearby areas during construction. In the long term, wildlife species would return to the area. The construction site for the proposed bridge does not provide habitat for the tailed frog. In addition, construction of the bridge would occur during the summer when the project area tributary is dry and tailed frogs are not likely to be present in the immediate construction zone. Overall, the Proposed Action would have minor short-term impacts from construction and minor long-term impacts from permanent loss of wildlife habitat.

Mitigation Measures

The Proposed Action would adhere to BMPs described in the HCP. No additional mitigation measures are necessary for fish and wildlife.

Significant Unavoidable Adverse Effects

No significant unavoidable effects on fish or wildlife are anticipated from either of the alternatives.

3.5 RECREATION AND VISUAL RESOURCES

This section describes recreation and visual resources in the project vicinity, and the potential effects of the project alternatives on these resources.

3.5.1 AFFECTED ENVIRONMENT

Recreational Resources

The project is located in the northern half of the Capitol State Forest (Capitol Forest), a 91,650-acre working forest southwest of Olympia in Thurston and Grays Harbor counties. The Capitol Forest is both a timber-producing forest and a popular recreation destination. The forest is managed by the DNR Pacific Cascade Region for timber production, wildlife habitat, and recreation and public access. Recreation and public access in the forest are managed through the region's Pacific Crest Conservation and Recreation District, in conjunction with the Asset Management and Protection Division's recreation program based in Olympia (DNR 2005).

The Capitol Forest draws an estimated 800,000 visitors each year for hiking, horseback riding, camping, mountain biking, ORV use, hunting, nature study, sightseeing, and more. Recreation resources within the Capitol Forest are divided into five categories: road use, facilities, trails, dispersed use, and organized events. The Capitol Forest contains over 575 miles of roads. Their primary use is to facilitate management of the working forest. Public access is considered a secondary use. The Capitol Forests contains seven campgrounds, four trailheads, a self-guided interpretive area, and a trail system with approximately 160 miles of trail (DNR 2005).

The Capitol Forest's recreation management emphasis is to provide connectivity throughout the landscape via its motorized and non-motorized trail systems. Recreation trails are divided into two separate systems – motorized and non-motorized. Motorized recreation trails are located in the northern half of the forest (where the project is located), while non-motorized recreation trails are located in the southern half of the forest (DNR 2005).

The motorized trail system in the northern half of the Capitol Forest contains 89 miles of motorized recreation trails. Most are multi-use trails open to ATVs, motorbikes, mountain bikes, and hikers. While soils in the project vicinity are cobbly loam and well drained (NRCS 2009, SCS 1990), the clay-based soils inherent throughout much of the Capitol Forest retain water, requiring time to dry during the winter season (DNR 2005) (refer to Section 3.1, *Geology, Soils, and Shoreline Stability* for a description of soils in the project vicinity). Since these clay-based soils cannot withstand heavy winter trail use, the forest's trails are closed for most recreation users (including motorized recreation) during the winter (from December 1 through April 30). Motorized trails are open to motorized recreation from May through November, while mountain bikers and hikers may use the trails year round (DNR 2005).

The proposed project trail alignment is a reroute of a portion of the Mount Molly Loop Trail and another unnamed motorized recreation trail near Larch Mountain. The Mount Molly Loop Trail

is 7.7 miles long and is open to ATVs, motorbikes, mountain bikes, and hikers (DNR 2005). The unnamed trail serves the same uses. These trails are part of a network of connecting motorized recreation trails around Larch Mountain. DNR closed the damaged sections of both trails to all recreation use following the 2007 landslides due to the unsafe conditions (pers. comm., Wolff and Shedd, 2011).

The primary road access to the Larch Mountain area is the C-4000 Road from the Rock Candy Trailhead, although the area can be reached using forest roads from other entrances to the Capitol Forest as well. The motorized trails around Larch Mountain can be reached from the Rock Candy Trailhead (to the north), the Thurston-Grays Harbor ORV Sport Park (to the northwest), the Middle Waddell Trailhead (southeast), or the Porter Creek campground area to the west.

Visual Resources

The landscape surrounding the project site is characterized by open Douglas-fir forest on ridges and steep back slopes around Larch Mountain that were last commercially thinned in 1995. Forest canopy along the ridge at the project site is broken with views to the west, while views to the east are generally blocked by tall Douglas-fir trees.

Landscape-level views to the west are of the surrounding mountain tops and ridges of the Black Hills, including Buck Ridge. These views are generally of a patchwork of commercial forest at different stages of maturity, including clearcuts. Landscape-level views to the west also include views of the Olympic Mountains beyond. Forest canopy along the proposed trail alignment on the back slope is unbroken. While the understory is generally open, site distance is limited to the immediate area with no views of the surrounding landscape, except where the proposed project alignment crosses the C-4500 Road. Limited views to the east of the Potosi Creek drainage are possible from this location.

Site-level views along the proposed trail alignment on the ridge include the C-4500 Road and a connecting section of the Mount Molly Porter #3 motorized recreation trail that runs along the west slope of Larch Mountain, and surrounding Douglas-fir forest with some open areas along the road. Site-level views along the proposed alignment on the back slope are generally of the previously thinned, open Douglas-fir forest and low shrub understory described in Section 3.3 *(Vegetation)*.

3.5.1.1 Regulatory Context

The State Trust Lands Habitat Conservation Plan

DNR manages its forested landscapes, including the Capitol State Forest, under the guidance of the HCP, a partnership among NMFS, USFWS, and DNR (DNR 1997c). Under the HCP, development of recreation sites must adhere to the riparian conservation strategy (HCP Chapter IV.D). Under the HCP, the trail system must be managed adequately to protect wildlife habitats, including riparian species.

