

**DRAFT**  
**RESTORATION PLAN AND ENVIRONMENTAL**  
**ASSESSMENT FOR THE**  
**NOVEMBER 3, 2006**  
**PUGET SOUND ENERGY OIL SPILL**

Prepared by:  
**The PSE-Crystal Mountain Natural Resource Trustees**

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*U.S. Department of Commerce*  
*National Oceanic and Atmospheric Administration*

*U.S. Department of the Interior*  
*Fish and Wildlife Service*

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**INFORMATION SHEET**

for the  
***DRAFT***

**RESTORATION PLAN AND ENVIRONMENTAL ASSESSMENT (RP/EA) FOR THE  
NOVEMBER 3, 2006 - PUGET SOUND ENERGY OIL SPILL**

**Lead Agency for RP/EA:** U.S. Department of the Interior, Fish and Wildlife Service

**Cooperating Agencies:** Muckleshoot Indian Tribe  
National Oceanic and Atmospheric Administration  
Puyallup Indian Tribe  
Department of the Interior, U.S. Fish and Wildlife Service  
U.S. Forest Service  
Washington Department of Ecology  
Washington Department of Fish and Wildlife

**Abstract:** This Draft Restoration Plan and Environmental Assessment (RP/EA) has been prepared by the Federal, State, and Tribal Natural Resource Trustees to address restoration of natural resources injured by the November 3, 2006, Puget Sound Energy (PSE) oil spill in the Mt. Baker-Snoqualmie National Forest below the Crystal Mountain Ski area. The selected restoration activities of the Draft RP/EA include a combination of protection and enhancement activities to restore natural resource injuries resulting from the diesel fuel release into Silver Creek and associated wetlands of the White River watershed.

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**Administrative Record:** The documents comprising the Administrative Record can be viewed at the U.S. Fish and Wildlife Office in Lacey, WA

**Copies:** Copies of this Draft Restoration Plan and Environmental assessment are available by contacting the person listed above.

**Date of Release:** June 29, 2009

## Executive Summary

On November 3, 2006, a Puget Sound Energy (PSE) generator was mechanically overfilled causing a diesel fuel release that reached Silver Creek and associated wetlands within the White River Watershed, in the Mount Baker-Snoqualmie National Forest below the Crystal Mountain Ski Area in Pierce County, Washington. (Figure 1). Approximately 18,000 gallons of diesel fuel spilled onto the generator pad and downhill towards a drainage ditch that flows to Silver Creek. Soils and groundwater within the Mt. Baker-Snoqualmie National Forest were contaminated. Approximately 14 acres of wetlands and 5-6 miles of Silver Creek were affected. Diesel entering Silver Creek likely discharged into the White River.

In addition to documented habitat-level natural resource injuries, direct and indirect injuries may have occurred to fish, including federally threatened bull trout and Chinook salmon, amphibians, and aquatic invertebrates.

Claims for natural resource damages were settled by consent decree under the Oil Pollution Act of 1990 (OPA), 33 U.S.C. 2701 *et seq* and the Washington State Water Pollution Control Act, Chapter 90.48 RCW. Under the consent decree the defendant agreed to pay \$512,856.59 to restore, rehabilitate, replace, or acquire the equivalent of natural resources injured by the oil discharge. This Draft Restoration Plan and Environmental Assessment (RP/EA) is presented to the public by the Natural Resource Trustees (Trustees) responsible for implementing restoration under the consent decree. The Draft RP/EA describes the affected environment and illustrates potential restoration alternatives and their environmental consequences.

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# **1.0 INTRODUCTION**

## **1.1 Summary/Purpose**

The purpose of this Draft Restoration Plan and Environmental Assessment (RP/EA) is to address restoration of natural resources injured by the Puget Sound Energy (PSE) diesel fuel spill into Silver Creek and its associated wetlands near the Crystal Mountain Ski Lodge in the Mt. Baker-Snoqualmie National Forest in Pierce County, Washington. The need for this plan is to design, coordinate, and implement projects that restore, rehabilitate, replace, and/or acquire the equivalent of the natural resources that were injured from this spill event.

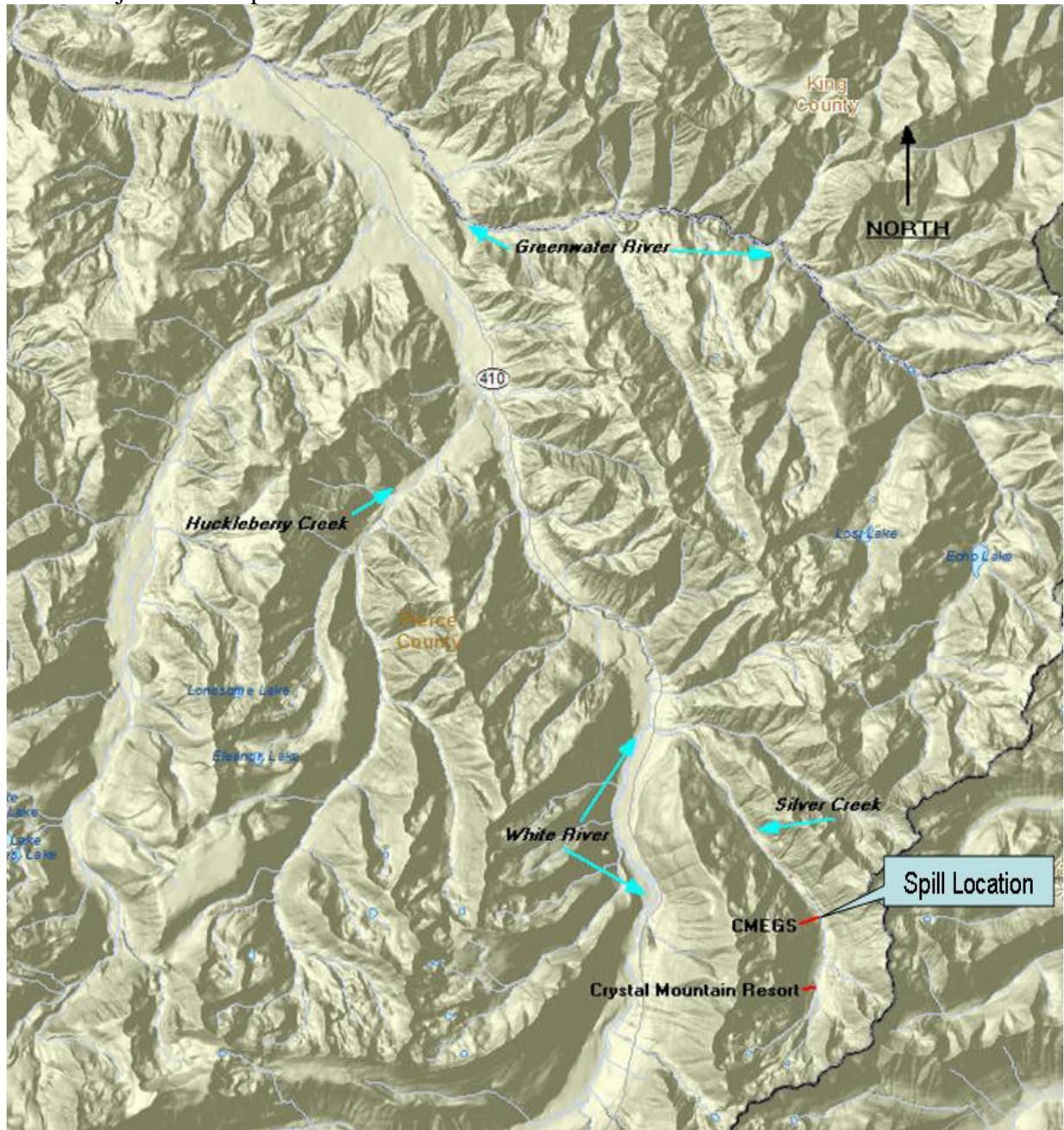
This document has been prepared on behalf of the public by the Natural Resource Trustees (Trustees) responsible for restoration implementation under the Consent Decree filed in U.S. District Court, Western District of Washington, in the case of U.S. et al. v. Puget Sound Energy, Inc. (Civil Action #C08-5710RBL). The Draft RP/EA describes the affected environment and illustrates restoration alternatives and their environmental consequences. It was developed in accordance with the Oil Pollution Act of 1990 (OPA), 33 U.S.C. 2706(b); the National Environmental Policy Act (NEPA), 42 USC 4321-4370d, and its implementing regulations, 40 CFR Parts 1500-1508; the Washington State Environmental Policy Act (SEPA), RCW 43.21C; and the Trustee Memorandum of Agreement (MOA).

