Final Environmental Assessment

Midway Creek Fish Culvert and Road Abandonment Project

Washington Department of Natural Resources Forest Roads E-4300 and E-4310
Cowlitz County, Washington

FEMA-1734-DR-WA (Public Assistance)

December 2011

FEMA

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

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Prepared for:

U.S. Department of Homeland Security
FEMA Region X
130 228th Street SW
Bothell, WA 98021
Contact: Mark Eberlein (425) 487-4735; mark.eberlein@dhs.gov

Prepared by:

AECOM
710 Second Avenue, Suite 1000
Seattle, WA 98104

December 2011

[Cover Photo: Midway Creek and DNR Forest 4310 Road]

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Acronyms and Abbreviations

ACHP	Advisory Council on Historic Preservation
APE	Area of Potential Effects
BMP	best management practice
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
Corps	U.S. Army Corps of Engineers
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
DAHP	Department of Archaeology and Historic Preservation
DNR	Washington State Department of Natural Resources
DPS	distinct population segment
EA	Environmental Assessment
Ecology	Washington State Department of Ecology
EFH	essential fish habitat
EIS	Environmental Impact Statement
EMD	Washington State Department of the Military, Emergency Management Division
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
FPHCP	Forest Practices Habitat Conservation Plan
FPR	Forest Practices Rules
FR	Federal Register
GIS	geographic information system
GLO	General Land Office
HCP	Habitat Conservation Plan
HPA	Hydraulic Project Approval
HRA	Historical Research Associates
HUC	Hydrologic Unit Code
LCFRB	Lower Columbia Fish Recovery Board
LCR	Lower Columbia River
MBTA	Migratory Bird Treaty Act
MSA	Magnuson-Stevens Fishery Conservation and Management Act
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NSO	northern spotted owl
NWI	National Wetlands Inventory
OHWM	Ordinary High Water Mark
PA	Public Assistance
PHS	Priority Habitats and Species

PNP	Private Non-Profit
RCW	Revised Code of Washington
RMAP	Road Maintenance and Abandonment Plan
SHPO	State Historic Preservation Officer
SPCC	Spill Prevention, Control, and Countermeasure
SR	State Route
SW	Southwest Washington
TESC	Temporary Erosion and Sediment Control
USFWS	U.S. Fish and Wildlife Service
WAC	Washington Administrative Code
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

Severe storms in December 2007 caused extensive flooding, landslides, and mudslides in southwestern Washington. These storms damaged multiple facilities at various sites on forest land in Capitol State Forest owned by the Washington Department of Natural Resources (DNR). The president declared the flooding event a major disaster (FEMA 1734-DR-WA), making funds available for public infrastructure repairs. DNR determined that the public welfare would not be best served by restoring some of the damaged facilities. Under these circumstances, DNR proposes an alternate project and has applied through the Washington State Department of the Military, Emergency Management Division (EMD) to the U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) to provide partial funding for an alternate project in the region. The alternate project is to install a fish-passable culvert in Midway Creek, remove existing culverts, and abandon a small segment of road in Cowlitz County, Washington.

Installation of a fish-passable culvert at Midway Creek is related to the court ruling in *United States, et al., v. State of Washington, et al.*, C70-9213. The United States, in conjunction with the Tribes, initiated this sub-proceeding in early 2001, seeking to compel the State of Washington to repair or replace any culverts that are impeding salmon migration to or from spawning grounds. In 2007, the court ruled that the right of taking fish, secured to the Tribes in the Stevens Treaties, imposes a duty upon the state to refrain from building or operating culverts under state-maintained roads that hinder fish passage and thereby diminish the number of fish that would otherwise be available for Tribal harvest. Although the ruling focused on significant fish barriers on state highways, this project complements the goals of addressing culverts that hinder fish passage by installing a fish-passable culvert in Midway Creek, removing existing culverts, and abandoning a small segment of road.

This Final 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) 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).

Based on the analysis presented in and lack of public and agency comments on the Draft EA, FEMA has determined that the project would not significantly affect the quality of the human and natural environment. Therefore, FEMA has made a Finding of No Significant Impact (FONSI) and determined that preparation of an Environmental Impact Statement (EIS) is not necessary. See Section 4.1.1 for a summary of the process for review and comment on the Draft EA.

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 December 2007 storm damaged DNR forest road C-4500 in Capitol Forest, Thurston County. DNR determined that the public welfare would not be best served by restoring the damaged C-4500 Road. DNR decided not to repair the damaged C-4500 Road because the area served by the road is accessible via other roads, road repair would require extensive engineering on the remaining embankment to stabilize the slope, and the potential for repetitive damage would still exist. The DNR alternate project area is located on two segments of DNR forest roads E-4300 and E-4310 north of State Route (SR) 4, approximately 11.5 miles northeast of Cathlamet, Washington, in western Cowlitz County, Washington. The project area is in the NW 1/4 of Section 9, Township 9 North, and Range 4 West, Willamette Meridian (Figure 1.2-1). The project coordinates are 46.28010 (latitude)/ -123.17940 (longitude) (FEMA 2010). Components of the alternate project are shown in Figure 1.2-2.

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 purpose 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 for an alternate project located in the declared disaster area that restores fish passage. To meet the project need, DNR identified the following objectives:

- Restore fish passage in Midway Creek.
- Minimize construction-related environmental impacts.
- Minimize the potential for damage during future storms.
- Provide safe, secure, and permanent access to DNR-owned forest lands for forest and fire management.
- Minimize annual maintenance and construction-related costs.

1.4 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 table is a summary of resource area subjects not evaluated in detail in this EA.

Table 1.4-1. Resource Subjects Considered but not Evaluated in Detail.

Subject	Consideration
Geology	There are no unique or protected geologic resources or geologic hazards in the project vicinity. The project alternatives would have no effect on geology. However, a discussion of soil resources and potential erosion is included in this EA.
Land Use and Recreation	The project alternatives would not change land use or recreation in the project vicinity. There are no developed recreation sites in the project area.
Socioeconomics	The project alternatives are not anticipated to change socioeconomic benefits of forest management in the vicinity and would have no effect on socioeconomic conditions.
Visual Quality	There are no designated visual resources present in the project vicinity. The project alternatives would retain the existing character of the landscape and have no effect on visual quality.
Air Quality	The project area is located in a rural area with 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 minor and temporary. Air quality impacts are not expected to increase above current levels. No long-term reduction in air quality is expected once construction activities cease.
Noise	The project area is located in a remote forested setting on a gravel road, with no rural residences in the vicinity and no regular noise from traffic or aircraft overflights. The project is not predicted to increase traffic levels or traffic-related noise above existing conditions. The 2 to 3 weeks of construction activities would temporarily increase noise levels in the project vicinity; this would be a minor, temporary effect. Noise effects on wildlife are described in the fish and wildlife section of the EA.

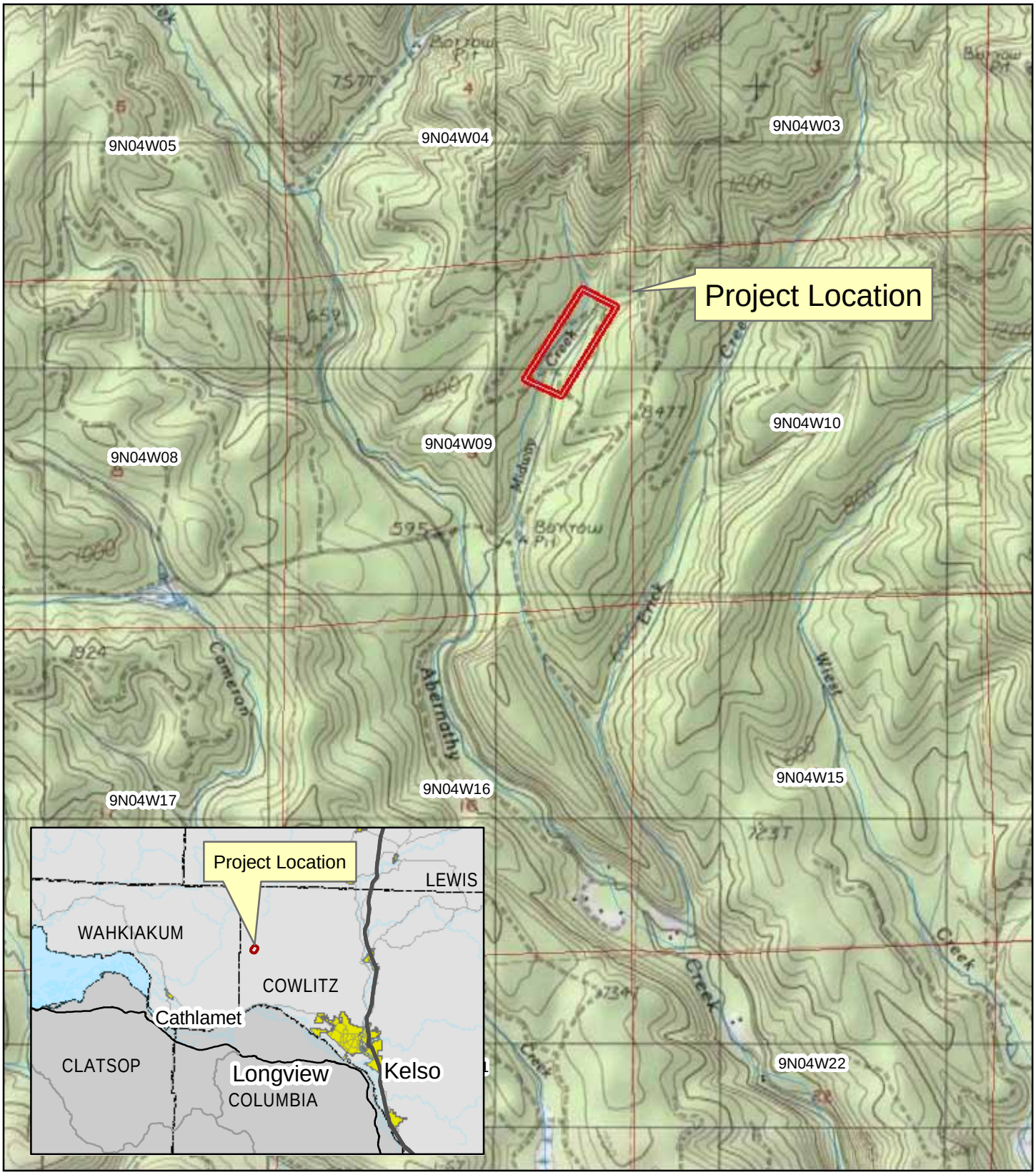
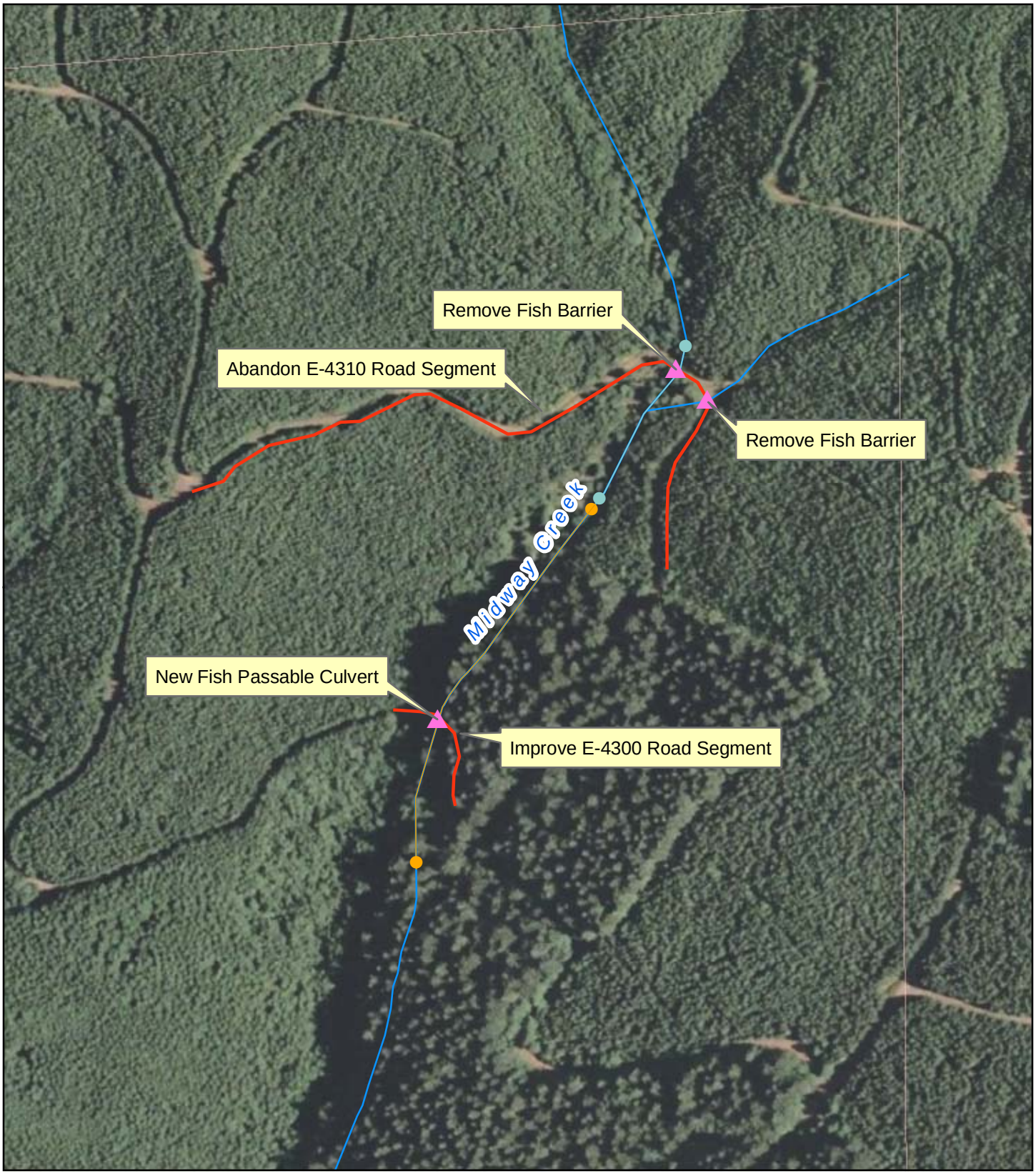


Figure 1.2-1. Project Vicinity

Washington Department of Natural Resources
Midway Creek Fish Culvert and Road Abandonment Project

0 1,000 2,000
Feet



Legend

- Culvert
- E-4300 Reach
- E-4310 Reach
- Road Segments

Figure 1.2-2. Project Location

Washington Department of Natural Resources
Midway Creek Fish Culvert and Road Abandonment Project

0 170 340
Feet

2.0 Alternatives, Including the Proposed Action

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 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 Midway Creek Fish Culvert and Road Abandonment Project, and the process that was used to develop these alternatives. This EA presents an analysis of 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

As noted in Sections 1.1 and 1.2, DNR determined that the public welfare would not be best served by restoring the damaged C-4500 Road. Following its initial determination, FEMA reviewed other alternatives and eliminated them from further consideration in this EA because they do not meet the project purpose and need, are not practical, or are not suitable for FEMA funding under its PA program. These alternatives are listed and described below.