The Capitol State Forest Recreation and Public Access Plan

The Capitol State Forest Recreation and Public Access Plan guides DNR in the management of public use at recreation sites, on trails, and across the landscapes within the Capitol State Forest (DNR 2005). The recreation guidelines within the plan direct ORV use to the northern half of the forest and equestrian use to the southern half; allow mountain biking year round throughout the entire forest; and restrict certain trail uses to the dry time of the year, among other guidelines.

3.5.2 Methodology and Thresholds of Significance

The potential effects of the project alternatives on recreation and visual resources were evaluated in terms of regulatory and recreation management considerations, context, and intensity. AECOM environmental planners gathered and reviewed available information regarding recreation resources and activities, and visual resources in the Capitol Forest, and conducted a site visit on September 29, 2010 to collect information on general site conditions in the project vicinity (along, adjacent, connecting, or visible from the proposed project alignment). Recreation and visual resources present in areas that could potentially be affected by the project alternatives were identified. Direct impacts of the project alternatives on recreation and visual resources were quantified where possible or evaluated qualitatively where quantitative data did not exist or were not applicable. Potential indirect impacts of the project alternatives were qualitatively identified based on best professional judgment.

A project alternative was determined to have a significant effect on recreation or visual resources if it would:

- Substantially increase safety hazards from conflicts between recreationists and forestry activities, or from high ORV speeds.
- Increase the use of or exceed the capacity of the existing recreational resources such that substantial physical deterioration would occur or be accelerated.
- Substantially affect the quantity or quality of recreational resources, opportunities, or activities in the Capitol Forest.
- Substantially alter views or the natural visual character of the area.

3.5.3 Environmental Consequences

This section describes the potential effects of the project alternatives on recreational and visual resources in the project area. Measures to avoid, reduce, or mitigate for any identified impacts on recreational and visual resources are also identified.

Alternative A (No Action)

Recreational Resources

Under the No Action Alternative, FEMA would not provide funds to support DNR in rerouting the Mount Molly Loop Trail to bypass above the December 2007 landslides that damaged sections of two motorized recreation trails in that area. Without FEMA funding, DNR would not construct the proposed trail reroute or rehabilitate the intact sections of trail leading to the landslide area.

Under the No Action Alternative, recreationists would lose the use of approximately 1 mile of motorized recreation trail in the Larch Mountain area of the Capitol Forest indefinitely. With approximately 89 miles of motorized recreation trail available, this equates to a loss of just over 1 percent of motorized recreation trail in the Capitol Forest, a minor loss. This would have a minor adverse effect on the quantity of recreation resources for motorized recreation in the Capitol Forest. It would have a negligible effect on the quantity of recreation resources for non-motorized recreation as there are at least 160 miles of trail open to non-motorized recreation.

The permanent loss of a 1-mile section of the Mount Molly Loop Trail would force recreationists to travel the C-4000 Road for about 1 mile to complete a modified version of the Mount Molly Loop Trail route. Recreationists may choose to skip this route altogether, and use of connecting trails may increase. This is anticipated to have a minor adverse effect on the quality of the recreation experience. It is not likely to increase the use of connecting trails to such a degree that it would exceed their capacity to support the use.

The Capitol Forest is a working forest with ongoing timber harvest activities, including forestry vehicles traveling forest roads. It is likely that some recreationists (especially ATV, motorbike, and mountain biker users who often travel loop routes multiple times) would travel the C-4000 Road to complete the Mount Molly Loop because there is no off-road through trail access. This would increase potential safety hazards from conflicts between recreationists and forestry vehicles. Additionally, according to DNR (pers. comm., Wolff and Shedd, 2011), ORV users tend to travel faster on forest roads than on trails, further increasing the potential for conflicts to occur. However, it would only be necessary for recreationists to use about 1 mile of the C-4000 Road, so this is anticipated to have only a moderate adverse effect on recreation.

Overall, the No Action Alternative would have a moderate long-term adverse impact on motorized recreation in the Capitol Forest.

Visual Resources

Under the No Action Alternative, no construction activities would take place and no physical changes would occur. Therefore, the No Action Alternative would have no effect on site- or landscape-level views, and would not change the natural visual character of the area.

Alternative B (Proposed Action)

Recreational Resources

Under the Proposed Action, FEMA would provide funds to support DNR in rerouting the Mount Molly Loop Trail to bypass above the December 2007 landslides that damaged sections of two motorized recreation trails in that area. Under the Proposed Action, recreationists would regain the use of approximately 1 mile of motorized recreation trail in the Larch Mountain area, enabling through-access along the Mount Molly Loop Trail and providing them with a safer alternative to using the C-4000 Road, reducing potential safety hazards from conflicts with forestry vehicles. Overall, this would have a moderate beneficial effect on recreation.

Visual Resources

Under the Proposed Action, the proposed trail reroute would have a negligible impact on visual resources at the site level. The proposed project would have no effect on landscape-level views, nor would it alter the natural visual character of the area around Larch Mountain. The proposed trail reroute would be visible along the ridge from the C-4000 Road in some locations; however, dense, low shrubs would hide most of the trail from view except at close distances. The portion of the trail reroute that would switch back down the slope would be more visible from the C-4000 Road as it would be viewed from above. This would alter the current view; however, given that the project site is located in an existing motorized recreation area and in a working forest (where roads are common and viewer sensitivity is relatively low), this is considered only a negligible adverse effect on visual resources. Rehabilitation of the bypassed trail sections damaged in the December 2007 landslides would partially offset this negligible adverse impact by restoring the approximately 0.5 mile of motorized recreation trail to more closely resemble the surrounding landscape.

Mitigation Measures

No mitigation measures have been identified to offset the moderate long-term adverse impact on recreation resources under the No Action Alternative. No mitigation measures have been identified to offset the negligible adverse impact on visual resources under the Proposed Action.

Significant Unavoidable Adverse Effects

The project alternatives would have no significant unavoidable adverse impacts on recreation or visual resources in the project vicinity.