## **1.2 Incident Overview**

On November 3rd, 2006, the above ground storage tank (AST) for the Puget Sound Energy (PSE) Crystal Mountain Emergency Generator Station was overfilled when automatic shutoff valves failed (Refer to Figure 1.). The storage tank is filled from three 12,000 gallon underground storage tanks. It is estimated that 18,000 gallons of diesel fuel spilled onto the generator pad and traveled downhill into a drainage ditch which flows under Crystal Mountain Drive to Silver Creek. The fuel also spilled down an access road where much of it seeped into the ground. The fuel spilled at a rate of approximately 8 gallons a minute.

Temporary containment measures were implemented in an attempt to minimize fuel moving offsite towards Silver Creek. These measures included a series of trenches, use of sorbent materials, and construction of an underflow dam. Additional interceptor trenches were excavated to collect product seeping through soils down gradient of the generator site.

Figure 1. Project area map.



### 1.3 Natural Resource Trustees and Authorities

Both federal and state laws establish liability for natural resource damages to compensate the public for injury, destruction, and loss of such resources and services resulting from oil spills. Natural resource trustees are authorized to act on behalf of the public under state and federal statutes to assess and recover natural resource damages and to plan and implement restoration actions to restore natural resources injured and lost as a result of oil spills.

This RP/EA was prepared jointly by the Muckleshoot Indian Tribe, National Oceanic and Atmospheric Administration (NOAA); Puyallup Indian Tribe, the U.S. Fish and Wildlife Service (FWS); U.S. Forest Service (USFS), and Washington State Departments of Ecology (Ecology) and Fish and Wildlife (WDFW). Collectively the government agencies and tribal nations are referred to as the “Trustees” or the “Natural Resource Trustees.” The Trustees entered into a Memorandum Of Agreement (MOA) to ensure coordination and cooperation in restoring natural resources as a result of this oil spill.

Each of the agencies and tribal nations acts as a Natural Resource Trustee pursuant to Oil Pollution Act of 1990 (OPA), 33 U.S.C. 2706 *et seq.*), the State of Washington Water Pollution Control Act (RCW 90.48), and the MOA. The Trustees are following guidance concerning restoration planning and implementation contained in the Oil Pollution Act of 1990 (OPA); 33 U.S.C. 2706 *et seq.*); 15 CFR Part 990 (Department of Commerce natural resource damage assessment regulations); and the Consent Decree and MOA for the Puget Sound Energy – Crystal Mountain Oil Spill (Civil Action # C08-5710RBL).

### 1.4 Overview of Fish and Wildlife Resources and Natural Resource Injuries

In general, the November 3rd, 2006, diesel fuel spill from the PSE - Crystal Mountain Generation Station facility oiled approximately 16 acres of wetlands, U.S. Forest Service soils and groundwater, and approximately 5 miles of Silver Creek in the White River Watershed. Diesel fuel entering Silver Creek also likely discharged downstream to the White River. Direct and indirect injuries may have occurred to fish (including 2 species listed under the Federal Endangered Species Act), amphibians, aquatic invertebrates and their associated habitats.

**Table 1.** Summary of reported natural resource injuries.

Resource	Injury Estimate
Wetland habitat	~14 acre Category I or II wetland; ~2 acre riparian wetland
Riverine habitat	~ 5 miles of Silver Creek
USFS resources	Approximately 350 acres of surface soil overlying groundwater
Fish & other aquatic and semi-aquatic species	Diesel contamination was detected in water and sediment samples throughout the lower 5 miles of Silver Creek, including documented spawning and rearing areas for federal ESA listed chinook and bull trout. Chronic exposure of Silver Creek and its aquatic species is expected to continue via the contaminated wetlands and riparian areas. The amount and time period for re-exposures are unknown at this time.

## **1.5 Coordination with Responsible Parties**

The State and Federal natural resource damage assessment (NRDA) regulations require the trustees to invite the Responsible Party to participate in the NRDA process. The final authority to make determinations regarding injury and restoration, however, rests solely with the Trustees.

The Trustees and PSE have worked together cooperatively to address natural resource issues for the PSE-Crystal Mountain oil spill. The Trustees invited PSE to review and discuss the progress of the injury assessment and restoration planning efforts. Information collected by all parties was shared amongst the Trustees and PSE. This cooperative approach is consistent with OPA regulations and is intended to provide the opportunity for settlement of damage claims without litigation and to provide efficient restoration of injured resources.

## **1.6 Settlement of Natural Resource Claims**

On February 12, 2009, the Trustees and Puget Sound Energy entered into a settlement agreement and consent decree to resolve the Trustees claims for resource injuries associated with the diesel fuel spill (Civil Action #C08-5710RBL). Under this consent decree, Puget Sound Energy agreed to pay a total of \$512,856.59 to the U.S. Department of the Interior Natural Resource Damage Assessment and Restoration Account (NRDAR Account) to be held to restore, enhance, rehabilitate, or acquire the equivalent of natural resources injured by the oil spill. The Restoration funds were recovered under the Oil Pollution Act (OPA) of 1990 (33 USC 2701 *et seq.*) and the State's Water Pollution Control Act. Of those funds, \$400,000 plus any interest earned from the NRDAR Account would be used for direct restoration of the injured resources and up to \$112,856.59 may be used to reimburse Trustees for their costs to plan and oversee the restoration projects.

The Trustees entered into a Memorandum of Agreement (MOA) to provide guidance for the coordination and cooperation of the trustees in planning and implementing restoration. The consent decree and MOA require the formation of a Trustee Committee to develop a publicly reviewed RP/EA prior to expenditure of funds. The PSE-Crystal Mountain Trustee Committee (PSETC) consists of representatives from the Muckleshoot and Puyallup Indian Tribes; NOAA; FWS representing the Department of the Interior (DOI); USFS; Ecology; and WDFW. The objective for the PSETC is to plan, design, coordinate, and implement projects that restore, rehabilitate, replace, and/or acquire equivalent natural resources to those resources injured by the oil spill.

The OPA requires that the trustees develop Draft and Final Restoration Plans and provide an opportunity for public review and comment. Guidance applicable to the development of restoration plans and for selecting appropriate restoration, replacement, or acquisition of equivalent resources and services is contained in 15 CFR Part 990 (Department of Commerce natural resource damage assessment regulations). The PSETC has developed this Draft RP/EA using these guidelines.

## **1.7 Public Involvement and Plan Implementation**

Public review of the Draft RP/EA is an integral component to the restoration planning process.

Through the public review process the Trustees seek public comment on the projects being proposed to restore injured natural resources from these oil spills.

Public review of the Draft RP/EA is a standard element of Federal and State laws and regulations that apply to the NRDA process including Section 1006 of OPA, the OPA regulations; NEPA and its implementing regulations (40 CFR Parts 1500-1508); and SEPA (RCW 43.21C) if any state or local permits are required.

This Draft RP/EA is made available to the public for a 30-day comment period from June 29, 2009 to July 29, 2009. Copies of the plan were also sent to local tribal and county governments, property owners, and other interested parties.

The PSETC has established an administrative record that contains information documenting the decision making processes that the committee used when identifying, evaluating, and selecting restoration projects. The administrative record can be viewed at the U.S. Fish and Wildlife Service, 510 Desmond Dr. SE, Lacey, Washington. Contact: Cindy Schexnider (360)753-4324, [Cindy\\_Schexnider@fws.gov](mailto:Cindy_Schexnider@fws.gov).

## **1.8 Summary of the Selected Restoration Project Alternative**

The Consent Decree (Civil Action #C08-5710RBL) directs the Trustees to use the funds recovered to develop and implement a plan for restoration, rehabilitation, or replacement of natural resources injured as a result of the spill. The Plan shall outline the steps the trustees would take to restore natural resources injured by the oil spill and to recover natural resource services allegedly lost as a result of the oil spill.

The compensatory restoration actions were selected to meet the intent of the settlement. The selected restoration alternative focuses on riverine habitat and chinook salmon restoration, but is also expected to provide benefits to other fish and wildlife species in the area. The selected restoration alternative includes the following projects:

### Greenwater River Floodplain Restoration

This project's objective is to restore river and floodplain processes to increase the range and distribution of salmon. This project would remove the remaining road fill associated with USFS Roads 70 and 7020 within the valley bottom and incorporate large woody material into the channel as engineered log jams. This project is a partnership effort with the Salmon Recovery Funding Board (SRFB) and the Mt. Baker-Snoqualmie National Forest.

### Huckleberry Creek Fish Acclimation Pond Repair and Improvements

This project's objective is to restore chinook salmon rearing capabilities to the Huckleberry Creek Chinook Acclimation Pond. Every year the Puyallup Tribe transfers thousands of juvenile spring chinook from the Muckelshoot Tribe's hatchery on the White River and raises the young in acclimation ponds in the upper watershed so the salmon may imprint on, and take advantage of, the upper river habitat. The Huckleberry Creek is a part of the upper White River watershed and the Chinook acclimation pond is located in the Mt. Baker-Snoqualmie National Forest. This

project is a partnership effort with the Puyallup Indian Tribe and the Mt. Baker- Snoqualmie National Forest.