Alternative 1 – Replace E-4310 Road Culverts and Abandon the E-4300 Road. This alternative would replace two fish barriers in Midway Creek with a fish-passable culvert on the E-4310 Road. Replacement of the two fish barriers on the E-4310 Road would restore fish passage in Midway Creek. However, this alternative is considered impractical because of the following issues:

- Substantial construction-related environmental impacts – extensive fill and bank armoring in Midway Creek from the steeper gradient stream and adjacent hill slopes that would result in higher erosion potential when compared to the Proposed Action.
- Higher risk of repeated road damage and closures, resulting in a road that is less likely than the Proposed Action to provide safe, secure, and permanent access to DNR-owned forest lands.
- Substantially higher construction-related costs would be incurred to stabilize the steep slopes and accommodate fish passage at these locations.

Alternative 2 – Abandon Both E-4300 and E-4310 Roads and Remove Fish Barrier. This alternative includes abandoning both roads and removing the fish barriers in Midway Creek. This alternative is not feasible because it would not provide safe, secure, and permanent access to DNR-owned forest lands. DNR requires one of these roads to access forest lands on both sides of Midway Creek.

2.2 ALTERNATIVE A - NO ACTION

Under the No Action Alternative, FEMA would not provide funding to DNR to construct the Midway Creek Fish Culvert and Road Abandonment Project. The fish barriers in Midway Creek would remain in place and prevent fish movement. The culverts are undersized and trap sediment. The ongoing buildup of sediment continues to threaten the stability of the E-4310 Road. Potential road failure could disrupt access to portions of DNR-owned land. DNR would continue to maintain the road and clean the culverts from excessive sediment loads.

2.3 ALTERNATIVE B - PROPOSED ACTION

Under the Proposed Action, FEMA would provide funding to DNR to construct the Midway Creek Fish Culvert and Road Abandonment Project. The Proposed Action would improve approximately 300 feet of the E-4300 Road and install a fish-passable culvert in Midway Creek at a location where there is currently no structure (Figure 2.3-1). A former culvert at this location was removed 5 to 7 years ago. The new culvert would be sized appropriately using the Washington Department of Fish and Wildlife (WDFW) Fish Passage, Design Guidance and Standards (WDFW 2011a). The project would also abandon 955 feet of the E-4310 Road, removing two culverts that have been identified as barriers to fish passage. Proposed project elements were designed to meet the objectives identified in Section 1.3 and include the following:

<u>E-4300 Road</u>

- Temporary Bypass.
  - Construct temporary bypass to divert flow around the work area.
  - Relocate all fish from the work area downstream.
  - Isolate work area and prevent fish from moving into the in-water work area.
- Culvert Installation.
  - Install 12-foot diameter metal culvert to ensure fish passage (where a former culvert was removed 5 to 7 years ago).
- Channel Reconstruction.
  - Grade channel, place large woody debris and rock.
  - Regulate rate of flow back into isolated work area through slow removal of isolation devices.
  - Deconstruct temporary bypass.
- Road Improvement.
  - Surface road segment for year-round use as logging road.
  - Install cross drain culverts to protect road from erosion.
- Construction Duration.
  - Two to three weeks.

<u>E-4310 Road</u>

- Culvert Removal.
  - Remove 12-inch (non-fish bearing), 18-inch (fish barrier), and a 36-inch (fish barrier) culverts.
- Road Abandonment.
  - Abandon approximately 955 feet of road, rip the road surface to a depth of 15 inches to accommodate revegetation, and shape cut-banks to conform to the natural ground.
  - Establish native ground cover.
- Channel Reconstruction.
  - Restore channel, reconfigure disturbed areas, and remove fill.
  - Fill plunge pools with rock sized to withstand 100-year peak flows.
- Construction Duration.
  - Two to three days.

Midway Creek, Proposed Fish Culvert Location; Old Culvert Was Removed 5–7 Years Ago

E-4300 Road to be Improved

Midway Creek, Upstream Fish Habitat

Exiting Culvert – Fish Barrier to be Removed

E-4310 Road to be Abandoned – View West

E-4310 Road to be Abandoned – View East

Figure 2.3-1. Photos of Project Area.

This alternate project would be funded by eligible funds: $114,132 approved for Project Worksheet No. 1530 (FEMA 2010). The estimated cost for the Proposed Action is $89,896. These costs include project management, excavation, embankment construction, rock, culverts, logistics, and general expenses (FEMA 2010).

The Proposed Action is subject to DNR's State Trust Lands Habitat Conservation Plan (HCP) (DNR 1997) and the Forest Practices Habitat Conservation Plan (FPHCP) for the DNR Forested Practices Division (DNR 2005), as well as the Forest Practices Rules (FPR) (Washington Administrative Code [WAC] 222), and Road Maintenance and Abandonment Plan (RMAP) (WAC 222-24).

The HCPs were developed within the framework of the ESA Section 10(a)(1)(B) in consultation with the National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (USFWS), collectively known as the Services. The Services have concurred that an individual ESA Section 7 consultation by FEMA for disaster-related funding for DNR-managed activities covered by the HCPs is not necessary as long as FEMA requires that the funded projects comply with conservation measures outlined in the HCPs (USFWS and NMFS 2004).

According to the provisions in the WDFW Hydraulic Project Approval (HPA), construction work below the ordinary high water mark (OHWM) would occur between July 1 and September 30. The HPA was issued on March 31, 2009 and expires March 31, 2014 (WDFW 2009). DNR would also adhere to FPR and other state and federal regulations and permit conditions for construction and operation of the proposed project. In addition to the best management practices (BMPs) outlined in the HCP, FPHCP, FPR, and RMAP, the following BMPs would be implemented during construction:

- **Erosion and Sediment Control**: These specifications require the contractor to implement a Temporary Erosion and Sediment Control (TESC) Plan to comply with federal, state, and local laws, rules and regulations, and the National Pollutant Discharge Elimination System (NPDES) General Construction Permit regarding erosion prevention and sediment control for on-site construction activities. Erosion and sediment control specifications typically focus on soil and slope protection and stabilization measures, followed by site restoration methods (including planting materials). Additional erosion and sediment control BMPs are required in the provisions of the HPA issued for the project (WDFW 2009). Provisions of the HPA include a stipulation that prior to September 30, all disturbed areas must be protected from surface erosion and the culvert must be installed to avoid inlet scouring and to prevent erosion of stream banks downstream of the project (WDFW 2009).
- **Environmental Protection**: These specifications direct the contractor to implement measures and comply 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. This specification section 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. Additional environmental protection BMPs are required in the provisions of the HPA (WDFW 2009). BMPs include ensuring that equipment used for this project would be free of external petroleum-based products while working around the stream and checked daily for leaks, and that any necessary repairs would be completed prior to commencing work along the stream (WDFW 2009). In addition, equipment must be operated outside the OHWM, a temporary bypass is required to divert flow around the work area, any device used for diverting water from a fish-

bearing stream must be equipped with a fish guard, and the pump intake must be screened to prevent fish from entering the water diversion system (WDFW 2009). Any construction work below the OHWM may only occur between July 1 and September 30 (WDFW 2009).

- **Clearing and Grubbing:** These specifications direct the contractor regarding clearing operations, including removing, preserving, and trimming trees and other vegetation. These specifications also address grubbing operations and limit the contractor's area of approved activity. These specifications protect vegetation both inside and outside of approved work areas.

- **Fish Passage:** To improve fish passage in Midway Creek, the new culvert will be installed and maintained to ensure fish passage (WDFW 2009). According to culvert replacement provisions in the HPA, the culvert must be designed using WDFW Fish Passage, Design Guidance and Standards (WDFW 2011a), and the channel reshaped and regraded to connect with the upstream and downstream gradient profiles, while allowing for natural sediment control and promoting natural stream bank stabilization (WDFW 2009).

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 on a short-term basis. Mitigation measures may be necessary to reduce potential effects.

- **Major**: Changes would be readily measurable and would have substantial consequences on a local and potentially 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.

Resource Area	Alternative A – No Action Alternative	Alternative B – Proposed Action
Soil Resources	Minor long-term impacts: soil erosion and sediment contribution to Midway Creek.	Minor short-term impacts: construction-related soil erosion. Moderate long-term beneficial effects: slope and streambed stabilization.
Hydrology, Water Quality, Floodplains, and Wetlands	Minor long-term impacts: turbidity and channel alteration associated with periodic culvert maintenance.	Minor short-term impacts: construction-related turbidity and sedimentation. Moderate long-term beneficial effects: reconstruction of natural stream conditions.
Vegetation	No effect on vegetation.	Minor short-term impacts: construction-related clearing. Minor long-term impacts from permanent removal of less than 0.1 acre of previously disturbed riparian area. Minor long-term beneficial effects: reconstruction of natural stream conditions and road abandonment of 0.4 acre that would increase plant community connectivity.
Fish and Wildlife	No effect on wildlife. Moderate long-term impacts on fish from fish barriers in Midway Creek.	Minor short-term construction-related effect resulting in fish and wildlife avoidance of the project area during construction. Minor long-term beneficial effect on wildlife: 955 feet (0.4 acre) of road abandonment promotes wildlife habitat connectivity. Moderate long-term beneficial effects on fish: reconstruction of natural stream conditions, improvements to fish habitat with fish-passable culvert and removal of fish barriers.
Threatened and Endangered Species	No effect on federally listed wildlife. Moderate long-term effects on federally listed coho salmon from fish barriers in Midway Creek.	No effect on federally listed wildlife, including the northern spotted owl. Minor short-term construction-related effect from federally listed coho salmon avoidance of the project area during construction. Moderate long-term beneficial effects on federally listed coho salmon: reconstruction of natural stream conditions, improvements to coho movement and migration habitat.
Cultural Resources	No effect.	No effect.
Transportation	No effect.	Moderate beneficial effect: reliable access.
Environmental Justice	No effect.	No effect.
Climate Change	No effect.	No effect.
Cumulative Effects	No effect.	Moderate beneficial effects: fish passage.

3.0 Affected Environment and Environmental Consequences

The following sections describe the affected environment (including regulatory considerations) and environmental consequences of the project alternatives on physical, biological, cultural, and social resources in the project vicinity. The level of detail for each resource topic is commensurate with the scale of the project and potential impacts of the project alternatives on that resource.

3.1 SOIL RESOURCES

This section describes the existing condition of the physical landscape in the project vicinity, including soil resources, 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 area is located on the Coast Range foothills of southwest Washington and is underlain by volcanic rock and part of the Columbia River Basalt Group unit (DNR 2011a, USGS 2011, Huntting et al. 1961). The project area is on moderately steep south-facing slopes (8 to 20 percent) on elevations from 700 to 1,000 feet (NRCS 2006). Soils in the project vicinity are mapped as Germany silt loam (NRCS 2011a). Germany silt loam consists of deep, well-drained soils (NRCS 2011b). Soil properties include moderate permeability, high water capacity, and a slight hazard from water erosion (NRCS 2006). These soils require a suitable surface for year-round use as logging roads (NRCS 2006). DNR maintains these roads with a surface of crushed rock and has incorporated features such as water bars, relief culverts, road surface treatment that includes crowning or sloping toward the inside or outside as applicable, sediment traps, and undulating road grades that reduce the risk of erosion and sedimentation. Surface soils in the project vicinity are disturbed from ongoing logging activities.

Forest practices such as timber harvesting and road construction have the potential to accelerate the rate of erosion by disturbing soils, reducing infiltration, and increasing surface runoff (Swanson et al. 1987). Road density can be used to help understand the potential for impacts from road surface erosion, drainage, and sediment delivery to streams (Davis 2010, DNR 2005). Average road density on FPHCP covered lands is 3.4 miles per square mile (DNR 2005). The project area is in Water Resources Inventory Area (WRIA) 25 with an average road density of 4.8 miles per square mile (DNR 2005). The Midway Creek watershed has a road density of 7 miles per square mile (i.e., 32 percent more than the WRIA 25 average and 52 percent more than the statewide average).