3.6 CULTURAL RESOURCES

This section describes cultural resources in the project vicinity, including historic and archaeological resources, the regulatory framework governing cultural resources management, and the potential effects of the project alternatives on these resources.

3.6.1 AFFECTED ENVIRONMENT

Prehistory

The prehistory of the southern Puget Sound region is divided into three periods, Early (8000–5000 Before Present [B.P.]), Middle (5000–1000 B.P.), and Late (1000–250 B.P.) (Wessen and Stilson 1987). Human land use and subsistence/settlement patterns in the southern Puget Sound region developed over time from mobile, seasonal foraging of aquatic and nearshore resources in the Early Period, to more sedentary winter villages and seasonal camps focused on specialized resource exploitation in the Middle to Late Periods. Early Period material culture is dominated by stone tool technology; perishable items made of wood and plant fibers are rare to nonexistent in all but Late Period sites (Wessen and Stilson 1987).

Expected archaeological site types and features in the project area might include temporary camps established for the collection of waterfowl, small mammals, and fish. Such camps would be characterized by hearths, burned bone, fire-affected rock, stone tools and debitage.

Ethnography

During protohistoric and historic times, the southern Puget Sound region was home to several bands of the Nisqually Indians, a Coast Salish language group (Smith 1940; Spier 1936). The Nisqually Indians occupied the Nisqually River drainage from its origin at Mount Rainier to the mouth of the river northeast of Olympia, as well as the adjacent southern Puget Sound coastal area. As with other Salish groups, the Nisqually relied on salmon as a staple resource, supplemented by other aquatic resources, terrestrial fauna (deer, waterfowl, and small mammals) and plant resources, including roots, nuts, and berries. Nisqually economic and social life focused on permanent (winter) villages along rivers and tributaries. In warmer months, family groups traveled to temporary camps along the prairie margins and elsewhere to harvest specific resources. In late summer and fall, food resources were harvested and processed for winter storage.

Nearby, the Upper Chehalis occupied the inland areas to the south, including Douglas-fir and prairie land, which was maintained by annual burning (Hajda 1990; Spier 1936). Salmon played a major role in subsistence and were acquired by the Upper Chehalis from the Chehalis River and its tributaries. In the winter months, gable-roofed houses were constructed of cedar, and usually housed 8 to 12 families (Adamson 1927; Hajda 1990).

History

European settlement of Puget Sound began when Hudson's Bay Company established Fort Nisqually in 1833, which became the hub of fur-trading activity on the sound. By the time Great Britain relinquished control of the region to the United States in the 1840s, nearly 4,000 Americans had settled in lower Puget Sound

In 1854, the Medicine Creek Treaty between the U.S. government and representatives of the Nisqually, as well as those of the Puyallup and Squaxin Island peoples, was signed in exchange for 2.5 million acres of traditional lands in western Washington. The Nisqually Reservation was established in 1854, after which American settlers began to settle and farm the prairie lands the Nisqually once occupied.

The Capitol State Forest is part of trust lands either granted by Congress when Washington became a state in 1889, or acquired later as Forest Board trust lands. Capitol State Forest was opened to the public in 1955, and state law passed in 1971 allowed for multiple use, including hiking, hunting, ATV riding, camping, horseback riding, and fishing.

3.6.1.1 Regulatory Context

Federal Requirements

National Historic Preservation Act of 1966 (NHPA)

Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on properties on or eligible for the National Register of Historic Places (NRHP), and afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment. The historic preservation review process mandated by Section 106 is outlined in regulations (36 CFR 800) issued by ACHP.

FEMA Region X has in place a Programmatic Agreement with the Washington State Department of Archaeology and Historic Preservation (DAHP) and the EMD to streamline Section 106 review for FEMA-assisted actions within the state (FEMA et al. 2007, 2011). FEMA is consulting with the State Historic Preservation Officer (SHPO) within DAHP in accordance with the process and timeline in the Programmatic Agreement. FEMA received concurrence from the DAHP (on behalf of the SHPO) with its finding in a letter dated June 27, 2011 (Appendix A). FEMA is also consulting under Section 106 with Tribes (Nisqually, Skokomish, Quinault, Squaxin Island, Chehalis, and Shoalwater Bay) for whom religious and cultural properties on or eligible for the NRHP may be affected by the project.

State Requirements

Indian Graves and Records (RCW 27.44)

The Revised Code of Washington (RCW) 27.44 protects Native American graves, cairns, and glyptic markings by imposing criminal and civil fines and penalties for disturbing these sites, as well as the possession and sale of artifacts.

Abandoned and Historic Cemeteries and Historic Graves Act (RCW 68.60)

This act protects cemeteries and historic graves from mutilation, injury, destruction, or removal. Deliberate desecration of these cultural resources is a Class C felony.

3.6.2 Methodology and Thresholds of Significance

Review of literature and records, as well as a predictive model for archaeological resources potential, was completed. The statewide predictive model (the Washington Information System for Architectural and Archaeological Records Data [WISAARD], developed by the DAHP) is based on statewide information, using large-scale factors. Information on geology, soils, site types, landforms, and General Land Office (GLO) maps was used to establish or predict probabilities for prehistoric cultural resources throughout the state.

A project alternative would reach the significance threshold if it would diminish or destroy the integrity of a property that is on or eligible for the NRHP, for which effects cannot be resolved or mitigated.

When there are no historic properties present, or the action will have no impact on historic properties, the action is considered to have no effect.

3.6.3 Environmental Consequences

This section describes the potential effects of the project alternatives (A and B) on cultural resources.

Alternative A (No Action)

Under Alternative A, FEMA would not provide funds to DNR, and no ground-disturbing activities would take place. As a result, Alternative A would result in no effect on cultural resources.