## **2.0 AFFECTED ENVIRONMENT AND NATURAL RESOURCES OF CONCERN**

The diesel fuel spill impacted an approximate 14 acres of Category I or II wetland, a 2 acre forested wetland, additional National Forest System soils and groundwater, and approximately 5 miles of Silver Creek, which drains to the White River. This section summarizes the physical and biological environment in this area where the spill occurred.

### **2.1 Physical Environment of the spill area along the Silver Creek tributary to the White River**

The Crystal Mountain area is underlain primarily by andesitic volcanic bedrock of the Ohanapecosh Formation. The spill site is located within a mountain valley that was carved, in part, by a large alpine glacier. All of the near-surface materials that overlie bedrock in the spill area were deposited during and after the alpine glacier melted and retreated from the area, approximately 15,000 years ago. (Washington Department of Ecology, 2006)

A final environmental impact statement (FEIS) addressing the Crystal Mountain Master Development Plan (August 2004) was prepared by the SE Group for the Crystal Mountain Resort development. The EIS also provides geologic information about the site vicinity that is consistent with that described above. This document reports that bedrock is comprised predominantly of andesite and basalt-derived lava flows. Less resistant volcanoclastic breccia, tuff, tuff breccia, and alluvial and glacial deposits are also present and more easily eroded.

The FEIS describes a bedrock fracture system in the Crystal Mountain/Silver Creek area that is particularly relevant to our understanding of diesel migration beneath the spill site. A dominant system of north-south trending bedrock fractures is reported to be common in this area. This primary fracture system is intersected by a subordinate system of smaller east-west trending fractures. The FEIS concludes that seeps may occur where bedrock fractures extend to surficial soil on slopes.

The White River travels 68 miles and drains 494 square miles before emptying into the Puyallup River near the city of Sumner, Washington. The source of the White River is the Emmons Glacier on the northeast side of Mount Rainier. The river is paralleled on much of its upper course by Washington State Route 410. After several miles the river exits Mount Rainier National Park and enters the Mt. Baker-Snoqualmie National Forest.

The river turns gradually westward, passing several national forest campgrounds. Huckleberry Creek joins just below the Dalles Campground. Several miles downriver from there, the White River is joined by one of its main tributaries, the West Fork White River, which also originates at a glacier in Mount Rainier National Park. A few miles downriver from the West Fork confluence another major tributary, the Greenwater River, joins. The Greenwater River watershed drains a portion of the Cascade Range east and northeast of Mount Rainier. It flows into the White River at the small town of Greenwater, Washington.

## 2.2 Biological Resources

The area impacted by the oil spill and included for consideration in the restoration planning is biologically important. The complex integration of ecosystem components (geomorphic integrity, water quality, sediment regime, streamflow characteristics, water surface and water table elevations, and riparian and wetland vegetation) generates diverse habitat which support well-distributed populations of native plant, invertebrate, and vertebrate aquatic and riparian-dependent species.

### 2.2.1 Amphibians

Pacific giant salamanders (*Dicamptodon tenebrosus*) have been observed in several of the lakes associated with the Silver Creek watershed wetlands and are believed to inhabit several of the perennial streams as well.

### 2.2.2 Fish

The White River and its tributaries serve as spawning, rearing and corridors for Chinook (*Oncorhynchus tshawytscha*), pink (*Oncorhynchus gorbusha*), chum (*Oncorhynchus keta*), and coho (*Oncorhynchus kisutch*) salmon, as well as rainbow (*Oncorhynchus mykiss*), steelhead (*Oncorhynchus mykiss*) and cutthroat (*Oncorhynchus clarki*) trout. The largest runs are pink and chum, which are natural, and coho, which is a mixed hatchery and natural run. The White River system is also home to native char - bull trout (*Salvelinus confluentus*). Silver Creek is stocked with rainbow trout and contains non-native brook trout (*Salvelinus fontinalis*), which reproduce naturally.

### 2.2.3 Threatened and Endangered Species

Historically, the Upper White River Basin had a healthy population of spring Chinook salmon. In the 1980s, the number of adults returning to spawn in the Upper White River Basin decreased to as low as six individuals. (USGS, 2003). The construction of two impassable dams in the lower drainage basin, in addition to other natural and anthropogenic factors, has impacted the number of returning salmon. Recent hatchery operations utilizing returning Upper White River spring Chinook have helped increase the number of spring Chinook in this drainage basin (Washington Dept. of Ecology, 1998). In March 1999, Chinook and chum salmon were listed as federally threatened in the Puget Sound Basin by the National Marine Fisheries Service.

In November of 1999, bull trout were listed as federally threatened within the Puget Sound Basin by the FWS. Historically, bull trout were much more abundant within river systems of south Puget Sound (Goetz *et al.* 2004). Over the past 15 years, less than 50 migratory adults have been annually passed upstream through the Buckley Fish Trap Facility on the White River (USFWS 2004; ACOE 2008). Silver Creek and Silver Springs Creek are the only known spawning areas for bull trout within the White River system that lie outside of Mount Rainier National Park (Ladley *et al.* 2007).

### 2.2.4 Vegetation

Upland habitat of the Silver Creek watershed consists of a moderate to mature closed canopy conifer and conifer-hardwood forest. Dominant species of trees include an upper canopy of Douglas fir (*Pseudotsuga menziesii*), western hemlock (*Tsuga heterophylla*), western red cedar

(*Tsuga plicata*), black cottonwood (*Populus balsamifera*) and Pacific silver fir (*Abies amabilis*). The lower canopy and shrub layers consist primarily of Sitka alder (*Alnus crispa ssp. sinuata*), Sitka willow (*Salix sitchensis*), and salmonberry (*Rubus spectabilis*), with documented presence of oceanspray (*Holodiscus discolor*), sticky currant (*Ribes viscosissimum*), and oval-leaved blueberry (*Vaccinium ovalifolium*).

Wetland habitats contain Sitka alder, salmonberry, emergent sedge vegetation, and mature coniferous trees including Pacific silver fir, Douglas fir, western hemlock, and western red cedar.

### **2.2.5 Water Quality**

Water draining from the Silver Creek watershed is generally of high quality. (Jones *et al.*, 1997). All surface waters within National Forest boundaries in Washington State, including Silver Creek, are classified Class AA (WAC 173-201A-120). As such, streams in Silver Creek watershed are managed to protect their extraordinary quality and must attain the highest standards set by the state (WAC 173-201A-030(1)).

### **2.2.6 Wetlands**

Ninety-six wetlands, totaling 41.2 acres, have been identified within the Silver Creek Watershed. The largest is a 14-acre National Wetland Inventory - mapped, scrub-shrub wetland at an elevation of 3,900 feet above sea level located in the Silver Creek drainage along Crystal Mountain Boulevard. Most of the wetlands in the drainage are emergent wetlands. Many are hillside seeps that drain into streams or percolate back into the soil. Other wetlands are seasonally saturated moist and wet meadows or are located in isolated depressions that are not connected to other wetlands or streams.

The primary functions of the wetlands in the Silver Creek Watershed are: 1) natural biological support for plant species that generally do not grow in upland forests, 2) habitat for terrestrial wildlife species, and 3) habitat for some amphibians and aquatic invertebrates during seasonal inundation. Additionally, several of the large wet-meadow wetlands provide foraging and bedding habitat for elk and other wildlife species.

### **2.2.7 Federal and State Protected Areas**

The area impacted by the oil spill and evaluated for restoration opportunities in this restoration plan is within the Mt. Baker-Snoqualmie National Forest and Norse Peak Wilderness Area.

## **3.0 INJURED RESOURCES**

The November 3rd, 2006, estimated 18,000 gallon diesel fuel spill from the PSE Crystal Mountain Generation Station oiled approximately 16 acres of wetlands, National Forest System soils and groundwater, and approximately 5 miles of Silver Creek, which drains to the White River. Direct and indirect injuries may have occurred to fish (including 2 species listed under the Federal Endangered Species Act), amphibians, and aquatic invertebrates.

### **3.1. Ephemeral Data Collection**

Extreme weather conditions complicated the spill response and natural resource damage assessment efforts. Between November 3 and November 6, 2006, nearby Mt. Rainier National

Park received more than 18 inches of rainfall. This intense rainstorm resulted in massive flooding throughout the mountainous areas of Washington. By the evening of Monday, November 6, floodwaters from the White River closed a portion of Highway 410, preventing the arrival of equipment, personnel, or supplies to the spill site. Temperatures dropped and the rain changed to heavy snowfall. By Monday evening, November 13, approximately fifteen inches of snow accumulated on the ground around the generation station spill site. Heavy rainfall then resumed in the work area on November 15, melting much of the previous snow accumulation and increasing surface water flows. Heavy snowfall with several feet of accumulation occurred November 22 and November 26.