The project area is limited to previously disturbed soils along 955 feet of the E-4310 Road (Station 8+70 to 18+25) and 445 feet of the E-4300 Road (Station 14+75 to 19+20) (Figure 1.2-2, *Project Location*). The roads are surfaced with crushed rock on top of compacted fill on native Germany silt loam. During the site visit (September 23, 2010), a buildup of sediment was observed at the culverts, concentrated around the inlets and on the upslope embankment of the E-4310 Road. Soils are exposed on the banks of Midway Creek at the proposed location for the fish-passable culvert on the E-4300 Road.

3.1.1.1 Regulatory Context

Forest Practices Rules

The FPR establish standards for forest practices such as timber harvest, precommercial thinning, road construction, fertilization, and forest chemical application (Title 222 WAC). These rules guide the implementation of the Forest Practices Act (Chapter 76.09 Revised Code of Washington [RCW]). The Forest Practices Act sets standards for forest practices that protect public resources such as soil resources while maintaining a viable timber industry. The Forest Practices Permit decision classified the Proposed Action as a Class III Forest Practice (RCW 43.21C.037 (1) and WAC 197-11-835 (2)), which includes road maintenance and installation of culverts across Type F waters.

Chapter 222-24-050 through 052 of the WAC describes the requirements for road maintenance and abandonment of forest roads, including RMAPs under the FPR. RMAPs are required to have analyses and plans designed to protect surface waters from sediment input, and resources from road-related mass wasting events. RMAPs represent a landscape-level approach that includes the prioritization of problem sediment areas and an implementation schedule that would reduce the delivery of chronic sediment to streams.

3.1.2 METHODOLOGY AND THRESHOLDS OF SIGNIFICANCE

The potential effects of the project alternatives on soil resources in the project vicinity were evaluated in terms of both regulatory considerations and ecological context and intensity. This was determined by gathering and reviewing data on the physical landscape in the project vicinity, determining which soil resources are present in areas potentially affected by the project alternatives, and evaluating how the project alternatives could impact soil resources present based on the known effects of similar projects from available literature sources and best professional judgment.

The project alternatives were determined to result in a significant effect on soil resources if they would:

- Cause substantial long-term erosion of soils.
- Cause a substantial accumulation of sedimentation in aquatic habitats.

3.1.3 ENVIRONMENTAL CONSEQUENCES

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

3.1.3.1 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. Sediment would continue to accumulate at the three existing culvert locations. Other indirect effects of the No Action Alternative include potential future blockage of the culverts and reduced road stability. Frequent maintenance of the culverts would be required by DNR to prevent their blockage and failure of the E-4310 Road. The No Action Alternative would result in minor long-term impacts on soil resources.

3.1.3.2 Alternative B: Proposed Action

Under the Proposed Action, FEMA would provide funds to DNR for the installation of a fish-passable culvert, E-4300 Road improvements, and E-4310 Road abandonment as described in Section 2.3 (*Alternative B - Proposed Action*).

Short-term impacts on soil resources would be limited to construction-related activities associated with installation of the fish-passable culvert (E-4300 Road) and removal of the fish barrier culverts (E-4310 Road). Short-term exposure of soil would last for 2 to 3 weeks during installation of the fish-passable culvert and 2 to 3 days for the culvert removal. Exposure of soils could result in erosion from hydraulic conveyance of sediments that could affect aquatic habitats and the stability of nearby slopes. Effective erosion control measures are essential for maintaining slope stability and minimizing impacts on aquatic habitats.

Long-term beneficial effects on soil resources would result from reconfiguring the streambed and banks to facilitate the natural movement of material and encourage the stability of substrate. The installation of a fish-passable culvert that is designed using WDFW Fish Passage, Design Guidance and Standards (WDFW 2011a) would promote channel recovery and minimize erosion in the long term. Abandoning the E-4310 Road (which includes restoring drainage paths, grading the road to conform to the natural contour of the ground, and establishing native ground cover) would eventually result in regeneration of forest and an incremental decrease in the density of forest roads and moderate long-term beneficial effects on soil resources. No adverse long-term impacts on soil resources are anticipated.

Overall, the project would have short-term minor adverse impacts from construction and long-term moderate beneficial effects from slope and streambed stabilization on soil resources. The minimal site disturbance would not result in substantial landform alterations or topographic impacts. The potential for substantial soil or erosion impacts would be reduced with the implementation of BMPs.

3.1.3.3 Mitigation Measures

Under the Proposed Action, the installation and use of temporary construction BMPs such as the TESC plan; and the design, construction, and maintenance of the project consistent with applicable standards would reduce potential short-term minor impacts on soil resources in the project area. No additional mitigation measures are necessary.

3.1.3.4 Significant Unavoidable Adverse Effects

The project would have no significant unavoidable adverse effects on soil resources. The Proposed Action would reduce erosion and have a moderate beneficial long-term effect on soil resources.

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 Grays-Elochoman WRIA 25, Lower Columbia-Clatskanie subbasin, Germany Creek-Abernathy Creek watershed, Abernathy Creek subwatershed (6th field Hydrologic Unit Code [HUC] 170800030404). Mean annual rainfall is 50 to 70 inches (NRCS 2011a). Approximately 77 percent of WRIA 25 is forested lands (LCFRB 2006). The primary waterbody in the project area is Midway Creek; it flows generally south to Abernathy Creek, which is a tributary to the Columbia River. Midway Creek is a small stream that is approximately 1.5 river miles in length and drains an area of 350 acres (StreamNet 2011).

Two distinct segments of Midway Creek cross the project area. For this report, they are referred to as the E-4310 reach and the E-4300 reach. These stream segments were defined and mapped by WDFW using the Rosgen classification system (Rosgen 1996). This classification is based on channel morphology (i.e., slope, shape, and form).

The E-4310 reach is characterized as a Rosgen Aa+ channel, which is deeply entrenched and narrow on steep gradient hillslopes with a high potential for debris flows and scouring (WDFW 2011b). Other reach attributes include: 8 to 12 percent gradient, elevation from 760 to 798 feet, 462 feet long, and DNR Type F (formerly type 2 or 3) stream that is known to be used by fish (WDFW 2011b, DNR 2011b).

In contrast, the E-4300 reach is characterized as a Rosgen G channel, which is shallow and relatively wider, on moderate gradient slopes (WDFW 2011b). Other attributes of the E-4300 reach include: 2 to 4 percent gradient, elevation from 720 to 760 feet, 1,023 feet long, and DNR Type F stream (WDFW 2011b, DNR 2011b).

Water Quality

Washington State Department of Ecology (Ecology) 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). The 303(d) list reports on Category 5 waters, which are impaired waters of the state. Category 5 waters on the 303(d) list require the preparation of a plan to improve water quality by limiting pollutant loads. No waters in the project vicinity are 303(d) listed as an impaired water of the state (Ecology 2008).

The closest water quality monitoring station (25E100) is in Abernathy Creek approximately 0.75 river miles downstream of the project area (Ecology 2011). The overall water quality index score is 94 (good) and is of lowest concern, with no reported water quality violations based on criteria in Washington's Water Quality Standards, WAC 173-201A (Ecology 2011).

Floodplains

FEMA's National Flood Insurance Program (NFIP) publishes maps identifying areas at risk from potential flooding. Flood hazards are identified for areas subject to flooding from 100- and 500-year storm events. According to the Flood Insurance Rate Map (FIRM) Community Panel 5300320014C, the project area is not within a designated special flood hazard area. However, DNR calculated the 100-year flood flow of Midway Creek for the purposes of designing the proposed culvert (FEMA 1980, 2010).

Wetlands

An investigation of wetland resources in the project area is described in Section 3.2.2 (*Methodology and Thresholds of Significance*). The USFWS National Wetlands Inventory (NWI) maps show no wetlands in the project area (USFWS 2011a). Soils mapped by the Natural Resources Conservation Service (NRCS) and described in the Soil Survey of Cowlitz County are Germany silt loam, which are well-drained, non-hydric soils (NRCS 2006, 2011a, 2011b). AECOM ecologists conducted a site visit of the project area on September 23, 2010 to collect information on site conditions, including assessing whether wetlands occur within the project area. The project area includes gravel roads, a narrow riparian strip, and Midway Creek. Wetland resources pertinent to CWA Section 404, the U.S. Army Corps of Engineers (Corps), Ecology, and/or the local jurisdiction of Cowlitz County are not present in the affected environment.

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)

FEMA-funded projects are required to comply with the CWA. Actions affecting waters of the U.S. 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. The Proposed Action is a forest practice classified as "construction or maintenance of forest roads" (Section 404 of the Clean Water Act – 33 CFR 323.4 (a) (6)), and DNR is exempt from Section 404 permits as long as the BMPs described in 33 CFR 323.4(a)(6) i-XV are applied. In addition, compliance with FPR would meet or exceed CWA standards.

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. Federal agencies, in planning their actions, 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.

No wetlands occur in the project area (Section 3.2.2); therefore, neither the No Action Alternative nor the Proposed Action would affect wetlands. No further action under EO 11990 is required by FEMA.

FEMA completed an 8-step decision-making process for the Proposed Action under EO 11988 (Floodplain Management) and determined the Proposed Action would not adversely affect the floodplain or support floodplain development, and would not be adversely affected by the floodplain. In addition, the proposed culvert would be designed to pass the water at the 100-year flood level and debris likely to be encountered; the structures would be fish passable. The structure would be designed using the guidance provided by WDFW in *Design of Road Culverts for Fish Passage, 2003 Edition* (WDFW 2003). No further action is required by FEMA under EO 11988.

Coastal Zone Management Act

Federal activities or projects proposed within any of Washington's 15 coastal counties must comply with the Coastal Zone Management Act (CZMA) and be consistent with the policies of Washington's coastal zone management program. The project area is not located in a coastal county or along a stream or river constituting shorelines of the state (WAC 173-18-120 Cowlitz County) or in a coastal county that fronts on salt water. The project alternatives comply with the CZMA and would have no effect on designated shorelines.

State Requirements

Washington State Water Quality Standards (WAC 173-201A)

Ecology's standards are the basis for protecting and regulating the quality of surface waters in Washington. They include numeric limits for various pollutants, including turbidity and fecal coliform bacteria. DNR will ensure this project complies with water quality standards.

Washington Department of Fish and Wildlife – Hydraulic Project Approval (HPA)

Any form of work that uses, diverts, obstructs, or changes the natural flow or bed of any fresh water or saltwater of the state requires an HPA from WDFW. To protect water quality and stream habitat, HPA permit provisions specify conditions under which work can be performed in and near stream habitats, and provide site- and project-specific conditions and timing restrictions for performing this work.

Forest Practices Rules (FPR)

As described in Section 3.1 (*Soil Resources*), the FPR establish standards for forest practices such as timber harvest, precommercial thinning, road construction, fertilization, and forest chemical application (Title 222 WAC). These rules guide implementation of the Forest Practices Act (Chapter 76.09 RCW). The act sets standards for forest practices that protect public resources such as water quality and fish habitat while maintaining a viable timber industry.

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 vicinity 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 vicinity; 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.

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

- Violate water quality standards or cause prolonged alteration to baseline water quality conditions.
- Alter the existing drainage pattern of streams in a manner that would violate or exceed the standards of required permits.
- Violate federal, state, or local regulations concerning hydrology or water quality.

3.2.3 ENVIRONMENTAL CONSEQUENCES

This section describes the potential effects of the project alternatives on hydrology and water quality within the project vicinity. Measures to avoid, reduce, or mitigate for impacts on these resources are also identified where applicable.

3.2.3.1 Alternative A: No Action

Under the No Action Alternative, impacts on hydrology and water quality are related to impacts on soil resources including sedimentation and turbidity. As described in Section 3.1 (*Soil Resources*), sediment would continue to accumulate at the locations of the existing culverts and alter the hydrology of Midway Creek. Frequent maintenance of the culverts would be required by DNR to prevent failure of the culverts and damage to the E-4310 Road. Each clearing of the culvert would flush sediment and debris downstream and temporarily increase turbidity. The No Action Alternative would result in minor long-term adverse impacts on hydrology and water quality.

3.2.3.2 Alternative B: Proposed Action

Under the Proposed Action, short-term impacts on water quality and hydrology in Midway Creek would be limited to impacts associated with construction of a temporary bypass, dewatering and altered

hydrology, installation of a fish-passable culvert (E-4300 Road), and removal of the fish barrier culverts (E-4310 Road). Construction would last for 2 to 3 weeks during installation of the fish-passable culvert and 2 to 3 days for the culvert removal. Short-term increases in turbidity as a result of any alternative would not be expected to exceed regulatory limits due to the use of BMPs. Exceedances, if any, would be short term (during construction).

The new fish-passable culvert and improved E-4300 Road are proposed so that the E-4310 Road segment could be abandoned, which would improve long-term water quality and hydrology of Midway Creek. Other long-term beneficial effects on water quality and hydrology would result from the reconfiguration of the streambed and banks, which would facilitate the natural movement of water and encourage streambank stability.

Overall, the Proposed Action would have minor short-term construction-related adverse impacts on hydrology and water quality related to turbidity and sedimentation. Removal of undersized culverts and the installation of a new culvert that fits the natural hydrology and hydraulics in Midway Creek would be a moderate long-term beneficial effect on hydrology by reducing velocity through the project reach and water quality by increasing streambed and bank stability and reducing turbidity.

3.2.3.3 Mitigation Measures

The Proposed Action incorporates avoidance, minimization, and mitigation measures into the project design and implementation, including the BMPs identified in Section 2.3. No additional mitigation measures are proposed for hydrology, water quality, floodplains, or wetlands.