Alternative B (Proposed Action)

Under the Proposed Action, FEMA would provide funds to DNR to construct a section of motorized recreation trail to bypass the landslide area and C-4500 Road and trail sections, as well as construct new trail, build a bridge, and rehabilitate an abandoned portion of trail.

Approximately 1 mile of trail no more than 6 feet wide would be cleared, removing surface soil down to mineral soils. This action has the potential to disturb unknown cultural resources.

Since there are no recorded cultural resources within the vicinity of the project area of potential effects (APE), and the DAHP predictive model and online database reviews show a low potential for archaeological sites within the APE, FEMA has made a determination of No Historic Properties Affected. This information was provided in consultation letters with the SHPO and the Tribes listed above.

If any unanticipated cultural resources are found during construction, all work would cease and appropriate actions would be taken, following inadvertent discovery protocols.

Mitigation Measures

The No Action and Proposed Action alternatives would have no effect on cultural resources. As a result, no mitigation measures are necessary. As noted above, if unanticipated cultural resources are uncovered during project construction, all work would cease and appropriate actions would be taken.

Significant Unavoidable Adverse Effects

No historically significant cultural resources were located in within the project APE. As a result, the No Action and Proposed Action alternatives would have no effect on historically significant cultural resources.

3.7 ENVIRONMENTAL JUSTICE

Environmental justice is the fair treatment and meaningful involvement in the development and implementation of environmental laws, regulations, and policies, of all people regardless of race, color, national origin, or income.

3.7.1 AFFECTED ENVIRONMENT

As previously described in Section 3.5 (*Recreation and Visual Resources*), the project area is in Capitol State Forest, which is public land managed by DNR, and a popular place for a variety of recreation opportunities (e.g., camping, hiking, hunting, equestrian use, mountain biking, and ORV use). Open to the public since 1955, the Capitol Forest primarily serves the surrounding areas of Thurston County. Therefore, the affected area is defined as the population of Thurston County for the purpose of determining the existence of a low-income and/or minority population. Statistics for the state of Washington are also provided for comparison and context. Table 3.7-1 presents the race and ethnicity of Thurston County and Washington state residents as reported by the U.S. Census of Population and Housing using 2009 data (U.S. Census Bureau 2011).

Table 3.7-1. Race/Ethnicity in Thurston County and Washington State, 2009.

Race/Ethnicity	Thurston County (Percent)	Washington State (Percent)
White	85.9	83.8
Black	3.2	3.9
American Indian and Alaska Native	1.7	1.8
Asian	5.1	7.0
Pacific Islander and Native Hawaiian	0.6	0.5
Two or more races	3.5	3.1
Hispanic or Latino (of any race)	6.4	10.3

Source: U.S. Census Bureau 2011.

Low-income households are defined by the U.S. Census Bureau as those households with incomes at or below 80 percent of area median household income. For 2008 (the most recent year for which data are available), the median household income in Thurston County was estimated at $62,146; for Washington as a whole, it was $58,081 (U.S. Census Bureau 2011). Approximately 9.7 percent of the Thurston County population lived below the poverty threshold, compared to 11.3 percent of the population of Washington as a whole.

3.7.1.1 Regulatory Context

EO 12898 (Environmental Justice, 59 Federal Register [FR] 7629) requires federal agencies to achieve environmental justice by identifying and addressing disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and low-income populations. Potential effects are evaluated by examining the demographics of the

area affected by the proposed action(s) and the potential of those actions to have disproportionately high and adverse effects on minority and low-income populations.

3.7.2 Methodology And Thresholds Of Significance

Environmental justice effects were determined using the EPA's guidance for federal agencies to identify disproportionately high and adverse human health or environmental effects on minority populations and low-income populations (EPA 1998). According to these guidelines, a minority population refers to a minority group that has a population of greater than 50 percent of the affected area's general population (EPA 1998). Although not specifically stated in EPA's guidance, the same rule is used for low-income populations; a low-income population exists if there is a community whose general population comprises 50 percent or more people living under the threshold for low income. A project alternative would reach the significance threshold for environmental justice if it would:

- Have disproportionately high and adverse environmental or health impacts on low-income or minority populations.

3.7.3 Environmental Consequences

Alternative A (No Action)

The general population of the affected area (Thurston County) does not include minority or low-income populations as defined under EPA's environmental justice guidance (EPA 1998). Therefore, the effects on these populations are not disproportionately high, and the No Action Alternative would have no environmental justice effects.

Alternative B (Proposed Action)

The general population of the affected area (Thurston County) does not include minority or low-income populations as defined under EPA's environmental justice guidance (EPA 1998). Therefore, the effects on these populations are not disproportionately high, and the Proposed Action would have no environmental justice effects.

Mitigation Measures

The project would have no environmental justice effects, and no mitigation measures are necessary.

Significant Unavoidable Adverse Effects

The project would have no significant unavoidable adverse environmental justice effects.

3.8 CLIMATE CHANGE

The CEQ has issued a draft NEPA guidance document encouraging federal agencies to improve their consideration of the effects on greenhouse gas emissions and climate change in their evaluations of proposals subject to NEPA documentation (CEQ 2010). Governor Gregoire committed Washington state to prepare for and adapt to the impacts of climate change as part of Executive Order 07-02. A new focus sheet entitled "*Preparing for Impacts*" is available from Ecology's website (Ecology 2008b).

Although the cause of the December 2007 disaster cannot be attributed to climate change, changes in precipitation patterns and volatility in precipitation-driven systems, such as the Potosi Creek drainage, cannot be ruled out for potential damage in the future due to events associated with climate change. This alternate project (the Proposed Action), which would relocate a section of the Mount Molly Loop Trail to a location higher in the drainage where it would partially follow a ridgeline then switch back down the east slope of the ridge following relatively flat to low-gradient (0–5 percent) natural benches for most of the route, would substantially reduce the potential future threat of damage to the motorized recreation trail due to events brought on by climate change.