### **3.1.1 Stream and Fish Observations**

Diesel fuel from the release at the generation station was detected approximately 5 miles downstream of the spill site at the confluence of Silver Creek with the White River. Diesel fuel was observed pooling in riparian areas along the creek.

Silver Creek and associated adjacent drainages and their riparian corridors were assessed for both presence/absence of petroleum sheen on November 11, 17, 18 and 19, 2006. Presence of diesel fuel was noted by either the presence of residual red diesel coloration or petroleum sheen on the surface of the water. Stream surveys consisted of observations of all stream components (runs, riffles, scour, pools, etc.) and riparian vegetation.

On November 11, 2006, biologists walked Silver Creek from the impact area downstream approximately 200 yards documenting the presence of petroleum product, characterizing the stream, and documenting riparian habitat and condition. No fish were observed during this stream assessment. Approximately 400 yards of Silver Creek, between the impact area and the Horse Camp, were examined on November 17 and petroleum product was observed by PSE and the response/clean-up contractor. November 17 through November 19, 2006 sediment samples were collected throughout Silver Creek. Sample analyses confirmed that contamination had reached the mouth of Silver Creek near the White River.

### **3.1.2 Vegetation and Fish and Wildlife Reconnaissance**

Vegetation and fish and wildlife reconnaissance was conducted in mid-November, 2006 to quickly document baseline biological resources prior to the full onset of winter snows.

#### **3.1.2.1 Vegetative Community Documentation**

Vegetation communities within and adjacent to the impact area were assessed on November 10 and 11 with additional work on November 17, 18, and 19. Vegetation community mapping consisted of documentation of canopy assemblage and memorializing species percentages with photographs. Where significant shifts in vegetation communities occurred, an additional vegetation community data point was taken.

#### **3.1.2.2 Wildlife Observations**

During the mid-November onsite field reconnaissance efforts described above, numerous gray jays (*Perisoreus canadensis*) and rabbit (*Leporidae*) tracks were observed. Recent beaver chews

of willow shrubs were evident in the Horse Camp wetland area. No other animals were observed during the reconnaissance.

### **3.1.3 Wetland Habitat**

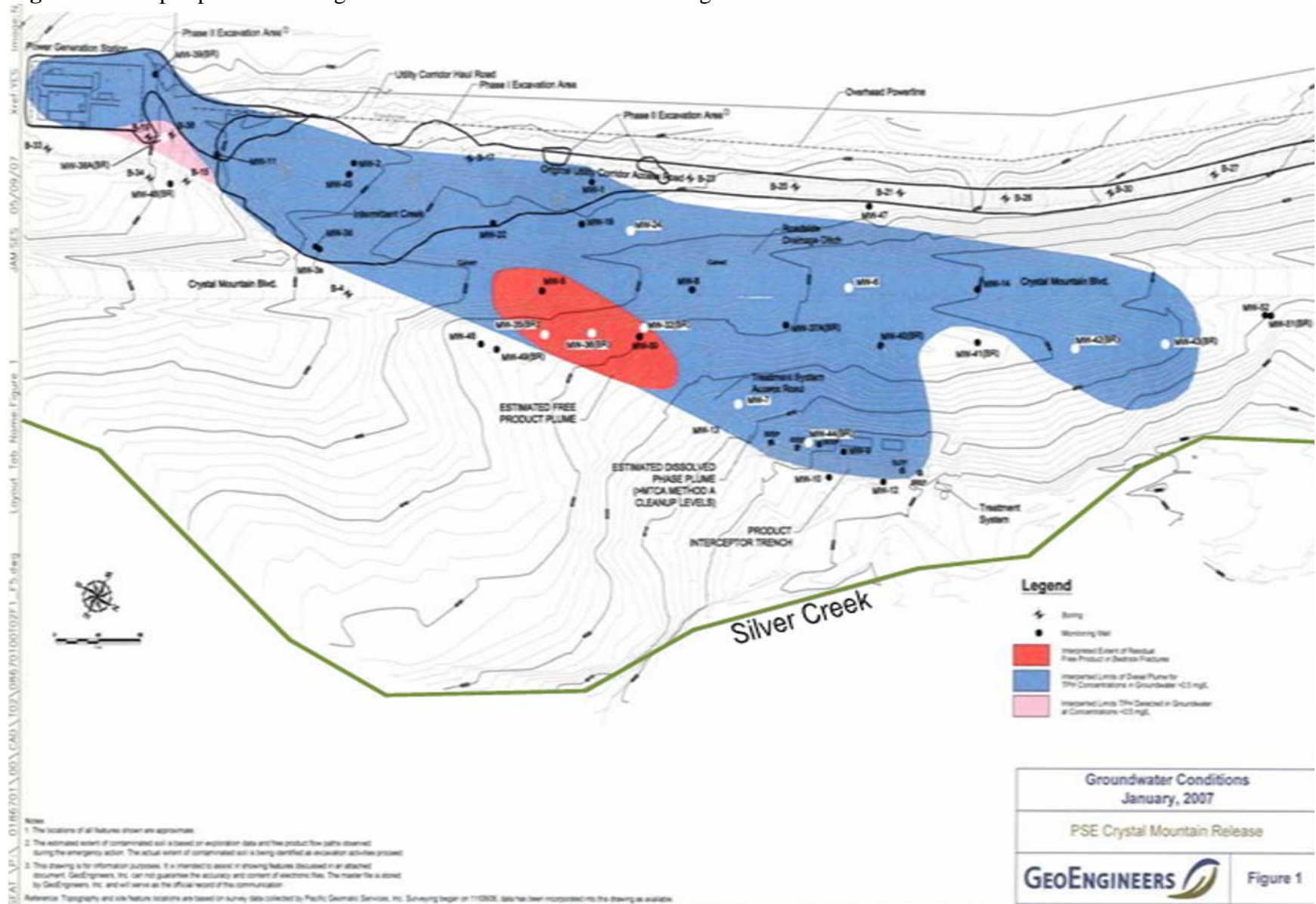
Oiling of wetlands occurred as a result of the diesel fuel release. Diesel and associated polycyclic aromatic hydrocarbons (PAHs) were detected in sediment and water samples collected in an approximate 2-acre riparian wetland just below the seep and in the 14-acre Horse Camp wetland.

Biologists examined the stream channel approximately 500 yards downstream of the impact area at the Horse Camp Wetland (also called Sand Flats wetland) on Friday, November 10. Diesel fuel product was reported and confirmed in this area.

## **3.2 National Forest System Soil and Groundwater Resources**

The spill site is generally located on forested property within the Mt. Baker-Snoqualmie National Forest. The generation station is located upslope of a road (Crystal Mountain Boulevard) and Silver Creek is located downslope. Migration of the diesel fuel contamination occurred through surface and subsurface flow and contamination of soils and groundwater (refer to Figure 2). Soil excavation activities as a result of the emergency response actions substantially altered site topography, disturbed site drainage features, and removed and damaged site vegetation. These disturbances will be mitigated to the extent possible through the site clean-up processes. Wells were installed to monitor and recover the diesel fuel contamination from groundwater.

**Figure 2.** Oil spill plume showing extent of diesel fuel in bedrock and groundwater.



### 3.3 Scaling the Natural Resource Injury

To scale injuries that resulted from the diesel fuel spill, the Trustees used a valuation approach consistent with the OPA regulations (15 CFR Section 990.55). The Trustees estimated the value of lost services to the public resulting from the incident by using available information, expert scientific judgment, information generated throughout the response activities, and literature on the fate and effects of oil spills. While in certain instances collecting more information may increase the precision of the estimate of impacts, the Trustees believe that the type and scale of restoration alternatives would not change substantially as a result of more assessment studies. The Trustees sought to balance the desire for more information with the reality that further study would delay the implementation of the restoration projects, at the expense of the local environment and the public that benefits from the area's natural resources.

The Trustees used a valuation approach to scale the proposed restoration actions. The Washington State Resource Damage Assessment Compensation Schedule (Compensation Schedule) is a publicly reviewed and approved set of procedures to assist in determining the public resource damages resulting from an oil spill for cases in which damages are not quantifiable at a reasonable cost. The Trustees referenced the Compensation Schedule to assist them in determining the value of lost services to the public but do not believe that the Compensation Schedule provides a complete estimate of lost services or accounts for all natural resource concerns in this case. The Trustees used a Compensation Schedule calculation for 10,000 gallons of diesel (the amount believed to have reached the creek) to an approximate 14-acre wetland (the most sensitive habitat affected) as a starting point for determining the value of lost resources.