3.2.3.4 Significant Unavoidable Adverse Effects

No significant unavoidable effects on hydrology, water quality, floodplains, or wetlands are anticipated from either of the alternatives. The Proposed Action would have moderate beneficial long-term effects on water quality.

3.3 VEGETATION

This section describes vegetation cover types 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

Historically, the project vicinity included conifer forests typical of the western hemlock (*Tsuga heterophylla*) forest zone in the Coast Range Province of southwest Washington (Franklin and Dyrness 1988). Most of these forests have been converted to relatively young forest stands that have followed clearing and logging. Vegetation in the project vicinity is primarily 20-year-old Douglas-fir (*Pseudotsuga menziesii*) forest. Even-aged stands of 20-year-old Douglas-fir forest are also fragmented in the project vicinity. Timber stands are densely planted with little room for development of understory vegetation. DNR is the primary land owner in the project vicinity and manages the land primarily for timber production.

The project area is limited to forest road, disturbed roadside vegetation, and a narrow strip of previously disturbed riparian corridor (Figure 2.3-1. *Photos of Project Area*). The E-4310 Road segment to be abandoned has a surface that is mostly bare soil with a layer of crushed rock. The E-4300 Road segment to be improved has a surface that is unmaintained and has small patches of grass and herbaceous vegetation growing through the crushed rock surface. Roadside vegetation (areas adjacent to the E-4310 Road) is disturbed from a history of road maintenance and includes tall fescue (*Festuca arundinacea*), common velvetgrass (*Holcus lanatus*), and sweet vernal grass (*Anthoxantum odoratum*). The narrow strip of disturbed riparian area vegetation is composed primarily of red alder (*Alnus rubra*) with patches of salal (*Gaultheria shallon*).

Special Status Plants and Rare Ecological Communities

For the purposes of this EA, special-status plant species are defined as plants that are considered sensitive by Washington State resource conservation agencies. Special-status plant species that potentially occur in the project vicinity were determined from the county-wide list obtained from the Washington Natural Heritage Program (WNHP) for Cowlitz County, Washington (WNHP 2011). WNHP is responsible for maintaining a database of current and historic locations of threatened, sensitive, and endangered plant species in Washington. WNHP geographic information system (GIS) data indicated no rare plant occurrences in the project area (WNHP 2010). AECOM ecologists conducted a site visit to collect information on general site conditions, special habitat features, and vegetation communities. No sensitive plant species or habitats were observed.

3.3.1.1 Regulatory Context

Federal, state, and local regulations addressing vegetation are summarized below.

Federal Requirements

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. FPR environmental protection standard specifications direct the contractor to implement measures to prevent the spread of invasive species. No further action is required by FEMA under EO 13112.

State Requirements

Noxious Weed Control Laws

Chapter 17.10 RCW is the primary noxious weed law, and it holds landowners, including state and county land agencies, responsible for controlling noxious weeds on their property. Chapter 16-750 WAC contains the Noxious Weed List, which is updated every year with definitions and descriptions for designated weeds. No noxious weeds were observed in the project area.

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 Cowlitz County and the project vicinity, and conducted a site visit to collect information on general site conditions, vegetation communities, and special habitat features (e.g., suitable habitat for special status plants) in the project area. The vegetation resources present in areas that could potentially be affected by the project alternatives were identified. The project alternatives were determined to have a significant effect on vegetation if they would:

- Substantially disturb or degrade sensitive plant communities, such as mature oak woodlands.
- Conflict with applicable federal, state, or local regulations protecting native vegetation.

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 for impacts on these resources are also identified where applicable.

3.3.3.1 Alternative A: No Action

Under the No Action Alternative, existing vegetation in the project area would remain intact; the No Action Alternative would have no effect on vegetation.

3.3.3.2 Alternative B: Proposed Action

Under the Proposed Action, less than 0.1 acre of previously disturbed riparian vegetation would be cleared. In addition, the project would abandon 955 linear feet of the E-4310 Road (approximately 0.4 acre), which would be revegetated with native ground cover. Indirect effects on existing vegetation communities could include alterations in existing topography and hydrology regimes and the colonization of nonnative/invasive plant species. These potential effects would be avoided by implementing erosion control measures during construction. Overall, there would be minor short-term and long-term adverse

impacts on vegetation from a direct loss of 0.1 acre of existing vegetation. The loss of vegetation would be offset over time by the increase of 0.4 acre of vegetation in the abandoned road section. Restoration and enhancement of Midway Creek and abandonment of the E-4310 Road would be a minor, long-term beneficial effect on vegetation.

3.3.3.3 Mitigation Measures

The Proposed Action incorporates avoidance, minimization, and mitigation measures into the project design and implementation, including the BMPs identified in Section 2.3. No additional mitigation measures are proposed for vegetation under either of the alternatives.

3.3.3.4 Significant Unavoidable Adverse Effects

No significant unavoidable adverse effects on vegetation are anticipated from either of the alternatives.

3.4 FISH AND WILDLIFE

This section describes fish and wildlife resources including state sensitive species and migratory birds in the project vicinity and the potential effects of project alternatives on these resources. A discussion of federally listed threatened and endangered fish and wildlife species protected under the ESA is provided in Section 3.5 (*Threatened and Endangered Species*).

3.4.1 AFFECTED ENVIRONMENT

Wildlife

As described in Section 3.3 (*Vegetation*), the project vicinity includes fragmented 20-year-old Douglas-fir forest. These habitats include areas for nesting and foraging, cover, and connectivity to the larger Abernathy Creek subwatershed and patches of mature forest. Common wildlife species in the project vicinity include the red-breasted nuthatch (*Sitta canadensis*), winter wren (*Troglodytes troglodytes*), American robin (*Turdus migratorius*), and dark-eyed junco (*Junco hyemalis*). Other wildlife species include black-tailed deer (*Odocoileus hemionus columbianus*) and occasionally elk (*Cervus elaphus*). A rough-skinned newt (*Taricha granulose*) was observed downstream of the project area during the site visit.

According to the WDFW Priority Habitats and Species (PHS) database, two documented sensitive wildlife species occur within 2 miles of the project area. These element occurrences include: a Dunn's salamander (*Plethodon dunni*), a state candidate species with no federal status; and a tailed frog (*Ascaphus truei*), a state monitor species with no federal status (WDFW 2010). These species were documented by USFWS and Washington State University in 1991 downstream and outside of the project area near the confluence of Midway and Abernathy creeks. Dunn's salamanders are associated with rocks in cool, moist places (Lawrence et al. 2005). Along the Coast Range, they occur in sandstone or shale outcrops near seepages, springs, and streams. Tailed frogs live and breed in clear, cold, fast-flowing streams with rock or gravel bottoms (Lawrence et al. 2005). Suitable habitats for both these species do occur in the project vicinity and may be present in the project area along the Midway Creek riparian corridor. These species are active in spring and fall. In addition to these two species, the WDFW PHS database also shows a northern spotted owl (*Strix occidentalis caurina)* management circle that overlaps with the project area. The northern spotted owl is federally listed as threatened (55 Federal Register [FR] 26114-26194) and described in Section 3.5 (*Threatened and Endangered Species*).

Fish

As described in Section 3.2 (*Hydrology, Water Quality, Floodplains, and Wetlands*), the project area includes two distinct stream segments and fish habitats associated with where the E-4310 and E-4300 roads cross Midway Creek (E-4310 and E-4300 reaches).

A stream survey by WDFW in 2001 documented Lower Columbia River (LCR) evolutionarily significant unit (ESU) coho salmon (*Oncorhynchus kisutch*) (LCR coho salmon), rainbow trout (*O. mykiss*), cutthroat trout (*O. clarki clarki*), reticulate sculpin (*Cottus perplexus*), shorthead sculpin (*C. confusus*), and torrent sculpin (*C. rhotheus*) in Abernathy Creek 1 river mile from of the project area (WDFW 2010). It is presumed that all of these fish species could use the project area reaches for foraging and migrating. WDFW documented Southwest Washington (SW) distinct population segment (DPS) winter-run

steelhead trout (*O. mykiss*) (SW steelhead) as present in Midway Creek, although the available habitat favors cutthroat trout (WDFW 2010, 2011b). No suitable spawning habitat was documented or observed in the project area (WDFW 2010, 2011a,b; StreamNet 2011). SW steelhead, which occurs in the project area, is not federally listed as threatened or endangered (NMFS 2011). Reticulate sculpin is a state monitor species with no federal status (WDFW 2010). LCR coho salmon is federally listed as threatened (70 FR 37160) and described in Section 3.5 (*Threatened and Endangered Species*). Fish are unable to move upstream of the E-4300 Road; fish movement is currently blocked by two culverts.

3.4.1.1 Regulatory Context

Federal, state, and local regulations addressing fish and wildlife in the project area are described below.

Federal Requirements

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. If any special-status species and/or species covered under the MBTA are nesting within the construction footprint, DNR shall 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, and no occurrences are documented within 2 miles of the project area (WDFW 2010). Bald eagle foraging habitat is available lower on Abernathy Creek, but there are no documented occurrences of bald eagles or bald eagle buffer zones, and no suitable nesting habitat within 2 miles of the project area (WDFW 2010). The Proposed Action would not impact protected bald eagle habitat.

State Requirements

Forest Practices Rules

As described in Section 3.2 *(Hydrology, Water Quality, Floodplains, and Wetlands*), the FPR guide the implementation of the Forest Practices Act (Chapter 76.09 RCW). The Forest Practices Act sets standards for forest practices that protect public resources such as fish and wildlife habitat while maintaining a viable timber industry. The Forest Practices Permit decision classified the Proposed Action as a Class III Forest Practice (RCW 43.21C.037 (1) and WAC 197-11-835 (2)) and must comply with the FPR.

Washington Department of Fish and Wildlife – Priority Habitats and Species

Priority species require protective measures for their survival due to their population status, sensitivity to habitat alteration, and/or recreational, commercial, or tribal importance. Priority species include State Endangered, Threatened, Sensitive, and Candidate species; animal aggregations (e.g., heron colonies, bat

colonies) considered vulnerable; and species of recreational, commercial, or tribal importance that are vulnerable.

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. This was determined by gathering and reviewing information regarding fish, wildlife, and habitat in the project vicinity and qualitatively evaluating how the project alternatives could impact fish, wildlife, and habitat present based on available literature sources, project details, and best professional judgment. A site visit, review of existing information, and professional judgment were used to evaluate project effects. A project alternative would reach the significance threshold for effects on fish or wildlife if it would:

- Interfere substantially with the breeding, feeding, or necessary life-cycle movement of fish and wildlife.
- Substantially conflict with federal, 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

Potential effects of the project alternatives on fish and wildlife within the project area are described below.

3.4.3.1 Alternative A: No Action

Under the No Action Alternative, terrestrial and aquatic habitat elements important to fish and wildlife would remain unaltered from their current condition. There would be no effect on wildlife. The culverts would continue to build up sediment and block fish passage to upstream reaches of Midway Creek and result in a moderate, long-term adverse impact on fish habitat.

3.4.3.2 Alternative B: Proposed Action

Under the Proposed Action, FEMA would provide funds to DNR for the installation of a fish-passable culvert, E-4300 Road improvements, and E-4310 Road abandonment.

Wildlife

Wildlife habitat would be affected by construction-related activities such as grading and clearing for the installation of a fish-passable culvert. These activities would clear less than 0.1 acre of previously disturbed riparian vegetation and are considered a minor short-term and long-term impact on wildlife from a direct loss of habitat.

Short-term effects on wildlife by construction-related activities would include erosion, sedimentation, and runoff, as well as noise and activity from heavy equipment and construction personnel. Noise and other disturbances caused by construction crews may cause wildlife to move away from the construction area. 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 threat of mortality for Dunn's salamander and tailed frog would be limited to the 2 to 3 weeks of construction. Construction would occur during the summer when these species are less active and are unlikely to be present in the immediate construction zone because more suitable habitat occurs downstream. However, the limited mobility of these species would preclude them from avoiding direct impact if present in the construction zone. In the long term, habitat for these species would improve under the Proposed Action. In addition, the Proposed Action would abandon 955 feet (0.4 acre) of the E-4310 Road. The abandoned road would be seeded with native grass species and then left to regenerate naturally. The additional habitat is considered a minor long-term beneficial effect on wildlife.

Under the Proposed Action, construction would take place during the drier season, reducing the potential effects from runoff and sedimentation during construction. BMPs and a TESC Plan would be implemented to prevent runoff and sedimentation from reaching streams and aquatic habitats.

Fish

Under the Proposed Action, portions of Midway Creek would likely need to be dewatered during the construction and installation of a fish-passable culvert. Dewatering a portion of the creek could include fish handling, which could stress fish and would have a direct effect on species that inhabit the creek. Construction-related aquatic noise and vibration would be below fish injury thresholds because of the shallow water depth, the topography and roughness of the stream bottom, and river sinuosity, blocking the spread of underwater noise (Burgess and Blackwell 2003).

In addition, construction activities would increase turbidity and sedimentation in Midway Creek. Sedimentation and turbidity are primary contributors to the degradation of salmonid habitat (Bash et al. 2001). High levels of turbidity can reduce feeding efficiency and food availability, clog gillrakers, and erode gill filaments of salmonids (Bash et al. 2001). As noted in Section 2.3, all construction activities would occur during the recommended WDFW in-water work window of July 1 to September 30 (WDFW 2009), when the abundance of outmigrating and rearing salmon and steelhead in Midway Creek would be at the lowest for the year (WDFW 2009). The Proposed Action would remove two fish barrier culverts in the project area. These activities are the initial steps in restoring the natural channel and providing fish access to additional fish habitat upstream. Overall, this would be a moderate long-term beneficial effect on fish and fish habitat.