Construction and maintenance of the project would result in emissions from equipment operation and worker transportation that would negligibly increase short-term greenhouse gas emissions.

Rerouting the trail would not increase total vehicle trips on forest access roads or increase motorized recreation to a measurable degree within the motorized trail system of the Capitol Forest.

No mitigation measures are proposed for the project alternatives related to climate change impacts.

3.9 CUMULATIVE EFFECTS

Cumulative effects are those that result from the incremental effect of a Proposed Action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes such other action (40 CFR 1508.7). The study area for the analysis of cumulative effects in this EA is the Potosi Creek drainage. Past, present, and future actions in the Potosi Creek drainage include DNR road and trail construction and maintenance activities, timber harvest activities, and recreation use. These types of activities would typically have varying levels of effects on vegetation, soils and slope stability, hydrology, water quality, fish and wildlife, and visual resources due to vegetation removal and soil disturbing activities. The Proposed Action would contribute negligibly to these effects.

4.0 Consultation & Coordination

4.1 PUBLIC INVOLVEMENT

FEMA sent a scoping letter to agencies, Tribes, and local interested parties on March 4, 2011. The letter described the proposed project and requested comments on issues and concerns, the range of alternatives, and potential effects regarding the project. The scoping letter and the comments received are included in Appendix A. These comments were considered and addressed in the preparation of this Draft EA.

4.1.1 COMMENTS ON THE DRAFT EA

The Draft EA will be released for public review. Copies will be sent directly to those agencies, Tribes, and stakeholders that participated in scoping and are listed in Chapter 6, *Distribution*. A public notice announcing its availability to the general public for comment will be posted on DNR's website and at the Rock Candy Mountain Trailhead in the Capitol Forest, and the Draft EA will be available for viewing at a library or other location accessible to the public in the local community. The Public Notice and Draft EA will be posted to the FEMA website, the web address of which will be included in the Public Notice.

There will be a 30-day comment period on the Draft EA. Comments from this public review will be reviewed and analyzed, and the document revised as appropriate. A Final EA, and a decision as to whether a FONSI or an EIS notice of intent is required, will be provided on the FEMA website.

4.2 AGENCIES AND TRIBES

FEMA is consulting with federal agencies, Tribes, and local agencies and stakeholders throughout the EA process to gather valuable input and to meet regulatory requirements. This coordination was integrated with the analysis of project effects and the public involvement process.

Because no species are present that are federally listed as threatened or endangered under the ESA, no consultation with the USFWS or NMFS is required. Because no EFH is present under the MSA, no consultation with NMFS is required for that purpose either.

FEMA is consulting with the SHPO, the Confederated Tribes of the Chehalis Reservation, and with the Nisqually, Skokomish, Quinault, Squaxin Island, Chehalis, and Shoalwater Bay Tribes, requesting help in identifying traditional cultural properties that may be affected by the project.

5.0 Preparers

FEDERAL EMERGENCY MANAGEMENT AGENCY

Mark Eberlein, Regional Environmental Officer, Region X

Janet Curran, Environmental Specialist, Region X

Susan King, Environmental Specialists, Region X

AECOM

Jan Mulder, Project Oversight and Senior Reviewer

Linda Howard, Project Manager and Ecologist

Glen Mejia, Wildlife Biologist

Peter Carr, Editor

HISTORICAL RESEARCH ASSOCIATES, INC.

Lynn Compas, Senior Project Archaeologist

Faith Haney, Project Archaeologist

6.0 Distribution

FEDERAL AGENCIES

U.S. Environmental Protection Agency (EPA)
- Christine Reichgott, NEPA Review Unit Mgr

Federal Emergency Management Agency (FEMA)
- Dennis Burton, Public Assistance Program
- Anna Daggett, Public Assistance Program

U.S. Fish and Wildlife Service (USFWS)
- Rowan Baker, Region 1 NEPA Coordinator
- Martha Jensen, Branch Manager

National Marine Fisheries Service (NMFS)
- Kathe Hawe, NW NEPA Coordinator
- Gayle Kreitman, Washington State Habitat Office

U.S. Army Corps of Engineers (Corps)
- Jerry J. Gregory, Regulatory Branch
- Darren Habel, Thurston County Regulatory Branch

Bonneville Power Administration (BPA)
- Lee Web, Bonneville Power Administration

TRIBES/TRIBAL ORGANIZATIONS

Chehalis Confederated Tribes
Nisqually Tribe
Quinault Nation
Shoalwater Bay Tribe
Skokomish Tribe
Squaxin Island Tribe

STATE AGENCIES

Washington State Department of Archaeology and Historic Preservation (DAHP)
- Allyson Brooks, SHPO
- Rob Whitlam, State Archaeologist

Washington Department of Ecology (Ecology)
- Chris Hempleman, Shorelands & Env Assistance
- Peg Plummer, SEPA Register Coordinator

Washington Department of Fish and Wildlife (WDFW)
- Teresa Eturaspe, SEPA Review Specialist
- Don Nauer, Region 6 Habitat Biologist

Washington Department of Natural Resources
- Tom Shedd, Recreation Forester, Pacific Cascade Region
- Phil Wolff, Recreation Manager North Unit, Pacific Cascade Region
- Rochelle Knust, SEPA Center Manager
- Scott Sargent, District Manager
- Kris Knutzen, Pacific Cascade Region
- Ed Bressler, Forest Practices

Washington State Emergency Mgmt Division
Gary Urbas, Public Assistance
Jon Holmes, Public Assistance

LOCAL AGENCIES

Thurston County
Cliff Moore, Director, Department of Resource Stewardship
Scott Clark, Director of Strategic Planning

OTHER STAKEHOLDERS

Williams Natural Gas Pipeline
Washington Trails Association
Washington ATV Association
Cascade Family Motorcycle
Tacoma Trail Cruisers
Capitol Peak Ultra's
Friends of Capitol Forest

LIBRARIES

Olympia Timberland Library
McCleary Timberland Library

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Appendix A

Consultation and Coordination

Please review the attached FEMA Scoping Notice for the proposed Mount Molly Trail Reroute Project.