The Trustees also considered additional documented injuries to habitats, such as: 1) contamination of other National Forest System soils and groundwater; 2) an additional approximate 2 acres of riparian wetlands impacted by diesel contamination and subsequent excavation; and 3) diesel fuel contamination in the lower 5 miles of Silver Creek and its riparian area.

In addition to documented injuries to habitat, direct and indirect injuries may have occurred to fish (including 2 species listed under the Federal ESA), amphibians, and aquatic invertebrates. Diesel contamination was detected throughout the lower 5 miles of Silver Creek, including documented spawning and rearing areas for federal ESA listed Chinook salmon and bull trout. Polycyclic aromatic hydrocarbons (PAHs) originate from petroleum and combustion products. PAHs, particularly the higher molecular weight compounds, tend to adsorb to organic or inorganic matter in sediments, where they can remain, resulting in potential long-term exposure risks to biota. There is potential for uptake of PAHs by resident benthic fish through the diet, through exposure to contaminated water in the benthic boundary layer, and through direct contact with sediment. Benthic invertebrate prey are a particularly important source of PAH exposure for fishes, as PAHs are bioaccumulated in many invertebrate species (Varanasi *et al.*, 1989, 1992; Meador *et al.*, 1995). While metabolism serves mainly as a mechanism for detoxication of PAHs, some of the metabolites that are intermediates in this process possess carcinogenic, mutagenic and cytotoxic activity (Johnson *et al.* 2002).

Low levels of diesel and associated PAHs were found in wetland sediment samples collected downstream from the spill on November 18, 2006. While some chronic exposure of Silver Creek and its aquatic species is expected to continue via the contaminated wetland and riparian areas, the trustees do not believe that additional damage assessment is warranted. Consequently, the wetland and much of the riparian area of Silver Creek will be left to recover naturally.

## **4.0 RESTORATION PLANNING**

The Trustees have developed this Draft RP/EA to comply with the directives and intent of the Settlement Agreement, Consent Decree in U.S. *et al.* v. Puget Sound Energy, Inc. (C08-5710RBL) and with regulatory requirements under the Oil Pollution Act of 1990, NEPA, and SEPA.

Since resource damages for the PSE-Crystal Mountain diesel fuel release were recovered under the authority of OPA 1990, the trustees were required to develop this restoration plan under OPA regulations and process. The goal of the restoration process is to restore injured natural resources and compensate for interim lost use of those resources. OPA requires that this goal be achieved by returning injured resources to pre-incident (baseline) conditions and by compensating for any interim losses of natural resources during the period of recovery to these baseline conditions.

### **4.1 Restoration Strategy**

In developing this Draft RP/EA, the Trustees focused the evaluation and selection of restoration planning on projects that would meet the intent of the settlement agreement and MOA. The MOA specifically directs that the Restoration Fund shall be spent on planning and implementing actions to restore, replace, or acquire the equivalent of resources and resource services injured, destroyed, or lost by the PSE-Crystal Mountain oil spill.

Restoration actions under the OPA regulations are either primary or compensatory. Primary restoration is taken to return the injured natural resources and services to baseline on an accelerated time frame by directly replacing the resource or service. As one form of primary restoration, the OPA regulations require that Trustees consider natural recovery of the resource. Trustees may select natural recovery under three conditions: 1) if feasible; 2) if cost-effective primary restoration is not available; or 3) if injured resources would recover quickly to baseline without human intervention. Primary restoration alternatives can range from natural recovery, to actions that prevent interference with natural recovery, to more intensive actions expected to return injured natural resources and services to baseline faster or with greater certainty than natural recovery alone.

Compensatory restoration includes actions taken to compensate for the interim losses of natural resources and/or services pending recovery. The type and scale of compensatory restoration depends on the nature of the primary restoration action and the level and rate of recovery of the injured natural resources and/or services, given the primary restoration action. When identifying compensatory restoration alternatives, Trustees must first consider actions that provide services of the same type and quality and that are of comparable value as those lost. If a reasonable range of compensatory actions of the same type and quality and comparable value cannot be found, Trustees then consider other compensatory restoration actions that would provide services of at

least comparable type and quality as those lost. Compensatory restoration alternatives must be scaled to ensure that the size or quantity of the project reflects the magnitude of the injuries from the spill.

To reduce transaction costs and avoid delays in restoration, the OPA regulations encourage the trustees to conduct the NEPA and/or SEPA process concurrently with the development of the draft restoration plan.

To comply with the requirements of NEPA and SEPA, the Trustees analyzed the effects of each preferred alternative on the quality of the human environment. Regulations for implementing NEPA direct federal agencies to evaluate the potential significance of proposed actions by considering both context and intensity. For the actions considered in this Draft RP/EA, the appropriate context for considering potential significance of the action is regional, as opposed to national, or worldwide.

## **4.2 Selection Criteria for Projects under the Alternatives**

OPA regulations recommend that the Trustees state their preferred project alternatives and explain the basis for their selection or rejection of other alternatives. The Trustees evaluated and selected restoration projects using guidance provided in OPA 1990, the consent decree, and the MOA. Each of the projects in the selected alternative was evaluated for compliance with applicable state and federal laws and policies.

The restoration scaling was based on the Washington State Compensation Schedule, additional known injury documentation, potential unknown injury from the lack of a detailed injury assessment, and potential continued contamination of Silver Creek from wetland and riparian area un-recovered oil contamination. Potential restoration projects were selected and evaluated by their ability to restore, rehabilitate, replace, and/or acquire the equivalent of natural resources injured (known, potential, and unknown) from the discharge of diesel fuel. The OPA regulations (CFR Section 990.54) require the Trustees to identify preferred restoration alternatives based on certain criteria.

The following criteria, presented in the order given in the OPA regulations at 15 CFR Part 990.54(a), were used to evaluate potential restoration projects:

1. The cost to carry out the alternative.
2. The extent to which each alternative is expected to meet the Trustees' goals and objectives in returning the injured natural resources and services to baseline and/or compensating for interim losses.
3. The likelihood of success of each alternative.
4. The extent to which each alternative would prevent future injury as a result of the incident, and avoid collateral injury as a result of implementing the alternative.
5. The extent to which each alternative benefits more than one natural resource and/or service.
6. The effect of each alternative on public health and safety.

In addition the Trustees believe that the primary injuries are to Silver Creek and its associated aquatic species and habitat. Therefore, five additional site-specific criteria were added:

1. Restoration within Silver Creek.
2. Restoration within the Upper White River Watershed.
3. Restoration that improves water quality.
4. Restoration that enhances ESA listed fish.
5. Efficient implementation of restoration that compensates the public for natural resource injury.

In accordance with the consent decree and the MOA, the Trustees considered only projects that met the criteria for the use of PSE-Crystal Mountain NRDAR Funds:

1. The funds in the PSE-Crystal Mountain NRDAR Fund shall be spent on planning and implementing actions to restore, replace or acquire the equivalent of resources and resource services injured, destroyed or lost by the PSE-Crystal Mountain oil spill.
2. To the extent practicable, the Trustees will use the funds for natural resource restoration or replacement activities within close proximity to the PSE-Crystal Mountain Spill site and within the same river system so as to provide equivalent habitat, resources and services.
3. The funds will only be spent in compliance with applicable state, federal, and tribal laws and regulations.
4. The Trustees' goal is to minimize the amount of the funds that are spent on administrative charges and expenses. Administrative charges and expenses may include, but are not limited to, salary, travel, and overhead of Trustee committee members and trustee staff costs associated with administering the PSE-Crystal Mountain NRDAR Fund and managing the Trustee decision-making and restoration implementation process.

Funds shall not be used on additional natural resource damage assessment studies, unless the Trustees agree that such further assessment activities are necessary for the fulfillment of their trustee responsibilities.

The Trustees developed a list of potential restoration projects and categorized them by cost and restoration benefit. They then evaluated each project proposal using the criteria from OPA 90, the settlement agreement, the MOA, and the five site-specific criteria developed by the Trustees. See Section 11.2.

### **4.3 Summary of Restoration Projects Considered**

The Trustees considered a variety of different projects during the alternatives development stage. Please refer to Table 3 for a list of all proposals that were considered and ranked. The following restoration proposals ranked the highest by the Committee and are being considered as appropriate restoration projects to restore injured resources.

The total cost for proposed restoration is approximately \$400,000.

1. Road fill removal from an abandoned road in the Greenwater River floodplain, and/or similar road removal/repair within the Mt. Baker-Snoqualmie National Forest road network that would significantly improve the water quality and habitat within the White River watershed.
  - a. Benefit would be to overall aquatic habitat and water quality of the watershed.

All aquatic trust species would benefit, including Chinook salmon, bull trout, and other native salmonids.

2. Repair flood damage to Huckleberry Creek Acclimation Pond
  - a. Repair and restore Chinook salmon rearing pond capabilities.
  - b. Benefit would be to Spring Chinook fish production.