3.4.3.3 Mitigation Measures

The Proposed Action incorporates avoidance, minimization, and mitigation measures into the project design and implementation, including the BMPs identified in Section 2.3. No additional mitigation measures are proposed for fish and wildlife. If active nests are found during project-related construction, DNR will contact WDFW and ensure compliance with the MBTA.

3.4.3.4 Significant Unavoidable Adverse Effects

No significant unavoidable adverse effects on fish or wildlife are anticipated from either of the alternatives. The Proposed Action would have a moderate long-term beneficial effect on fish and fish habitat.

3.5 THREATENED AND ENDANGERED SPECIES

The following sections describe federally listed threatened and endangered species (listed species) that potentially occur in the project vicinity; applicable plans, policies, regulations, and laws related to listed species; and the effects of the project alternatives on listed species resources. Listed species share habitat with general fish and wildlife species; this discussion therefore overlaps with the previous fish and wildlife section.

3.5.1 AFFECTED ENVIRONMENT

Listed species that potentially occur in the project vicinity were determined from lists obtained from the USFWS website for Cowlitz County, Washington (USFWS 2011b, Appendix A); the NMFS website for federal listing status of species and critical habitats (NMFS 2011, Appendix A); WDFW PHS information (WDFW 2010); and WNHP information for known rare plant occurrences in Cowlitz County, Washington (WNHP 2010, 2011).

The Columbia white-tailed deer (*Odocoileus virginianus*, endangered), Nelson's checkermallow (*Sidalcea nelsoniana*, threatened), bull trout (*Salvelinus confluentus*, threatened), and marbled murrelet (*Brachyramphus marmoratus*, threatened) are included on the USFWS Cowlitz County ESA list (USFWS 2011b) but are not addressed further in this EA because these listed species are not documented within 2 miles of the project area (WDFW 2010; WNHP 2010, 2011) and suitable habitats for these listed species are not present within the project vicinity and Midway Creek subwatershed. The project alternatives would have no effect on Columbia white-tailed deer, Nelson's checkermallow, bull trout, and marbled murrelet.

Northern Spotted Owl

The northern spotted owl (NSO) (*Strix occidentalis caurina*) is federally listed as threatened under the ESA (55 FR 26114-26194). Loss and adverse modification of nesting, roosting, and foraging habitat due to timber harvesting, land conversions, natural disturbances such as fire and windstorms, and increased competition with barred owls (*S. varia*) have led to a decline of northern spotted owls throughout much of their historic range (Courtney et al. 2004). The breeding season for the NSO is from March 1 to August 30 (USFWS 2010). The majority of known NSO sites are in old-growth or mature forest stands (Forsman 2003). Nests typically occur in dense, multi-layered stands with high canopy closure.

An NSO management circle is documented in the project vicinity (WDFW 2010). NSO management circles are used to approximate the home range around an established NSO activity center. The NSO activity center and management circle in the project vicinity were established as a single owl observation with no evidence of a nesting pair. The project vicinity is fragmented patches of 20-year old Douglas-fir, and suitable habitat for the NSO does not occur within many miles of the project area.

Lower Columbia River Coho Salmon

The LCR coho salmon (*Oncorhynchus kisutch*) is federally listed as threatened under the ESA (70 FR 37160). Critical habitat for the LCR coho salmon has not been designated, but on January 10, 2011, NMFS announced the preparation of critical habitat designation for this ESU. WDFW identifies LCR coho salmon as using the project area for migration only (WDFW 2011b). Spawning habitat downstream primarily occurs in the lower reaches of Abernathy Creek (WDFW 2011b).

Coho salmon are found across a wider range of freshwater habitats than any other anadromous salmonid (Good et al. 2005). Coho salmon tolerate a range of conditions and manage to survive in the most unlikely surroundings, such as water quality-impaired farmland and urban ditches. Although they have a relatively high threshold to habitat degradation, their numbers continue to decline.

The vast majority of coho salmon fry remain feeding and growing in the freshwater river environment for at least 1 year after emergence (Sandercock 1991). Once they begin their seaward migration, they generally do not delay in the estuary but pass through directly to the ocean (Thorpe 1994). In the Columbia River estuary, juvenile coho salmon enter the upper estuary between late April and early June, and their numbers peak between May 6 and 17 (Durkin 1982).

3.5.1.1 Regulatory Context

Federal, state, and local regulations addressing threatened and endangered species in the project area are described below.

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. 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. The Proposed Action is covered by DNR's HCPs for incidental take of listed species under ESA through DNR's Incidental Take Permits (DNR 1997, 2005).

In Washington State, forest practices are regulated by means of the Forest Practices Act, established by the legislature, and by the rules established by the Washington Forest Practices Board (the Board). The Board is charged with establishing rules to protect the state's public resources while maintaining a viable timber industry. The Forest Practices Act applies to primarily all non-federal and non-tribal forestland. Much of these forestlands contains habitat for aquatic and riparian-dependent species that have been listed (or may be listed in the future) under the ESA.

Washington's Trust Lands HCP (DNR 1997) is an ecosystem-based forest management plan developed by DNR to protect habitat for species such as the northern spotted owl, marbled murrelet, and riparian-dependant species such as salmon and bull trout. 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 FPHCP (DNR 2005) asserts that the FPR are a means of meeting the requirements of the ESA for species included in the plan. Through the FPHCP, the State of Washington seeks to provide long-term conservation of covered species, support an economically viable timber industry, and create regulatory stability for landowners.

The Proposed Action is consistent with the strategy, objectives, provisions, and BMPs of the HCP, FPHCP, FPR, and RMAP.

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 groundfish fishery, the coastal pelagic fishery, and the Pacific salmon fishery. The project vicinity is only associated with the Pacific salmon fishery EFH as it relates to Chinook (*Oncorhynchus tshawytscha*), coho, and pink salmon (*O. gorbuscha*). EFH for LCR coho salmon occurs in Midway Creek.

3.5.2 METHODOLOGY AND THRESHOLDS OF SIGNIFICANCE

The potential effects of the project alternatives on federally listed threatened or endangered species were evaluated in terms of both regulatory considerations and ecological context and intensity. This was determined by gathering and reviewing information regarding listed species in the project vicinity and qualitatively evaluating how the project alternatives could impact these species and their habitats based on available literature sources, project details, and best professional judgment. Data gathering included a site visit to evaluate habitat present in the project vicinity.

An alternative would result in a significant effect on federally listed threatened or endangered species if it would:

- Substantially degrade the quality of the environment, substantially reduce the habitat of federally listed threatened or endangered species, or reduce the number or restrict the range of the species.
- Interfere substantially with the movement of federally listed threatened or endangered species.
- Conflict with the provisions of an approved local, regional, or state habitat conservation plan or other applicable local, state, and federal regulations.

3.5.3 ENVIRONMENTAL CONSEQUENCES

This section describes the potential effects of the project alternatives on federally listed threatened or endangered species within the project area. Measures to avoid, reduce, or mitigate for impacts on these resources are also identified where applicable.

3.5.3.1 Alternative A: No Action

Under the No Action Alternative, terrestrial and aquatic habitat elements important to listed species would remain unaltered from their current condition. No construction-related noise or terrestrial habitat modification would take place. There would be no effect on the NSO. However, the culverts would continue to build up sediment and block fish passage to upstream reaches of Midway Creek and result in a moderate long-term effect on LCR coho salmon.

3.5.3.2 Alternative B: Proposed Action

Under the Proposed Action, FEMA would provide funds to DNR for the installation of a fish-passable culvert, E-4300 Road improvements, and E-4310 Road abandonment. Potential impacts on threatened and endangered species are described below.

Northern Spotted Owl

Under the Proposed Action, less than 0.1 acre of previously disturbed riparian vegetation would be cleared. None of this disturbance is within suitable NSO habitat. In addition, adherence of the project to DNR's HCP for the NSO would avoid the potential impact on spotted owls, and contribute to the long-term conservation of the species (DNR 1997). Therefore, the Proposed Action would have no impacts on NSO or its habitat.

Lower Columbia River Coho Salmon

Under the Proposed Action, effects described in Section 3.4.3.2 (*Alternative B: Proposed Action*) for fish species also apply to LCR coho salmon. They include: dewatering a portion of Midway Creek, potential fish handling, and increased turbidity during construction. All construction activities would occur during the recommended WDFW in-water work window of July 1 to September 30 (WDFW 2009), when the abundance of outmigrating and rearing LCR coho salmon in Midway Creek would be at its lowest for the year. The Proposed Action would remove a fish barrier culvert on Midway Creek and a fish barrier culvert on a tributary to Midway Creek. These activities are the initial steps in restoring the natural channel and providing fish access to additional fish habitat upstream. Overall, this would be a moderate long-term beneficial effect on fish and fish habitat.

In addition, the Proposed Action is consistent with the goals, provisions, and BMPs of the HCP, FPHCP, FPR, and RMAP. This framework provides for long-term conservation of covered species including coho salmon. The project includes specific elements to avoid and/or minimize potential impacts on fish and habitat through design and BMPs and implementing timing restrictions to avoid working in the water during times when coho salmon are most likely present in the project area. In addition, by abandoning a segment of E-4310 Road and rerouting traffic to the E-4300 Road, current impacts on fish and fish habitat would be avoided.

Because the Proposed Action falls within the scope of activities covered by the HCPs (DNR 1997, 2005), ESA consultation for the protection of federally listed species has already occurred with USFWS and NMFS, and no further consultation is required by FEMA. Carrying out these activities in compliance with the conditions of the HCPs provides compliance with ESA.

Essential Fish Habitat (EFH)

Under the Proposed Action, fish passage would be restored and coho salmon EFH would be enhanced, resulting in long-term, moderate beneficial effects in Midway Creek. Construction-related effects on EFH would be short term and minimized through the implementation of BMPs. No direct loss of EFH is anticipated. Therefore, the Proposed Action would have a "no adverse effect" determination regarding EFH under MSA, and no consultation with NMFS would be required. In addition, the DNR HCPs satisfy consultation requirements of the MSA (USFWS and NMFS 2004).

3.5.3.3 Mitigation Measures

As described in Section 2.3 (*Alternative B - Proposed Action*) and described above, the project would adhere to the BMPs listed in the HCP, FPHCP, FPR, and RMAP. No additional mitigation measures are necessary.

3.5.3.4 Significant Unavoidable Adverse Effects

No significant unavoidable effects on threatened and endangered species are anticipated from either of the alternatives. The Proposed Action would represent a moderate long-term beneficial effect on listed species (i.e., LCR coho) and EFH by removing fish barriers, installing a fish-passable culvert, and restoring stream and riparian habitat.

3.6 ENVIRONMENTAL JUSTICE

Environmental justice is the fair 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.

3.6.1 AFFECTED ENVIRONMENT

The project is located in rural Cowlitz County on DNR-managed forest lands. For the purpose of evaluating environmental justice, the affected area is defined as the population of Cowlitz County; statistics for the state of Washington are also provided for comparison and context. Table 3.6-1 presents the race and ethnicity of Cowlitz 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 3.6-1. Race/Ethnicity in Cowlitz County and Washington State, 2009.

Race/Ethnicity	Cowlitz County (Percent)	Washington State (Percent)
White	93.4	83.8
Black	0.9	3.9
American Indian and Alaska Native	1.7	1.8
Asian	1.5	7.0
Pacific Islander and Native Hawaiian	0.2	0.5
Two or more races	2.5	3.1
Hispanic or Latino (of any race)	7.2	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 Cowlitz County was estimated at $47,832; for Washington as a whole, it was $58,081 (U.S. Census Bureau 2011). Approximately 14.8 percent of the Cowlitz County population lived below the poverty threshold, compared to 11.3 percent of the population of Washington as a whole.

3.6.1.1 Regulatory Context

EO 12898 (Environmental Justice, 59 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 (EPA 1998). Potential effects are evaluated by examining the demographics of the area affected by the Proposed Action(s) and the potential to have disproportionately high adverse effects on minority and low-income populations.

3.6.2 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. Although not specifically stated in the text, 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 living under the threshold for low income.

A project alternative would have a significant for environmental justice effect if it would:

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

3.6.3 ENVIRONMENTAL CONSEQUENCES

3.6.3.1 Alternative A: No Action

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

3.6.3.2 Alternative B: Proposed Action

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

3.6.3.3 Mitigation Measures

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

3.6.3.4 Significant Unavoidable Adverse Effects

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

3.7 TRANSPORTATION AND ACCESS

3.7.1 AFFECTED ENVIRONMENT

Access to the project area is via SR 4, then north on Abernathy Creek Road (E-4000), and east to the E-4100 Road which connects to both the E-4300 and E-4310 roads. Abernathy Creek Road is the main paved road to areas in the project vicinity and is used primarily to access forest lands. The E-4100 Road is surfaced with crushed gravel. Currently, the E-4310 Road is the only access road to the road system that includes the E-4300A, E-4320, E-4340, E-4350, and E-4360 roads west of Midway Creek (Figure 3.7-1, *Transportation and Access*). Access to the same tracts of land west of Midway Creek on the E-4300 Road was disrupted when a culvert that spanned Midway Creek was removed 5 to 7 years ago. As described in Section 3.1 (*Soil Resources*), road densities are higher in the Midway Creek watershed (7 miles per square mile) when compared with WRIA 25 (4.8 miles per square mile). These roads are primarily used for forest management with little to no recreation opportunities in areas accessed by the project area roads.