Please submit your written comments on this proposal (or, if you represent an agency, a written confirmation of receipt of this notice stating that your agency has no comments to contribute) to FEMA via a reply to this email. Or you may submit written comments via regular mail to:

Janet Curran
Environmental Specialist
FEMA Region X
130 228th St. SW
Bothell, WA 98021
janet.curran@dhs.gov

Please submit your comments by April 1, 2011.

Janet Curran
Professional Wetland Scientist
Environmental Specialist
Mitigation Division
FEMA Region X
130-228th Street SW
Bothell, WA 98021

[attachment "FEMA Scoping Notice Mount Molly Trail Relocation.pdf" deleted by Martha L Jensen/WWO/R1/FWS/DOI]

U.S. Department of Homeland Security
Region X
130 228th Street SW
Bothell, WA 98021-9796

FEMA

March 4, 2011

RE: FEMA Proposal to Fund the Mount Molly Loop Trail Re-Route Project
NEPA Scoping for Environmental Assessment

Dear Interested Party:

The U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) is proposing to support the Washington Department of Natural Resources (DNR) by providing partial funding to reroute and rebuild a washed-out section of the Mount Molly Loop Trail in the Capitol Forest in Thurston County, Washington. The original trail section and access road were washed out during a severe winter storm on December 3, 2007 (see below). The president declared the storm event a major disaster (FEMA 1734-DR-WA), making funds available for public infrastructure repairs.

The purpose of this notice is to invite you to participate in a National Environmental Policy Act (NEPA) scoping process by reviewing the initial proposal as outlined in this letter and providing comments to help FEMA prepare an Environmental Assessment (EA) under NEPA. The EA will evaluate the impacts of this proposed action on the natural and cultural environment. We are asking your assistance in identifying the scope of issues and concerns to be addressed in the analysis, developing viable alternatives to the proposed action, and identifying potential impacts of implementing the project.

During the storm, water accumulation and downhill flow caused a saturated embankment to slide into the Potosi Creek drainage. The landslide destroyed a section of the Mount Molly Loop Trail and the access road C-4500 in two places. The trail provides recreation amenities for off-road vehicle (ORV) users and mountain bikers in the Capitol State Forest. The project proposal is to restore continuous public recreation access to the Mount Molly Loop Trail by rerouting and rebuilding the lost section of trail in an accessible area. The trail needs to be rerouted because DNR has opted not to reconstruct the damaged road C-4500. The project area can be accessed off of road C-4000, in the northeast portion of the Capitol State Forest. The project area is located in northwestern Thurston County, Section 01 of Township 17N, Range 04W and Section 36 of Township 18N, Range 04W (see attached map).

The preferred trail relocation involves approximately 1 mile of new trail that would follow the ridge slightly north of the C-4000 road for a portion of the route, then cross over the road and drop down the hill to connect with an intact section of the C-4500 road beyond the landslide area. The trail would follow the road for approximately 25 feet, then reconnect to the intact portion of the Mount Molly Loop Trail. The trail design would incorporate avoidance and minimization measures to limit impacts on the environment such as field-locating the trail to avoid existing trees when possible and spanning a small wetland/stream drainage with a bridge.

Submittal of Comments

Please submit your written comments on this proposal (or, if you represent an agency, a written confirmation of receipt of this notice stating that your agency has no comments to contribute) to FEMA via a reply to the email forwarding this notice. Or you may submit written comments via regular mail to:

Janet Curran
Environmental Specialist
FEMA Region X
130 228th St. SW
Bothell, WA 98021
janet.curran@dhs.gov

Please submit your comments by April 1, 2011.

If you have questions about this letter, the project, or if you want to receive a copy of the Draft EA document for review and comment when it is released later during the public involvement process, please feel free to contact Janet via email (janet.curran@dhs.gov) or phone (425-482-3709) or me via email (mark.eberlein@dhs.gov) or phone (425-487-4735).

Sincerely,

Mark Eberlein
Regional Environmental Officer
FEMA Region X

Enclosures:
Distribution List
Project Vicinity Map

Distribution List

Federal Agencies

U.S. Environmental Protection Agency (EPA)
- Christine Reichgott, NEPA Review Unit Mgr
- Wendy Marshall, Office of Water and Watersheds

Federal Emergency Management Agency (FEMA)
- Dennis Burton, Public Assistance Program
- Anna Daggett, Public Assistance Program

U.S. Fish and Wildlife Service (USFWS)
- Rowan Baker, Region 1 NEPA Coordinator
- Martha Jenson, Supervisor, Division of Consulting and Technical Assistance

National Marine Fisheries Service (NMFS)
- Kathe Hawe, NW NEPA Coordinator
- Gayle Kreitman, Washington State Habitat Office

U.S. Army Corps of Engineers (Corps)
- Lester Soule, Chief, Civil Projects Branch
- Patricia Robinson, Floodplain Mgmt Program
- Jerry J. Gregory, Regulatory Branch

State Agencies

Washington State Historic Preservation Office (SHPO)
- Allyson Brooks, DAHP, SHPO
- Rob Whitlam, SHPO, Archaeologist

Washington Department of Ecology (Ecology)
- Chris Hempleman, WA Dept of Ecology, Shorelands & Env Assistance
- Peg Plummer, WA Dept of Ecology, SEPA Register Coordinator