## **5.0 EVALUATION OF RESTORATION ALTERNATIVES**

To reduce transaction costs and avoid delays in restoration, the OPA regulations encourage the Trustees to conduct the NEPA and SEPA processes concurrently with the development of the restoration plan. To comply with the requirements of NEPA/SEPA, the Trustees analyzed the effects of each project in the preferred alternative on the quality of the environment. With respect to evaluating the intensity of the impacts of the proposed action, the NEPA regulations suggest consideration of ten factors:

1. Likely impacts of the proposed project.
2. Likely effects of the project on public health and safety.
3. Unique characteristics of the geographic area in which the project is to be implemented.
4. Controversial aspects of the project or its likely effects on the human environment.
5. Degree to which possible effects of implementing the project are highly uncertain or involve unknown risks.
6. Effect of the project on future actions that may significantly affect the human environment.
7. Possible significance of cumulative impacts from implementing this and other similar projects.
8. Effects of the project on National Historic Places, or likely impacts to significant cultural, scientific, or historic resources.
9. Degree to which the project may adversely affect endangered or threatened species or their critical habitat.
10. Likely violations of environmental protection laws.

The Trustees have attempted to analyze the projects and the environmental consequences based on the conceptual designs rather than detailed final plans. Therefore, the details of specific projects may require additional refinements to reflect site conditions. Projects may also change to reflect public comment and further Trustee analysis. Any specific environmental reviews or permits necessary for specific projects would be the responsibility of the project proponents.

The committee evaluated two different alternatives for restoration:

- Alternative 1. - No-action alternative
- Alternative 2. - Selected projects that would restore injuries within the White River Watershed.

The preliminary list of projects selected as priorities for funding under Alternative 2 are summarized in Table 2. In developing this list, the Trustee Committee consulted with resource

management experts within the Trustee agencies, and ranked projects according to the criteria listed in Section 4.2.

**Table 2.** Summary of projects preliminarily selected for funding by the Trustee Committee.

<b>Project</b>	<b>Project Objective</b>	<b>Natural Resource Benefit</b>
Greenwater River Floodplain Restoration	Restore natural river and floodplain processes.	Benefit would be to overall aquatic habitat and water quality of the watershed. All aquatic trust species would benefit, including Chinook salmon, bull trout, and other native salmonids.
Huckleberry Creek Rearing Pond Improvements	Repair and restore Chinook salmon rearing pond capabilities	Benefit would be to Spring Chinook salmon production.

## 5.1 No-Action/Natural Recovery

NEPA requires the Trustees to consider a “no action” alternative, and the OPA regulations require consideration of the equivalent, the natural recovery option. Under this alternative, the Trustees would take no direct action to restore injured natural resources or compensate for lost services pending environmental recovery. Instead, the Trustees would rely on natural processes for recovery of the injured natural resources. While natural recovery would occur over varying time scales for various injured resources, under the no-action alternative the public would not be compensated for the interim losses suffered. The no-action alternative has no environmental consequences because, by definition, no manipulations to the environment would take place. There are direct impacts (losses) to the species and habitats given the additive reduction of “recovery” over the period of time versus that of the preferred alternative.

The OPA clearly establishes Trustees responsibility to seek compensation for interim losses. This responsibility cannot be met through the no-action alternative. Losses were suffered during the period of recovery for the spills and technically feasible and cost effective alternatives exist to compensate for these losses. The Trustees have rejected the no-action alternative and have determined that compensatory restoration is required to address these interim losses.

## 5.2 Preferred Alternative: Restoration Projects that protect and restore aquatic habitats within the White River Watershed

The following sections describe the two habitat protection and restoration projects in the selected alternative that promote aquatic restoration and salmon recovery in the White River Watershed. Work plans, with details regarding scope of work, schedules, budgets and other applicable information are not presented here but would be prepared for review and adoption before implementation of any project.

The Trustee Council may evaluate and select additional individual projects based on our stated criteria if the preferred projects become unavailable or additional funds remain.

### **5.2.1 Greenwater River Floodplain Restoration**

The overall proposed project objective for this portion of the restoration alternative is to restore river and floodplain processes by removing the remaining road fill from an abandoned road within the valley bottom and incorporating large woody material into the channel as engineered log jams. The project is a multiple year effort to restore floodplain function by re-establishing natural river processes that were interrupted or lost due to road construction and large wood removal from the channel decades ago. Funding for a portion of this project has been received from a Salmon Recovery Funding Board (SRFB) grant.

Proposed Project Components:

- NEPA Analysis would be conducted for the entire project, both the road fill removal and the placement of large wood jams.
- Excavation and removal of road fill material.
- Re-vegetation of disturbed areas with native plants.

Several life stages and species of Puget Sound salmon, including threatened and endangered White River Chinook salmon and bull trout would benefit from the improved habitat with the completion of this project

### **5.2.2 Huckleberry Creek Rearing Pond Improvements**

The overall proposed project objective is to restore the functions of the Huckleberry Creek Chinook salmon acclimation pond structure that was severely impacted by flood damage. Restoring the acclimation structure and its functions will once again provide opportunities for juvenile Chinook salmon to acclimate and imprint to Huckleberry Creek and the upper reaches of the White River system.

Project components:

- Restore water intake for the pond.
- Reconstruct to restore, and potentially enhance, the function of the rearing pond.

### **5.2.3 Restoration Goals**

The primary goal of the White River Watershed restoration projects is to provide maximum protection and restoration of salmonid spawning and rearing while also providing habitat benefits to other fish and wildlife.

### **5.2.4 Scaling Approach**

The restoration scaling was based on the Washington State Compensation Schedule, additional known injury documentation, the uncertainty of detailed injury assessment and potential continued contamination of Silver Creek. The Trustee's goal is to enhance salmonid spawning and rearing as well as provide benefit to other fish and wildlife associated with the White River Watershed. Injuries occurred in Silver Creek and surrounding areas within the White River Watershed; therefore, restoration actions are targeted within that watershed. The Trustees concluded that a partnership effort toward restoring the Greenwater floodplain and improving the Huckleberry Chinook Rearing Pond would provide compensation for injuries that resulted from the oil spill.

Specifically, the Trustees used a valuation approach consistent with the OPA regulations. The trustees used the cost equivalent of the lost value to scale restoration actions. This equivalent was determined considering the following factors:

1. The Washington State Compensation Schedule values the loss of services from a 10,000 gallon discharge of diesel fuel to an ~14-acre Category I or II wetland in a range from \$302,000 to \$378,000. This wetland category was the most sensitive resource affected by the spill.
  - a. The Compensation Schedule is a public reviewed and approved set of procedures to assist in determining the public resource damages resulting from an oil spill for cases in which damages are not quantifiable at a reasonable cost.
  - b. The Trustees referenced the Compensation Schedule to assist them in determining the value of lost services to the public but do not believe that literal use of the Compensation Schedule addresses all injured natural resource concerns for this oil discharge.
2. Habitats with documented injuries, in addition to the ~14-acre Category I or II wetland, include:
  - a. Other USFS soils and groundwater contaminated with diesel fuel.
  - b. Approximately 2 acres of riparian wetlands impacted by diesel contamination and subsequent excavation.
  - c. Approximately 5 to 6 miles of Silver Creek exposed to diesel fuel contamination.
3. On top of documented habitat-level injuries, direct and indirect injuries may have occurred to fish (including 2 species listed under the Federal ESA), amphibians, and aquatic invertebrates.
  - a. Diesel contamination was detected throughout Silver Creek, including documented spawning and rearing areas for federal ESA listed chinook salmon and bull trout.
  - b. More detailed studies would be needed to document the specific impacts the contamination had on fish populations.
4. Continued chronic exposure of both Silver Creek in general and salmon specifically is expected to continue via the contaminated wetland and riparian areas.
  - a. The wetland will be left to recover naturally to avoid additional damage.
  - b. The amount and time period for re-exposures are unknown at this time.

Because the Compensation Schedule didn't account for all the injury, (habitat injury, direct species level injury, and continued exposure), the trustees increased the value of the restoration projects proposed as compensation above the levels set by the schedule.

### **5.2.5 Probability of Success**

The Trustees believe that the probability of success for these projects is high. Their goal is to improve instream morphology and natural habitat functions in a salmon bearing stream as well as enhance salmon rearing capabilities. Along with long-term natural processes, these projects would immediately provide complex habitat for salmonids in the watershed and enhance Chinook salmon populations.

The Water Resource Inventory Area 10 Salmon Strategy clearly identifies large woody debris in the Greenwater River as a critical link to increasing juvenile abundance in the White River. This project would jump start the development of critical salmon habitat that was altered in the 1970s, when much of the watershed was degraded by removing virtually all large woody debris and gravel from the channel. The Greenwater River Floodplain Project would ultimately re-create some historical habitat conditions needed to increase the capacity of the Greenwater to support desired fish populations.