3.7.2 METHODOLOGY AND THRESHOLDS OF SIGNIFICANCE

The potential effects of the project alternatives on transportation and access were evaluated within the context of the transportation network in the project vicinity. This was determined by gathering and reviewing information from DNR and publicly available information regarding roads and traffic volumes in the project vicinity, and both quantitatively and qualitatively assessing how the project alternatives could impact the resources present based on project information and best professional judgment. A project alternative would have a significant effect on transportation and access if it would:

- Result in physical constraints or congestion that would impede travel.
- Result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion.
- Substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., recreation and forestry vehicles).

3.7.3 ENVIRONMENTAL CONSEQUENCES

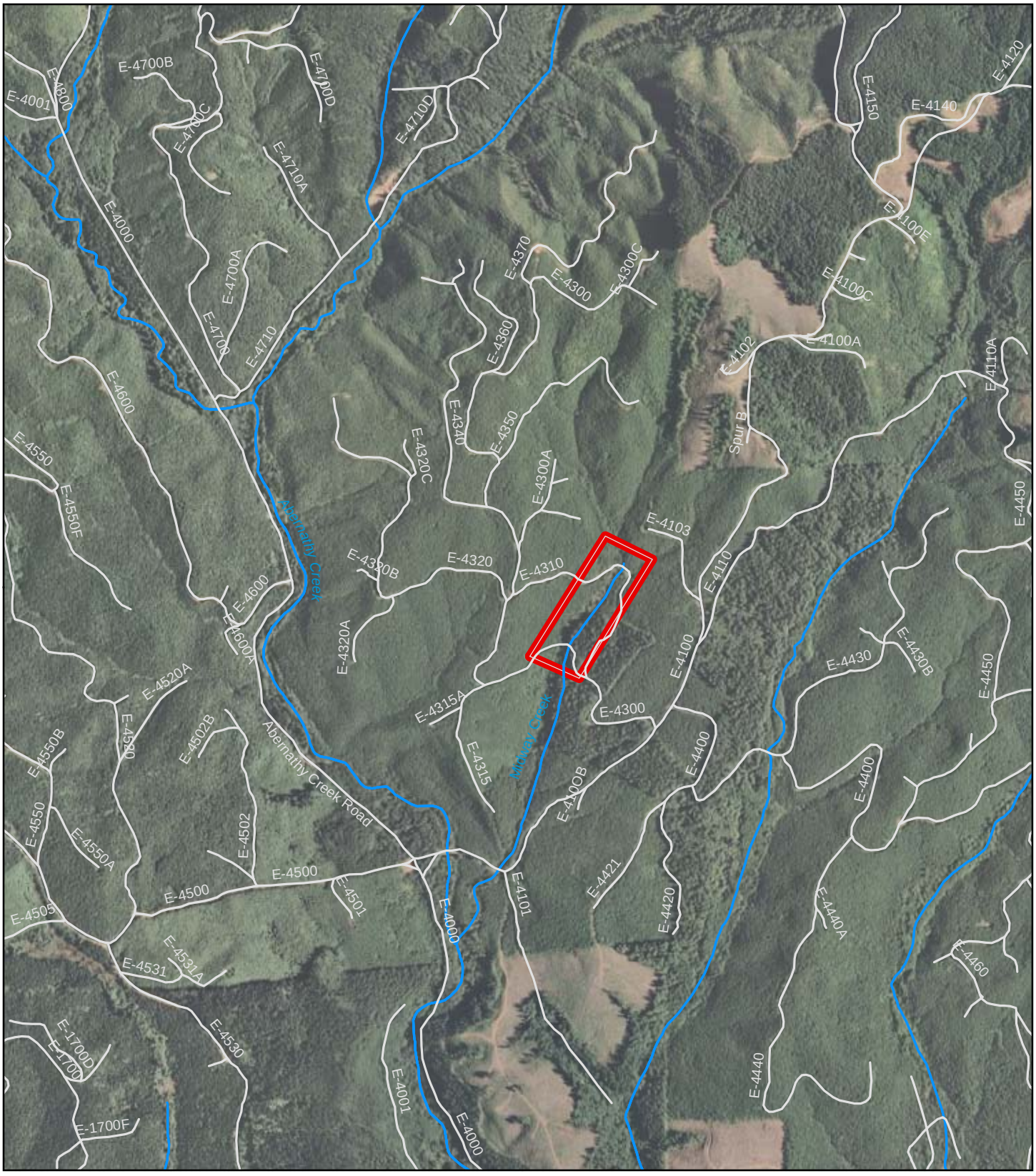
This section describes the potential effects of the project alternatives on transportation and access in the project vicinity. Measures to avoid, reduce, or mitigate impacts on these resources are also identified.

3.7.3.1 Alternative A: No Action

Under the No Action Alternative, FEMA would not provide funds to DNR for the Proposed Action. The E-4310 Road would continue to be the only access road to DNR lands over Midway Creek. The E-4310 Road may be susceptible to future damage because of the undersized culvert. However, DNR has maintained the road and culvert and no past damage has occurred. Transportation or access would not likely be disrupted. There would be no effect on transportation or access.

3.7.3.2 Alternative B: Proposed Action

Under the Proposed Action, FEMA would provide funds to DNR for the installation of a fish-passable culvert, E-4300 Road improvements, and E-4310 Road abandonment. The Proposed Action would abandon the 955-foot segment of the E-4310 Road and reroute traffic to the E-4300 Road with no disruption in transportation access or service.



Legend

DNR Road

Study Area

Figure 3.7-1. Transportation and Access

Washington Department of Natural Resources
Midway Creek Fish Culvert and Road Abandonment Project

0 1,000 2,000
Feet

In addition, the Proposed Action would require transporting construction equipment and supplies. This would add trips with heavy equipment at the beginning and end of the construction period. Additional passenger car trips also would be necessary to transport workers and inspection staff to and from the site throughout the 2- to 3-week construction phase. These trips would be a minor addition to local traffic volumes and would not cause congestion; local disruption or blockage, if any, would be temporary (2 to 3 weeks) and minor. No increase in traffic volume, beyond a negligible and temporary increase during construction, is anticipated and no hazards would be created or increased due to any aspect of the Proposed Action. The improved E-4300 Road is located in a more favorable topographic location with little threat of damage during storm events when compared to the E-4310 Road. Therefore, the Proposed Action would have a moderate beneficial effect on transportation and access.

3.7.3.3 Mitigation Measures

The project would have no significant adverse transportation and access effects; no mitigation measures are necessary.

3.7.3.4 Significant Unavoidable Adverse Effects

The project would have no significant unavoidable adverse effects on transportation and access. The Proposed Action would have moderate beneficial long-term effects on transportation and access.

3.8 CULTURAL RESOURCES

Cultural resources include properties of historical, cultural, and/or archaeological significance. No prehistoric, ethnographic, or historic-era cultural sites, features, artifacts, or culturally sensitive properties have been documented in the project area (DNR 2010).

3.8.1 AFFECTED ENVIRONMENT

The Lower Columbia River subbasin included Native American villages and sites that date from 15,000 years ago. Aboriginal people were drawn to the abundant anadromous fish runs and located seasonal and permanent villages along the river with four basic sites: winter villages, summer villages, shellfish-gathering camps, and hunting-fishing camps (Minor 1983). The project vicinity may have included the Chinookan groups of Cathlamet and Wahkiakum and Southwest Coast Salish speaking Cowlitz (Ruby and Brown 1992). These groups were largely influenced by salmon and seasonal fish migration but also supplemented subsistence with seasonal harvest of wapato (*Sagittaria latifolia*) and camas (*Camas quamash*) (Silverstein 1990). Hunting activities were likely undertaken throughout the year.

As with other tribes in the region, the Cathlamet and Cowlitz suffered the ill effects of European-introduced diseases such as influenza, smallpox, and measles (Ruby and Brown 1992). Likely as a result of the epidemics, villages at the mouth of the Cowlitz River that had been occupied by Cathlamet became Cowlitz (Hajda 1990). By 1900, the Middle Chinook or Cathlamet speaking groups, along with many other Lower Chinook groups, had merged with the Willapa Bay Salish (Silverstein 1990). Some Lower Cowlitz may have moved to the coast with the Middle Chinook, while some Upper Cowlitz likely moved to a reservation on the Chehalis River that was officially recognized by 1846.

The first Euro-American explorers to the Pacific Northwest came by water. Spaniard Bruno Heceta may have spotted the mouth of the Columbia River as early as 1775 (Urrutia 1998). By the 1790s, Europeans were trading along the Pacific Northwest coast, and in 1792, American captain, Robert Gray, explored the mouth of the Columbia River (which he called Columbia's River) in his ship, the Columbia. Within 5 years of the Lewis and Clark expedition, fur-traders began exploring the area. By 1847, Scottish emigrant Peter W. Crawford was the first to claim land on the Cowlitz, near Kelso, and soon after began platting towns in this area (Urrutia 1998).

Although the project vicinity has a robust cultural resource history, the geophysical characteristics of the project area (moderately steep slopes and narrow, scoured creek banks) suggest that it is unlikely that any prehistoric or historic-era cultural resources not currently identified would be discovered within the project area. The project area has had construction activities and fill placed to create and maintain logging roads, making the project footprint itself unlikely to contain undiscovered archaeological artifacts. However, areas adjacent to the footprint of the project area may contain previously undiscovered artifacts due to the proximity to anadromous fish runs.

3.8.1.1 Regulatory Context

National Historic Preservation Act (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 is also consulting under Section 106 with the Cowlitz Indian Tribe and Chehalis Tribe 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)

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.

3.8.2 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.

3.8.3 Environmental Consequences

3.8.3.1 Alternative A: No Action

Under the No Action Alternative, FEMA would not provide funds to DNR for the Proposed Action. No ground disturbance or clearing would occur. Therefore, the No Action Alternative would have no effect on cultural resources.

3.8.3.2 Alternative B: Proposed Action

Under the Proposed Action, FEMA would provide funds to DNR for the installation of a fish-passable culvert, E-4300 Road improvements, and E-4310 Road abandonment.

A 2010 study undertaken by DNR indicated that no prehistoric, ethnographic, or historic-era cultural sites, features, artifacts, or culturally sensitive properties have been documented in the project area (DNR 2010). The DAHP predictive model was review by Historical Research Associates (HRA). The model indicates that there is a moderate possibility of identifying an archaeological site within the area of potential effects (APE). However, the geophysical characteristics of the APE (moderately steep slopes and scoured creek banks) indicate that it is unlikely that an archaeological site would be present (FEMA 2011).

FEMA has consulted with the SHPO; DAHP provided concurrence regarding the APE and Determination of No Historic Properties Affected in a letter dated May 25, 2011 (Appendix B). In addition, FEMA is consulting with the Chehalis and Cowlitz Tribes on the Proposed Action. If archaeological resources are discovered during construction, all work would cease and FEMA would follow inadvertent discovery protocols.

3.8.3.3 Mitigation Measures

The No Action and Proposed Action alternatives would have no effect on cultural resources; 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 and established protocols would be followed.

3.8.3.4 Significant Unavoidable Adverse Effects

No significant unavoidable adverse effects on cultural resources are anticipated from either of the alternatives.

3.9 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 2008).

Although the cause of the December 2007 disaster cannot be directly attributed to climate change, changes in precipitation patterns and volatility in precipitation-driven systems have triggered landslides, and potential damage cannot be ruled out for future events that may be associated with climate change. Rather than repair the C-4500 Road section that was damaged in the December 2007 flood, this alternate project (the Proposed Action) would abandon a small segment of the E-4310 Road, remove fish passage barriers, and install a fish-passable culvert that restores some natural hydrologic function of Midway Creek; the project would substantially reduce any potential future threat of damage (such as debris slides, plugging of culvert, site erosion) along Midway Creek and the E-4300 Road that might be exacerbated by climate change.

The 2 to 3 weeks of construction and ongoing maintenance of the fish-passable culvert would result in an increase of greenhouse gas emissions from equipment operation and worker transportation. This increase would be minor in the short term during construction and negligible in the long term for future maintenance of the Proposed Action. No mitigation measures related to climate change are proposed for the project alternatives.

3.10 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). Past, present, and reasonably foreseeable future actions in the project vicinity include timber production by DNR. No timber sales are planned in the project vicinity; most stands are 20-year-old trees that are not suitable for harvest. Effects of the Proposed Action that may have an incremental effect when added to other activities in the area include minor adverse impacts from construction-related activities and minor to moderate beneficial effects from road abandonment and fish passage improvements, as described below.

Construction-Related Activities

Vegetation clearing and soil disturbance could have negligible cumulative effects on the ecological resources (e.g., soils, hydrology, vegetation, and fish and wildlife) in the Abernathy Creek subwatershed (18,295 acres). Under the Proposed Action, less than 0.1 acre of previously disturbed riparian area would be cleared. When considered cumulatively with other activities in the project vicinity and other DNR projects related to the December 2007 storms under the FEMA 1734-DR-WA disaster, this incremental loss would result in cumulative effects that are minor over the short term and negligible over the long term.

Road Abandonment

As described in Section 3.1 (*Soil Resources*), road density can be used to help understand the potential for impacts from road surface erosion, drainage, and sediment delivery to streams. Many factors affect the degree of impact on terrestrial and aquatic resources from roads, and there can be a greater possibility of adverse impacts as road density in a watershed increases. The abandonment of 955 feet (0.4 acre) of forest road when added to other activities in the area would be a minor beneficial effect, and cumulative effects over the long term would be minor.