Washington Department of Fish and Wildlife (WDFW)
- Teresa Eturaspe, SEPA Review Specialist
- Don Nauer, Region 6 Habitat Biologist, Forest Practices
- Amy Iverson, Region 6 Habitat Biologist, All Freshwater

Washington State Emergency Mgmt Division
- Gary Urbas, Public Assistance
- Jon Holmes, Public Assistance

Washington Department of Natural Resources
- Scott Sargent, District Manager for Black Hills
- Kirs Knutzen, Forest Practices – Pacific Cascade Region
- Ed Bressler, Forest Practices
- Tom Shedd, Recreation Forester, Pacific Cascade Region
- Phil Wolff, Recreation Manager North Unit, Pacific Cascade Region

Local Agencies

Thurston County
- Cliff Moore, Director, Department of Resource Stewardship
- Scott Clark, Director of Strategic Planning

Tribal Contacts

Chehalis Confederated Tribes
- David Burnett, Chair
- Richard Bellon, Cultural Resources
- Mark White, Natural Resources

Nisqually Tribe
- Cynthia Iyall, Chair
- Fabio Apolito, Cultural Resources
- David Troutt, Natural Resources

Quinault Nation
- Fawn Sharp, Chair
- Justine James, Cultural Resources
- Dave Bingaman, Natural Resources

Skokomish Tribe
- Charles Miller, Chair
- Kris Miller, Cultural Resources
- Joseph Pavel, Natural Resources

Shoalwater Bay Tribe
- Charlene Nelson, Chair
- Earl Davis, Cultural Resources
- Gary Burns, Natural Resources

Squaxin Island Tribe
- David Lopeman, Chair
- Rhonda Foster, Cultural Resources
- Andy Whitener, Natural Resources

Other Stakeholders

Coit Stone, Williams Natural Gas Pipeline
Lee Web, Bonneville Power Administration
Jonathan Guzzo, Washington Trails Association
Ron Wolf, Washington ATV Association
Joe Hietman, Washington ATV Association
Scott Neff, Cascade Family Motorcycle
Steve Tjelde, Tacoma Trail Cruisers
John Perch, Capitol Peak Ultra's
David Snyder, Friends of Capitol Forest
Jack Ramsey, Friends of Capitol Forest
Rick Radcliff, Neighbor
Thomas Moeller, Neighbor
Shane Frederickson, Neighbor

Map Location

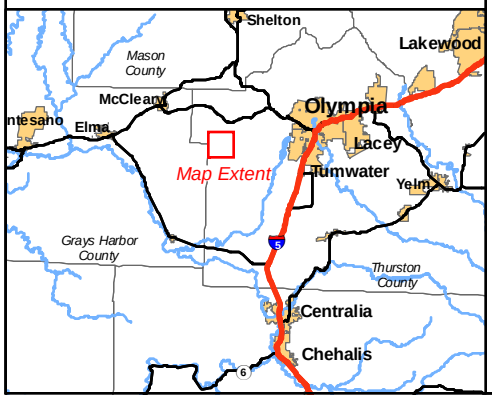

Figure 1.1-1 Project Location

Mount Molly ORV Trail Relocation
Washington Department of Natural Resources

1 inch = 2,000 feet

0 2,000 4,000 Feet

Filename: P:\2009\09100406_16FEMA1734WADNRMountMollyTrail\GIS\Layout\Figure_1-1-1_Project_Location_01252011.mxd

Howard, Linda

From: Curran, Janet [Janet.Curran@dhs.gov]
Sent: Wednesday, March 09, 2011 7:51 AM
To: Howard, Linda; Carr, Peter J.
Subject: FW: FEMA Scoping Notice for Mounty Molly Trail Reroute Project

---

From: Martha_L_Jensen@fws.gov [mailto:Martha_L_Jensen@fws.gov]
Sent: Wednesday, March 09, 2011 7:49 AM
To: Curran, Janet; Eberlein, Mark
Cc: Shirley_Burgdorf@fws.gov
Subject: Re: FEMA Scoping Notice for Mounty Molly Trail Reroute Project

Janet
I reviewed this project and am letting you know that the FWS will not be providing comments. Based on a review of the proposed action, there are no listed species or habitats of concern in close proximity to the project.
I hope that this response will suffice for your records.

Martha Jensen
Branch Manager,
Division of Consultation and Technical Assistance
Washington Fish and Wildlife Office
510 Desmond Dr SE
Lacey, WA 98503
tel: (360) 753-9000/ fax: (360) 753-9008
martha_l_jensen@fws.gov

"Curran, Janet" <Janet.Curran@dhs.gov>

03/04/2011 10:51 AM

To <Allyson.Brooks@dahp.wa.gov>, <Rob.Whitlam@dahp.wa.gov>, <reichgott.christine@epa.gov>, <Marshall.Wendy@epa.gov>, "Eberlein, Mark" <mark.eberlein@dhs.gov>, "Curran, Janet" <Janet.Curran@dhs.gov>, "Burton, Dennis" <dennis.burton@dhs.gov>, "Daggett, Anna" <Anna.Daggett@dhs.gov>, <kathe.hawe@noaa.gov>, <Gayle.Kreitman@noaa.gov>, <rbellon@chehalistribe.net>, <mwhite@chehalistribe.org>, <Apolito.fabio@nisqually-nsn.gov>, <dtroutt@nwifc.wa.gov>, <jjames@quinault.org>, <dbingaman@quinault.org>, <shlanay1@skokomish.org>, <jpavel@skokomish.org>, <edavis@shoalwaterbay-nsn.gov>, <gburns@shoalwaterbay-nsn.gov>, <rfoster@squaxin.nsn.us>, <awhitener@squaxin.nsn.us>, <maryann.baird@02nws.usace.army.mil>, <Darren.Habel@usace.army.mil>, <Ronald.J.Wilcox@usace.army.mil>, <rowan_baker@fws.gov>, <martha_jensen@fws.gov>, <sepaunit@ecy.wa.gov>, <chem461@ecy.wa.gov>, <g.urbas@emd.wa.gov>, <j.holmes@emd.wa.gov>, <teresa.eturaspe@dfw.wa.gov>, <Donald.Nauer@dfw.wa.gov>, <Amy.Iverson@dfw.wa.gov>, <scott.sargent@dnr.wa.gov>, <kris.knutzen@dnr.wa.gov>, <ed.bressler@dnr.wa.gov>, <tom.shedd@dnr.wa.gov>, <phil.wolff@dnr.wa.gov>, <moorecl@co.thurston.wa.us>, <clarks@co.thurston.wa.us>, <jonathan@wta.org>, <wolfden10@comcast.net>, <booker98092@yahoo.com>, <teamneff@yahoo.com>, <sndtjelde@comcast.net>, <capitolpeak@gmail.com>, <davidsride@yahoo.com>, <ramco@localaccess.com>, <Coit.Stone@williams.com>, <clwebb@bpa.gov>, <jan.mulder@aecom.com>, <linda.howard@aecom.com>, <peter.carr@aecom.com>