The Huckleberry Creek Rearing Pond that is operated and maintained by the Puyallup Tribe and the Mt. Baker-Snoqualmie National Forest and has been successful as a juvenile rearing pond in the past and with its repair and reconstruction, those benefits are expected to be restored and potentially enhanced.

### **5.2.6 Performance/ Success Criteria and Monitoring**

The goal is to improve in-stream morphology and natural habitat functions in a salmon bearing stream as well as enhance salmon rearing capabilities. Success would be measured by completion of necessary project work and by post-project implementation monitoring.

### **5.2.7 Environmental and Socio-Economic Consequences**

These projects are not expected to have any significant adverse environmental impacts. Habitat restoration would benefit aquatic species by restoring natural habitat functions and augmenting salmon rearing capabilities. These structures would help initiate historical processes that would not only benefit Chinook salmon but also an array of salmonids and resident fish and wildlife in the watershed.

These restoration actions would provide positive benefits for human recreational use and positive scientific and public education benefits. These restoration actions would likely not restrict future development as these actions would occur in regulated floodplains within the National Forest. Enhancing salmon populations may provide positive impacts to the fishing industry and local economy.

### **5.2.8 Estimated Project Costs**

The Trustee Committee plans to allocate approximately \$400,000 towards these restoration efforts. All preferred projects have existing partnerships established for efficiency in funding and implementation. More detailed budgets would be provided to the Trustee Committee for their review and approval. Actual project expenditures for administrative elements would be negotiated with the objective of maximizing the dedication of funds toward on-the-ground restoration.

### **5.2.9 Evaluation**

This project is consistent with OPA regulations, the intent of the MOA and Consent Decree, and the Trustee selection criteria established for this settlement. Furthermore, the Greenwater River project would jump start the development of valuable salmon habitat that was altered in the 1970's. In addition to federally threatened spring Chinook salmon, winter steelhead, pink salmon, coho salmon, and bull trout would all benefit from this restoration project. Habitat for

steelhead spawning and rearing occurs throughout the 20 miles of the Greenwater River and up to 1 mile in the tributaries. Coho salmon, pink salmon, and bull trout also utilize the headwaters of the Greenwater River and its tributaries. Juveniles of all species use the mainstem river and its tributaries for rearing. The Huckleberry Creek rearing pond improvements would provide immediate benefits to juvenile Chinook salmon.

### 5.3 Environmental Consequences

This section addresses the potential overall impacts and other factors to be considered in both the OPA and DOI NEPA regulations.

The Trustees believe that the projects selected in this Draft RP/EA would not cause significant negative impacts to natural resources or the services they provide. Further, the Trustees do not believe the proposed projects would affect the quality of the human environment in ways deemed significant.

**Direct Impacts**—Overall, the preferred restoration alternative and proposed restoration projects included in this Draft RP/EA would enhance the functionality of the ecosystem and provide long-term protection to environmentally sensitive areas and habitats used by threatened salmonids. There could be some short-term negative impacts, though not significant, from the proposed restoration project(s) such as:

- **Sound and Air Pollution**—Machinery and equipment used during construction and other restoration activities could generate sound that could temporarily negatively disturb wildlife and humans.
- **Federally Threatened, Endangered, and Candidate Species**—As discussed in more detail in the previous sections, there could be short-term negative impacts on fish and wildlife species as a result of proposed construction activities. In accordance with State and Federal permit conditions, in-water work would be timed to minimize impacts to federally endangered or threatened species, and during regulated time periods when no major fish runs occur. Impacts on mobile species (*e.g.*, birds, mammals) is expected to be minor, consisting of short-term displacement. Overall, the construction of the proposed fish habitat projects as part of the Preferred Alternative would benefit fish and wildlife species dependent on these types of habitat.
- **Water and Sediment Quality**—There could be temporary increases in sedimentation and turbidity related to the restoration projects. However, best management practices along with other avoidance and mitigation measures required by the regulatory agencies would be employed to minimize any water quality and sedimentation impacts.
- **Visual**—There may be temporary visual impacts during implementation of the proposed restoration projects associated with construction activities. Once the projects are completed, beneficial aesthetic impacts would then extend to the users of these areas.
- **Public Access/Recreation**—Public access could be temporarily affected during

- **Archaeological and Cultural Resources**—The proposed projects would not adversely affect any known archaeological sites or sites of cultural significance. The Trustees or project managers would consult with the Tribes and the Washington State Office of Archaeology and Historic Preservation to ensure that any sites would remain undisturbed by the proposed restoration actions.
- **Other (e.g., economic, historical, land use, transportation)**—No significant adverse effects are anticipated to soil, geologic conditions, energy consumption, wetlands, or floodplains. The proposed restoration projects would have no adverse social or economic impacts on local neighborhoods or communities. Social and economic impacts could be beneficial by increasing salmon populations.

**Cumulative Impacts**—Since the Trustees proposed projects in the preferred alternative that primarily improve recovery of injured natural resources and services; the cumulative environmental consequences would be beneficial. These cumulative impacts include restoration of the injured ecosystem by increasing fish, invertebrate and wildlife habitats. The proposed projects could also provide educational opportunities. Any unanticipated negative cumulative adverse effect identified prior to project implementation would result in reconsideration of the project by the Trustees.

## **6.0 COORDINATION WITH OTHER PROGRAMS, PLANS AND, REGULATORY AUTHORITIES**

### **6.1 Overview**

OPA and its regulations provide the basic framework for natural resource damage assessment and restoration for oil discharges. NEPA sets forth a specific process of impact analysis and public review. In addition, the Trustees must comply with other applicable laws, regulations, and policies at the federal, state, and local levels. The potentially relevant laws, regulations and policies are set forth below.

In addition to laws and regulations, the Trustees must consider relevant environment or economic programs or plans that are ongoing or planned in or near the affected environment. The Trustees must ensure that their proposed restoration activities neither impede nor duplicate such programs or plans. By coordinating restoration with other relevant programs and plans, the Trustees can enhance the overall effort to improve the environment.

### **6.2 Key Statutes, Regulations and Policies**

Oil Pollution Act of 1990 (OPA), 33 U.S.C. 2701, *et seq.*; 15 CFR Part 990

OPA establishes a liability regime for oil spills that injure or are likely to injure natural resources and/or the services that those resources provide to the ecosystem or humans. Federal and state agencies and Indian tribes act as trustees on behalf of the public to assess the injuries, scale restoration to compensate for those injuries and implement restoration. Section 1006(e)(1) of OPA (33 U.S.C. 2706 (e)(1)) requires the President, acting through the Under Secretary of Commerce for Oceans and Atmosphere (NOAA), to promulgate regulations for the assessment of natural resource damages resulting from a discharge or substantial threat of a discharge of oil. Assessments are intended to provide the basis for restoring, replacing, rehabilitating, and acquiring the equivalent of injured natural resources and services.

National Environmental Policy Act (NEPA), 42 U.S.C. 4321, et seq. 40 CFR Parts 15001508  
Congress enacted NEPA in 1969 to establish a national policy for the protection of the environment. NEPA applies to federal agency actions that affect the human environment. NEPA established the Council on Environmental Quality (CEQ) to advise the President and to carry out certain other responsibilities relating to implementation of NEPA by federal agencies. Pursuant to Presidential Executive Order, federal agencies are obligated to comply with NEPA regulations adopted by the CEQ. These regulations outline the responsibilities of federal agencies and provide specific procedures for preparing environmental documentation to comply with NEPA. NEPA requires that an Environmental Assessment (EA) be prepared in order to determine whether the proposed restoration actions would have a significant effect on the quality of the human environment.

Generally, when it is uncertain whether an action would have a significant effect, federal agencies would begin the NEPA planning process by preparing an EA. The EA may undergo a public review and comment period. Federal agencies may then review the comments and make a determination. Depending on whether an impact is considered significant, an environmental impact statement (EIS) or a finding of no significance (FONSI) would be issued.

The Trustees have integrated this restoration plan with the NEPA process to comply with those requirements. This integrated process allows the Trustees to meet the public involvement requirements of OPA and NEPA concurrently. This RP/EA is intended to accomplish partial NEPA compliance by:

1. Summarizing the current environmental setting;
2. Describing the purpose and need for restoration action;
3. Identifying alternative actions, assessing the preferred actions' environmental consequences, and;
4. Summarizing opportunities for public participation in the decision process.

Project-specific NEPA documents may need to be prepared for those proposed restoration projects not already analyzed in an environment assessment or environmental impact statement.