Fish Passage Improvement

As described in Chapter 1, installation of a fish-passable culvert at Midway Creek is related to the court ruling in *United States, et al., v. State of Washington, et al*. In 2007, the court ruled that the right of taking fish, secured to the Tribes in the Stevens Treaties, imposes a duty upon the state to refrain from building or operating culverts under state-maintained roads that hinder fish passage and thereby diminish the number of fish that would otherwise be available for Tribal harvest. The removal of fish barrier culverts and the installation of a fish-passable culvert in Midway Creek when added to restored fish passage in the project vicinity would be a minor beneficial effect, and cumulative effects over the long term would be moderate.

4.0 Consultation & Coordination

4.1 PUBLIC INVOLVEMENT

FEMA sent a scoping letter to agencies, Tribes, and local interested parties on March 1, 2011. The letter provided a description of the proposed project and requested comments on issues and concerns, the range of alternatives, and potential effects regarding the project. One comment was received from Ecology; the scoping letter and comment received are included in Appendix B. These comments were considered and addressed in the preparation of this EA.

4.1.1 COMMENTS ON THE DRAFT EA

The Draft EA was released for public review on November 2, 2011. Copies were sent directly to those agencies, Tribes, and stakeholders that participated in scoping and are listed in Chapter 6, *Distribution*. A public notice announced its availability to the general public for comment, and the Draft EA was available for viewing at the City of Cathlamet Library. The Public Notice and Draft EA were posted to the FEMA and DNR websites.

No comments were received during 30-day comment period (November 2 to December 2). Based on the analysis presented in the Draft EA and the lack of comments received, no substantive changes have been made to the Final EA.

The Final EA and FONSI are available on the FEMA and DNR websites.

4.2 AGENCIES AND TRIBES

FEMA has consulted 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 there are federally threatened or endangered species present under the Endangered Species Act, consultation with USFWS and NMFS is required. DNR intends to comply with the federal ESA through their HCPs that allow for incidental take for specific forest management activities. These HCPs fulfill requirements for ESA consultation. The project is determined to have “no adverse effect” regarding EFH under MSA and no consultation with NMFS is required.

On May 18, 2011, FEMA sent a Section 106 consultation letter to Dr. Allyson Brooks, the SHPO at DAHP. Also on May 18, FEMA sent Section 106 consultation letters to the concerned Tribes, including the Honorable William (Bill) Iyall, Chair of Cowlitz Indian Tribe and the Honorable David Burnett, Chair of the Chehalis Tribe. The letters restated the description of the proposed project and summarized the analyses undertaken to determine if historic properties are located in the APE. In the letter to the SHPO, FEMA requested concurrence with its determination of "No Historic Properties Affected." In the letters to the Tribes, FEMA requested input regarding their concerns for the proposed project. The Washington State Archaeologist, Dr. Robert Whitlam, responded on behalf of Dr. Brooks in a letter dated May 25, 2011 (Appendix B). Dr. Whitlam concurred with the determination of "No Historic Properties Affected" and also

requested that correspondence or comments from concerned parties be forwarded to the DAHP. To date, no communication has been received from the Tribes.

5.0 Preparers

FEDERAL EMERGENCY MANAGEMENT AGENCY

Mark Eberlein, Regional Environmental Officer, Region X
Janet Curran, Environmental Protection Specialist, Region X
Susan King, Environmental Specialist, Region X

AECOM

Jan Mulder, Senior Reviewer
Glen Mejia, Project Manager and Ecologist
Peter Carr, Editor and Environmental Planner

6.0 Distribution

FEDERAL AGENCIES

U.S. Army Corps of Engineers (Corps)
- Danette Guy, Cowlitz County

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, Washington Fish and Wildlife Office

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

TRIBES/TRIBAL ORGANIZATIONS

Cowlitz Indian Tribe
- William Iyall, Tribal Chairman
- Dave Burlingame, Cultural Resources
- Shannon Wills, Natural Resources

Chehalis Tribe
- David Burnett, Tribal Chairman
- Richard Bellon, Cultural Resources
- Glen Connelly, Natural Resources

STATE AGENCIES

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

Washington Department of Ecology (Ecology)
- Peg Plummer, SEPA Register Coordinator
- Rod Thysell, Forest Practices, Vancouver, WQ
- Mike Drumright, Solid Waste
- Sonia Mendoza, SEPA Coordinator

Washington Department of Fish and Wildlife (WDFW)
- Teresa Eturaspe, SEPA Review Specialist
- Sam Kolb, Habitat Biologist Forest Practices, Region 5

Washington Department of Natural Resources (DNR)
- Jason Mettler, Project Manager, Engineer, Engineering and General Services Division
- Ed Bressler, Forest Practices
- Rochelle Knust, SEPA Center

Washington Military Department, Emergency Management Division (EMD)
- Gary Urbas, Public Assistance
- Jon Holmes, Public Assistance Coordinator

Cowlitz County
- Mike Wojtowicz, Director, Planning Department

LIBRARIES

- City of Cathlamet Library

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Appendices

Appendix A Threatened and Endangered Species Lists

Appendix B Correspondence and Consultation

Appendix A Threatened and Endangered Species Lists

LISTED AND PROPOSED ENDANGERED AND THREATENED SPECIES AND CRITICAL HABITAT; CANDIDATE SPECIES; AND SPECIES OF CONCERN
IN COWLITZ COUNTY
AS PREPARED BY
THE U.S. FISH AND WILDLIFE SERVICE
WASHINGTON FISH AND WILDLIFE OFFICE

(Revised December 15, 2010)

LISTED

Bull trout *(Salvelinus confluentus)* – Coastal-Puget Sound DPS
Columbian white-tailed deer *(Odocoileus virginianus leucurus)*
Marbled murrelet *(Brachyramphus marmoratus)*
Northern spotted owl *(Strix occidentalis caurina)*

Major concerns that should be addressed in your Biological Assessment of project impacts to listed animal species include:

1. Level of use of the project area by listed species.

2. Effect of the project on listed species' primary food stocks, prey species, and foraging areas in all areas influenced by the project.

3. Impacts from project activities and implementation (e.g., increased noise levels, increased human activity and/or access, loss or degradation of habitat) that may result in disturbance to listed species and/or their avoidance of the project area.

Sidalcea nelsoniana (Nelson's checker-mallow)

Major concerns that should be addressed in your Biological Assessment of project impacts to listed plant species include:

1. Distribution of taxon in project vicinity.

2. Disturbance (trampling, uprooting, collecting, etc.) of individual plants and loss of habitat.

3. Changes in hydrology where taxon is found.

DESIGNATED

Critical habitat for bull trout
Critical habitat for the marbled murrelet

PROPOSED

Revised critical habitat for bull trout

CANDIDATE

North American wolverine *(Gulo gulo luteus)* – contiguous U.S. DPS

SPECIES OF CONCERN

Bald eagle *(Haliaeetus leucocephalus)*
Cascades frog *(Rana cascadae)*
Coastal cutthroat trout *(Oncorhynchus clarki clarki)*
Columbia torrent salamander *(Rhyacotriton kezeri)*
Larch Mountain salamander *(Plethodon larselli)*
Long-eared myotis *(Myotis evotis)*
Long-legged myotis *(Myotis volans)*
Northern goshawk *(Accipiter gentilis)*
Northwestern pond turtle *(Emys (= Clemmys) marmorata marmorata)*
Olive-sided flycatcher *(Contopus cooperi)*
Pacific lamprey *(Lampetra tridentata)*
Pacific Townsend's big-eared bat *(Corynorhinus townsendii townsendii)*
Peregrine falcon *(Falco peregrinus)*
River lamprey *(Lampetra ayresi)*
Tailed frog *(Ascaphus truei)*
Valley silverspot (butterfly) *(Speyeria zerene bremeri)*
Van Dyke's salamander (*Plethodon vandykei*)
Western toad *(Bufo boreas)*
Cimicifuga elata (tall bugbane)

Endangered Species Act Status of West Coast Salmon & Steelhead

(Updated July 1, 2009)

Species[1]			*Current Endangered Species Act Listing Status*[2]	*ESA Listing Actions Under Review*
Sockeye Salmon (*Oncorhynchus nerka*)	1	Snake River	***Endangered***	
	2	Ozette Lake	***Threatened***	
	3	Baker River	*Not Warranted*	
	4	Okanogan River	*Not Warranted*	
	5	Lake Wenatchee	*Not Warranted*	
	6	Quinalt Lake	*Not Warranted*	
	7	Lake Pleasant	*Not Warranted*	
Chinook Salmon (*O. tshawytscha*)	8	Sacramento River Winter-run	***Endangered***	
	9	Upper Columbia River Spring-run	***Endangered***	
	10	Snake River Spring/Summer-run	***Threatened***	
	11	Snake River Fall-run	***Threatened***	
	12	Puget Sound	***Threatened***	
	13	Lower Columbia River	***Threatened***	
	14	Upper Willamette River	***Threatened***	
	15	Central Valley Spring-run	***Threatened***	
	16	California Coastal	***Threatened***	
	17	Central Valley Fall and Late Fall-run	***Species of Concern***	
	18	Upper Klamath-Trinity Rivers	*Not Warranted*	
	19	Oregon Coast	*Not Warranted*	
	20	Washington Coast	*Not Warranted*	
	21	Middle Columbia River spring-run	*Not Warranted*	
	22	Upper Columbia River summer/fall-run	*Not Warranted*	
	23	Southern Oregon and Northern California Coast	*Not Warranted*	
	24	Deschutes River summer/fall-run	*Not Warranted*	
Coho Salmon (*O. kisutch*)	25	Central California Coast	***Endangered***	
	26	Southern Oregon/Northern California	***Threatened***	
	27	Lower Columbia River	***Threatened***	• Critical habitat
	28	Oregon Coast	***Threatened***	
	29	Southwest Washington	*Undetermined*	
	30	Puget Sound/Strait of Georgia	***Species of Concern***	
	31	Olympic Peninsula	*Not Warranted*	
Chum Salmon (*O. keta*)	32	Hood Canal Summer-run	***Threatened***	
	33	Columbia River	***Threatened***	
	34	Puget Sound/Strait of Georgia	*Not Warranted*	
	35	Pacific Coast	*Not Warranted*	
Steelhead (*O. mykiss)*	36	Southern California	***Endangered***	
	37	Upper Columbia River	***Threatened***	
	38	Central California Coast	***Threatened***	
	39	South Central California Coast	***Threatened***	
	40	Snake River Basin	***Threatened***	
	41	Lower Columbia River	***Threatened***	
	42	California Central Valley	***Threatened***	
	43	Upper Willamette River	***Threatened***	
	44	Middle Columbia River	***Threatened***	
	45	Northern California	***Threatened***	
	46	Oregon Coast	***Species of Concern***	
	47	Southwest Washington	*Not Warranted*	
	48	Olympic Peninsula	*Not Warranted*	
	49	Puget Sound	***Threatened***	• Critical habitat
	50	Klamath Mountains Province	*Not Warranted*	
Pink Salmon *(O. gorbuscha)*	51	Even-year	*Not Warranted*	
	52	Odd-year	*Not Warranted*	

1 The ESA defines a “species” to include any distinct population segment of any species of vertebrate fish or wildlife. For Pacific salmon, NOAA Fisheries Service considers an evolutionarily significant unit, or “ESU,” a “species” under the ESA. For Pacific steelhead, NOAA Fisheries Service has delineated distinct population segments (DPSs) for consideration as “species” under the ESA.

Other ESA-Listed Species

Under the jurisdiction of NOAA Fisheries that may occur off Washington & Oregon:

- distinct population segment, or DPS, of bocaccio *(Sebastes paucispinis)* (E) in Puget Sound
- distinct population segment, or DPS, of canary rockfish *(Sebastes pinniger)* (T) in Puget Sound
- distinct population segment, or DPS, of yelloweye rockfish *(Sebastes ruberrimus)* (T) in Puget Sound
- southern distinct population segment, or DPS, of eulachon (Columbia River smelt) *(Thaleichthys pacificus)* (T)
- southern distinct population segment, or DPS, of north American green sturgeon (*Acipenser medirostris*) (T), listed in the NOAA Fisheries Southwest Region

(E) = Endangered
(T) = Threatened

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7600 Sand Point Way NE, Seattle, WA 98115-0070
Email: Content Manager

Page last updated: June 15, 2010

Appendix B Correspondence and Consultation

From: King, Susan
To: undisclosed-recipients
Subject: NEPA Environmental Assessment Scoping for Midway Creek Fish Culvert Project, Cowlitz County
Date: Tuesday, March 01, 2011 5:28:30 PM
Attachments: Scoping Notice 3-1-11.pdf

Interested Parties:

The Federal Emergency Management Agency (FEMA) is proposing to provide partial funding to the Washington Department of Natural Resources (DNR) for a project on Midway Creek, located along a DNR forest road in Cowlitz County. The project involves installing a fish passable culvert, removing existing culverts, and abandoning a small segment of road. As part of its compliance responsibilities under the National Environmental Policy Act (NEPA), FEMA is inviting you to participate in the scoping process for preparation of an Environmental Assessment (EA).

Please review the Notice for information regarding the project. It also provides direction for submitting your written comments, which are requested by April 1, 2011. You may do so by responding to this email, which is being sent by Susan King of my staff; or by sending them via regular mail at the address in the attachment.

Mark Eberlein
Regional Environmental Officer
FEMA Region X

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

FEMA

March 1, 2011

RE: FEMA Proposal to Fund the Midway Creek Fish Culvert and Road Abandonment 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 for an alternate project to install a fish passable culvert in Midway Creek, remove existing culverts, and abandon a small segment of road in Cowlitz County, Washington.