cc "Curran, Janet" <Janet.Curran@dhs.gov>

Subject FEMA Scoping Notice for Mounty Molly Trail Reroute Project

Dear Interested Party,

Howard, Linda

From: Curran, Janet [Janet.Curran@dhs.gov]
Sent: Wednesday, March 09, 2011 11:35 AM
To: Howard, Linda; Carr, Peter J.; King, Susan; Diters, Charles; Eberlein, Mark
Subject: FW: FEMA Scoping Notice for Mounty Molly Trail Reroute Project

---

From: Sarah Shufelt [mailto:sshufelt@squaxin.us]
Sent: Wednesday, March 09, 2011 11:32 AM
To: Curran, Janet
Cc: Rhonda Foster; Margaret Henry
Subject: Re: FEMA Scoping Notice for Mounty Molly Trail Reroute Project

Dear Ms. Curran: Thank you for contacting the Squaxin Island Tribe regarding the project. This project does lie within the traditional lands of the Squaxin Island Tribe, and we look forward to participating in formal Section 106 consultation regarding the project.

Regards,

On Mon, Mar 7, 2011 at 9:10 AM, Rhonda Foster <rfoster@squaxin.us> wrote:

---------- Forwarded message ----------
From: **Curran, Janet** <Janet.Curran@dhs.gov>
Date: Fri, Mar 4, 2011 at 10:51 AM
Subject: FEMA Scoping Notice for Mounty Molly Trail Reroute Project

Cc: "Curran, Janet" <Janet.Curran@dhs.gov>

Dear Interested Party,

Please review the attached FEMA Scoping Notice for the proposed Mount Molly Trail Reroute Project.

Please submit your written comments on this proposal (or, if you represent an agency, a written confirmation of receipt of this notice stating that your agency has no comments to contribute) to FEMA via a reply to this email. Or you may submit written comments via regular mail to:

Janet Curran

Environmental Specialist

FEMA Region X

Skokomish Indian Tribe
Tribal Center (360) 426-4232
N. 80 Tribal Center Road FAX (360) 877-5943 Skokomish Nation, WA 98584

June 28, 2011

Janet Curran
Professional Wetland Scientist
Environmental Specialist
Mitigation Division
FEMA Region X
130-228th Street SW
Bothell, WA 98021

Re: Mount Molly Loop Reroute Trail Project

Dear Ms. Curran:

We have received a letter from FEMA dated June 21, 2011 regarding the proposed trail reroute for Mount Molly Loop Trail in the Capitol State Forest. The Skokomish THPO is not aware of any Cultural sites in this project area, while we have no information of cultural sites in the area it does not rule out other tribes that may have documented sites here. We encourage you to make contact with other tribes in the surrounding area and consult with them on this matter.

These comments are based on information available at the time of this review, should additional information become available our comments may be revised accordingly.
If you have questions please contact me at (360)426-4232 x 2015

Thank you,

Kris Miller
Tribal Historic Preservation Officer

STATE OF WASHINGTON

DEPARTMENT OF ARCHAEOLOGY & HISTORIC PRESERVATION

1063 S. Capitol Way, Suite 106 • Olympia, Washington 98501
Mailing address: PO Box 48343 • Olympia, Washington 98504-8343
(360) 586-3065 • Fax Number (360) 586-3067 • Website: www.dahp.wa.gov

June 27, 2011

Mr. Mark G. Eberlein
FEMA – Region X
130 – 228th Street SW
Bothell, Washington 98021-9796

RE: Mt. Molly Loop Trail Reroute Project
FEMA# *: 1734-DR-WA/ PW-1559*
Log No: 062711-13-FEMA

Dear Mr. Eberlein:

Thank you for contacting our Department. We have reviewed the materials you provided for the proposed Mt. Molly Loop Trail Reroute Project in DNR's Capitol Forest, Thurston County, Washington.

We concur with the Determination of No Historic Properties Affected.

We would appreciate receiving any correspondence or comments from concerned tribes or other parties that you receive as you consult under the requirements of 36CFR800.4(a)(4).

In the event that archaeological or historic materials are discovered during project activities, work in the immediate vicinity must stop, the area secured, and the concerned tribes and this department notified.

These comments are based on the information available at the time of this review and on the behalf of the State Historic Preservation Officer in conformance with Section 106 of the National Historic Preservation Act and its implementing regulations 36CFR800. Should additional information become available, our assessment may be revised. Thank you for the opportunity to comment and a copy of these comments should be included in subsequent environmental documents.

Sincerely,

Robert G. Whitlam, Ph.D.
State Archaeologist
(360) 586-3080
email: rob.whitlam@dahp.wa.gov