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 described 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 a severe winter storm and flooding in December 2007, the DNR C-4500 Road in Capitol State Forest, Thurston County, was damaged. The President declared the flooding event a major disaster (FEMA 1734-DR-WA), making funds available for public infrastructure repairs. DNR determined that the public welfare would not be best served by restoring the damaged C-4500 Road. Under these circumstances, DNR proposes an alternate project that improves fish passage with the installation of a fish passable culvert and removal of fish barriers in Midway Creek. The alternate project is located on other DNR lands in the region, approximately 45 miles south of the damaged C-4500 Road.

The project area is located on DNR forest roads E-4300 and E-4310 off of Abernathy Creek Road, north of State Route 4, approximately 11.5 miles northeast of Cathlamet, Washington, in western Cowlitz County. The project area is in the NW 1/4 of Section 9, Township 9 North, and Range 4 West (see the attached maps). The project coordinates are 46.28024 N (latitude)/ -123.17812 W (longitude).

The project includes the installation of a new fish passable culvert in Midway Creek for the E-4300 Road, abandonment of a 955-foot segment of the E-4310 Road, and removal of two culverts considered fish barriers on the E-4310 Road. The E-4300 and E-4310 roads access the same tracts of forest land and fragment forested habitat and the Midway Creek stream corridor. DNR proposes to abandon a segment of the E-4310 Road because its susceptibility to erosion is greater than the E-4300 Road. An alternative to the proposed action involves replacing the two culverts on the E-4310 Road with new fish passable culverts.

The project is intended to improve the aquatic environment by removing a fish barrier, providing fish access to the headwaters of Midway Creek, abandoning a small road segment, and improving forest habitat

connectivity. We are also interested in other alternatives you may have to restore fish passage in Midway Creek and provide safe access for timber management in the area.

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:

Susan King
Environmental Specialist
FEMA Region X
130 228th St. SW
Bothell, WA 98021
susan.king@dhs.gov

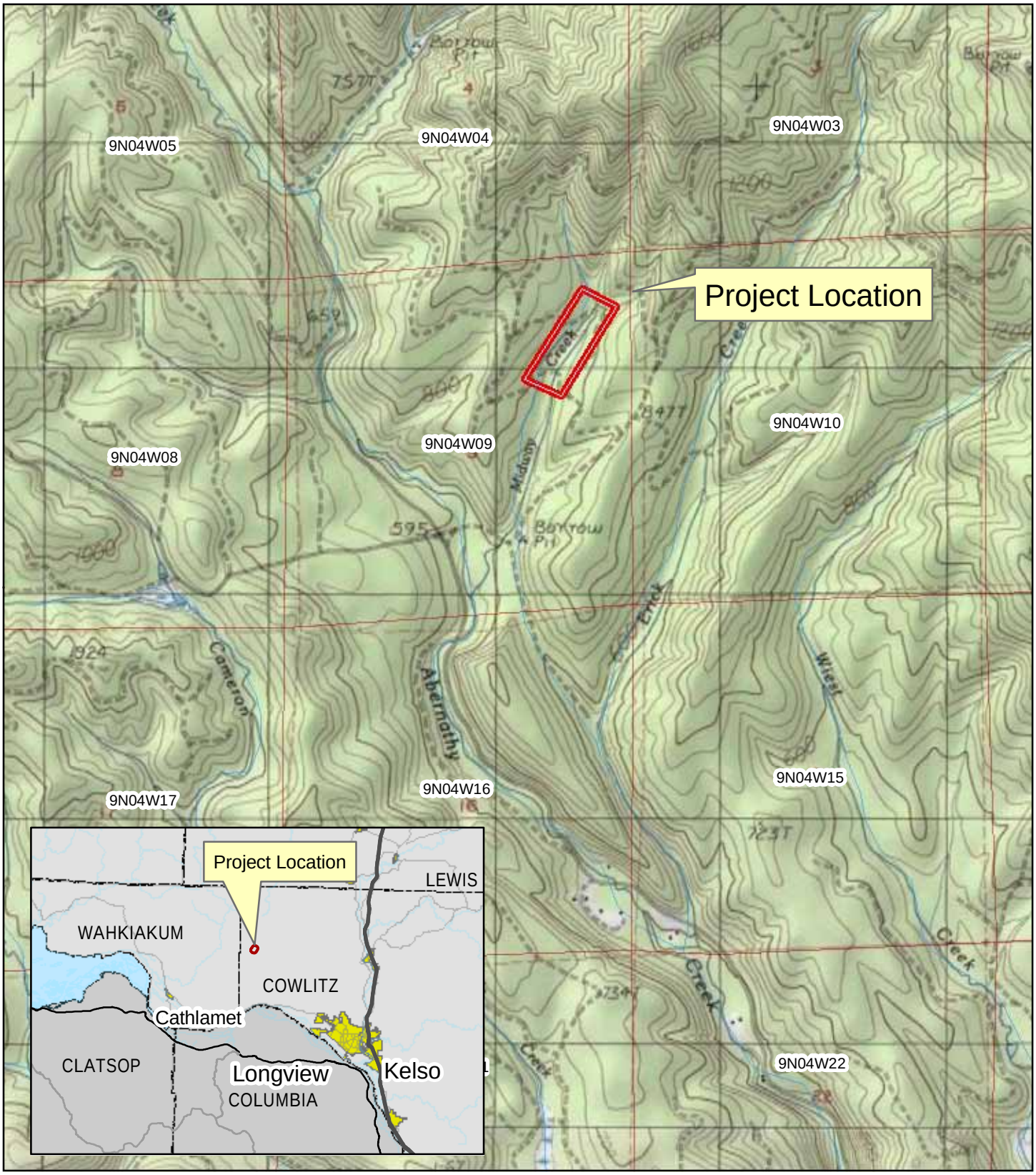
Please submit your comments by April 1, 2011.

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 Susan via email (susan.king@dhs.gov) or phone (425-482-3729) or me via email (mark.eberlein@dhs.gov) or phone (425-487-4735).

Sincerely,

Mark Eberlein
Regional Environmental Officer
FEMA Region X

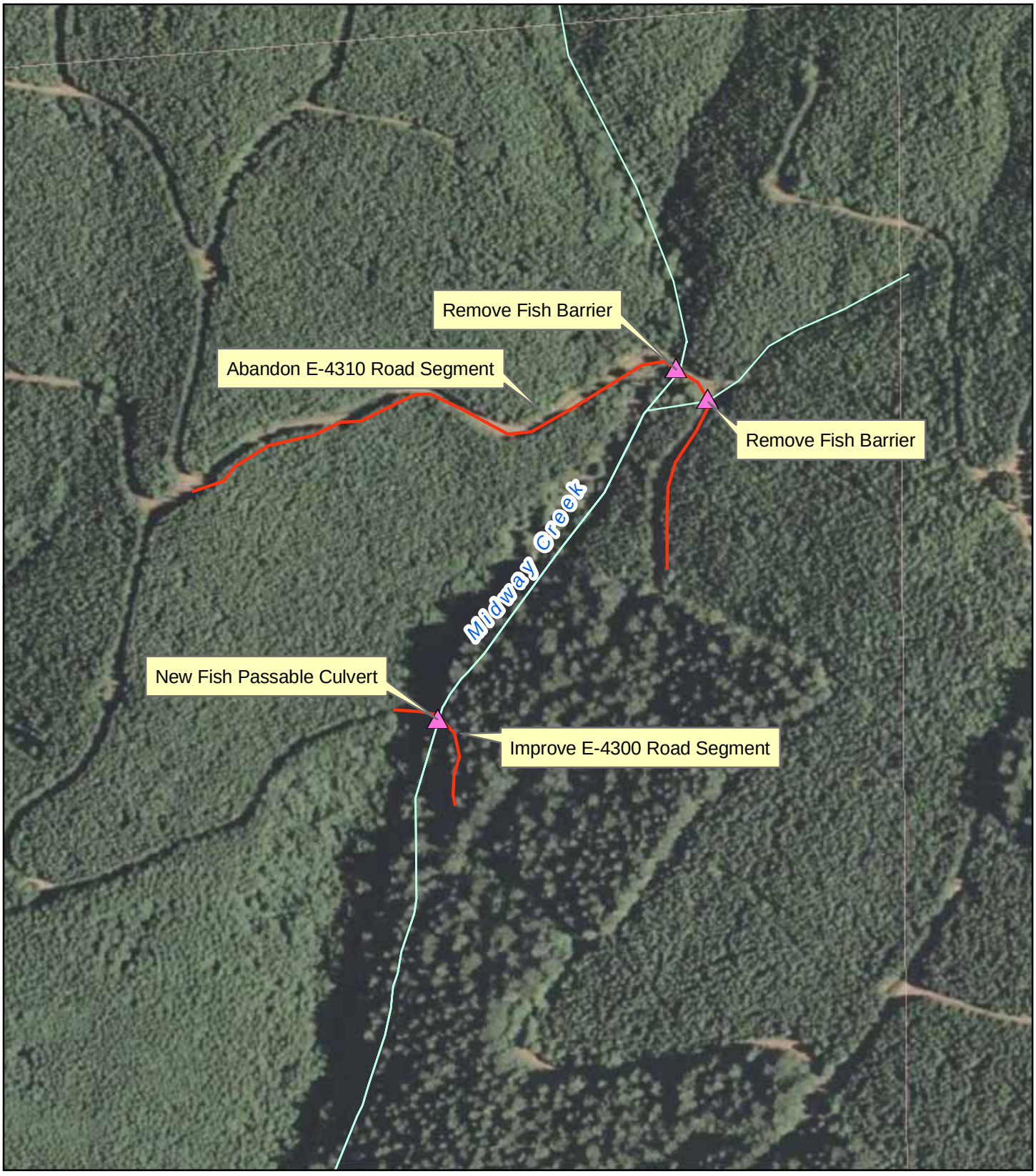
Enclosure: Project Location Maps
Distribution List



Project Location

Washington Department of Natural Resources
Midway Creek Fish Culvert and Road Abandonment Project

0 1,000 2,000
Feet



Location of Alternate Project

Washington Department of Natural Resources
Midway Creek Fish Culvert and Road Abandonment Project

0 175 350
Feet

Distribution List

FEDERAL AGENCIES

U.S. Army Corps of Engineers (Corps)
Danette Guy, Cowlitz County
Federal Emergency Management Agency (FEMA)
Dennis Burton, Public Assistance Program
Anna Daggett, Public Assistance Program
U.S. Environmental Protection Agency (EPA)
Christine Reichgott, NEPA Review Unit Mgr
Wendy Marshall, Office of Water and Watersheds
U.S. Fish and Wildlife Service (USFWS)
Rowan Baker, Region 1 NEPA Coordinator
Martha Jensen, Washington Fish and Wildlife Office
National Marine Fisheries Service (NMFS)
Kathe Hawe, NW NEPA Coordinator
Dan Guy, Habitat Office

TRIBES/TRIBAL ORGANIZATIONS

Cowlitz Indian Tribe
William Iyall, Tribal Chairman
Dave Burlingame, Cultural Resources
Chehalis Tribe
Richard Bellon, Cultural Resources
David Burnett, Tribal Chairman

STATE & LOCAL AGENCIES

Washington State Department of Archaeology and Historic Preservation (DAHP)
Allyson Brooks, State Historic Preservation Officer
Rob Whitlam, SHPO, Archaeologist
Washington Department of Ecology (Ecology)
Peg Plummer, SEPA Register Coordinator
Rod Thysell, Forest Practices, Vancouver, WQ
Washington Department of Fish and Wildlife (WDFW)
Teresa Eturaspe, SEPA Review Specialist
Sam Kolb, Habitat Biologist Forest Practices, Region 5
Washington Department of Natural Resources (DNR)
Jason Mettler, Project Manager, Engineer, Engineering and General Services Division
Ed Bressler, Forest Practices
SEPA Center
Washington Military Department, Emergency Management Division (EMD)
Gary Urbas, Public Assistance
Jon Holmes, Public Assistance Coordinator
Cowlitz County
Mike Wojtowicz, Directory, Planning Department

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47775 • Olympia, Washington 98504-7775 • (360) 407-6300
711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

April 1, 2011

Susan King, Enivornmental Specialist
FEMA Region X
130 228th Street Southwest
Bothell, WA 98021

Dear Ms. King:

Thank you for the opportunity to comment on the national environmental policy act (NEPA) scoping for the Midway Creek Fish Culvert project located in Cowlitz County. The Department of Ecology (Ecology) reviewed the information provided and has the following comment(s):

WASTE 2 RESOURCES: Mike Drumright (360) 407-6397

If greater than 250 cubic yards of inert, demolition, and/or wood waste is used as fill material, a solid waste handling permit is required from the local jurisdictional health department (WAC) 173-350-990.

Ecology's comments are based upon information provided by the lead agency. As such, they may not constitute an exhaustive list of the various authorizations that must be obtained or legal requirements that must be fulfilled in order to carry out the proposed action.

If you have any questions or would like to respond to these comments, please contact the appropriate reviewing staff listed above.

Department of Ecology
Southwest Regional Office

(SM:11-0883)

cc: Mike Drumright, W2R

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

May 25, 2011

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

RE: Midway Creek Culvert & Road Abandonment Project
FEMA# *: 1734-WA /PW-1579*
Log No: 052511-05-FEMA

Dear Mr. Eberlein:

Thank you for contacting our Department. We have reviewed the materials you provided for the proposed DNR Midway Creek Culvert & Road Abandonment Project, Cowlitz 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