State Environmental Policy Act (SEPA), RCW 43.21C

The SEPA, chapter 43.21C RCW, requires state agencies and local governments to analyze proposed projects and plans for potentially significant impacts to the environment. An environmental impact statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. Regulations implementing SEPA

and providing guidance for state and local governments have been adopted (CH. 197-11 WAC). Specific resource areas that must be considered under SEPA include earth, air, water, vegetation, wildlife, public health, and shorelines. The SEPA review process may be initiated at the local government level through the development application review procedures. Local regulations identifying and protecting critical or sensitive environmental areas help ensure compliance with SEPA regulations. State agencies also prepare documents in response to proposals for state agency action.

Clean Water Act (CWA) (Federal Water Pollution Control Act), 33 U.S.C. 1251, et seq.

The CWA is the principal law governing pollution control and water quality of the nation's waterways. Section 404 of the law authorizes a permit program for the disposal of dredged or fill material into waters of the United States. The Army Corps of Engineers (Corps) administers the program. In general, restoration projects that move significant amounts of material into or out of waters or wetlands -- for example, hydrologic restoration of marshes -- require 404 permits. Under section 401 of the CWA, restoration projects that involve discharge or fill to wetlands or waters must obtain certification of compliance with state water quality standards. Generally, restoration projects with minor wetlands impacts (i.e., a project covered by a Corps general permit) do not require 401 certification, while projects with potentially large or cumulative impacts do.

Washington State Water Pollution Control Act (WWPCA), Chapter 90.48 RCW

The public policy of the state of Washington is to maintain the highest possible standards to insure the purity of all waters of the state consistent with public health and public enjoyment including, the propagation and protection of wild life, birds, game, fish and other aquatic life, and the industrial development of the state, and to that end require the use of all known available and reasonable methods by industries and others to prevent and control the pollution of the waters of the state of Washington. The state of Washington in recognition of the federal government's interest in the quality of the navigable waters of the United States, proclaims a public policy of working cooperatively with the federal government in a joint effort to extinguish the sources of water quality degradation, while at the same time preserving and vigorously exercising state powers to insure that present and future standards of water quality within the state shall be determined by the citizenry, through and by the efforts of Washington State government.

Endangered Species Act (ESA), 16 U.S.C. 1531, et seq.

The ESA directs all federal agencies to conserve endangered and threatened species and their habitats and encourages such agencies to utilize their authorities to further these purposes. Under the Act, the DOC through NOAA and the DOI through the FWS publish lists of endangered and threatened species. Section 7 of the Act requires that federal agencies consult with these departments to minimize the effects of federal actions on endangered and threatened species. Prior to implementation of any project potentially affecting an endangered or threatened species, the Trustees would conduct ESA Section 7 consultations.

Magnuson-Stevens Fishery Conservation and Management Act, 16 USC 1801 et seq.

The Magnuson-Stevens Fishery Conservation and Management Act as amended and reauthorized by the Sustainable Fisheries Act (Public Law 104-297) established a program to

promote the protection of essential fish habitat (EFH) in the review of projects conducted under federal permits, licenses, or other authorities that affect or have the potential to affect such habitat. After EFH has been described and identified in fishery management plans by the regional fishery management councils, federal agencies are obligated to consult with the Secretary of Commerce with respect to any action authorized, funded, or undertaken, or proposed to be authorized, funded, or undertaken, by such agency that may adversely affect any EFH.

The Trustees believe that the selected restoration projects would have no adverse effect on the EFH units. The projects would promote the protection of fish resources in EFH areas. Prior to implementation of any restoration projects that may potentially create a potential adverse impact to EFH, the Trustees would consult with the National Marine Fisheries Service.

#### Fish and Wildlife Coordination Act (FWCA), 16 U.S.C. 661, *et seq.*

The FWCA requires that federal agencies consult with the FWS, the National Marine Fisheries Service and State wildlife agencies for activities that affect, control or modify waters of any stream or bodies of water, in order to minimize the adverse impacts of such actions on fish and wildlife resources and habitat. This consultation is generally incorporated into the process of complying with Section 404 of the Clean Water Act, NEPA, or other federal permit, license, or review requirements.

#### Rivers and Harbors Act of 1899, 33 U.S.C. 401, *et seq.*

The development and use of the nation's navigable waterways are regulated through the Rivers and Harbors Act. Section 10 of the Act prohibits unauthorized obstruction or alteration of navigable waters and vests the Corps with authority to regulate discharges of fill and other materials into such waters. Restoration actions that require Section 404 Clean Water Act (CWA) permits are likely also to require permits under Section 10 of the Rivers and Harbors Act. However, a single permit usually serves for both. Therefore, the Trustees could ensure compliance with the Rivers and Harbors Act through the same mechanism.

#### Executive Order 12898 - Environmental Justice

On February 11, 1994, President Clinton issued Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. This Executive Order requires each federal agency to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies and activities on minority and low-income populations. EPA and the Council on Environmental Quality have emphasized the importance of incorporating environmental justice review in the analyses conducted by federal agencies under NEPA and of developing mitigation measures that avoid disproportionate environmental effects on minority and low-income populations. The Trustees have concluded that there are no low-income or ethnic minority communities that would be adversely affected by the proposed restoration activities.

#### Executive Order 11988 - Construction in Flood plains

This 1977 Executive Order directs federal agencies to avoid to the extent possible the long and short-term adverse impacts associated with the occupancy and modification of flood plains and to avoid direct or indirect support of development in flood plains wherever there is a practicable

alternative. Each agency is responsible for evaluating the potential effects of any action it may take in a flood plain.

Before taking an action, the federal agency must determine whether the proposed action would occur in a flood plain. For major federal actions significantly affecting the quality of the human environment, the evaluation would be included in the agency's NEPA compliance document(s). The agency must consider alternatives to avoid adverse effects and incompatible development in flood plains. If the only practicable alternative requires placing a site in a flood plain, the agency must: 1) Design or modify the action to minimize potential harm; and 2) prepare and circulate a notice containing an explanation of why the action is proposed to be located in the flood plain. The Trustees have reviewed and determined that the proposed restoration projects would not have adverse effects to the flood plains. The proposed restoration projects plan to restore flood plain functions.

Model Toxics Control Act (MTCA), Ch. 70.105D RCW (1989) and Ch. 173-340 WAC (1992)

MTCA, Washington's toxic cleanup law, mandates that site cleanups protect the state's citizens and the environment. The regulations established cleanup standards, which provide a uniform, statewide approach to cleanup that can be applied on a site-by-site basis; and requirements for cleanup actions, which involve evaluating the best methodology to achieve cleanup standards at a site. The Trustees do not anticipate any contaminated cleanups associated with the proposed restoration projects.

### **6.3 Other Potentially Applicable Laws and Regulations**

This section lists other laws that potentially affect any proposed restoration activities. The statutes or their implementing regulations may require permits from federal or state permitting authorities.

Archaeological Resources Protection Act, 16 U.S.C. 470, *et seq.*

Clean Air Act, 42 U.S.C. 7401, *et seq.*

Migratory Bird Treaty Act, 16 U.S.C. 703, *et seq.*

National Historic Preservation Act, 16 U.S.C. 470, *et seq.*

## **7.0 RESPONSE TO COMMENTS**

The OPA and NOAA Damage Assessment Regulations (15 C.F.R. Part 990 *et seq.*) require that the public be provided an opportunity to review and comment on oil spill restoration plans. This plan is available for public review and comment from June 29, 2009 to July 29, 2009. A news release announcing the availability of the Draft RP/EA was distributed on June 29, 2009. Copies of the Plan are provided free of charge to all interested parties. The Trustees posted the draft restoration plan at <http://www.fws.gov/westwafwo/> internet site maintained by U.S. Fish and Wildlife Service.

The public comment period closes on July 29, 2009. Copies of written comments received during the comment period will be included in the Administrative Record and the final RP/EA

will address public comment received on the draft. .

## **8.0 PREPARERS, AGENCIES AND PERSONS CONSULTED**

### **8.1 PSE-Crystal Mountain Trustee Committee Members**

The following Trustee representatives on the PSE-Crystal Mountain Trustee Committee were involved with the preparation of this document and with the selection of the preferred alternative.

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### **8.2 Other People Consulted.**

The following people were consulted and provided technical or legal support in the development of this document.

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## **10. DETERMINATIONS UNDER NEPA AND SEPA**

### **10.1 National Environmental Policy Act**

NEPA requires that an EA be prepared in order to determine whether the proposed restoration actions would have a significant effect on the quality of the human environment and thereby require the development of an EIS.

To comply with the requirements of NEPA, the Trustees prepared and submitted this Draft RP/EA. The plan is made available for a 30-day public review and comment period (June 29, 2009 to July 29, 2009). A news release announcing the availability of the Draft RP/EA was distributed on June 29, 2009. Copies of the plan are provided free of charge to all interested parties and are posted on the internet at <http://www.fws.gov/westwafwo/>.

### **10.2 Washington State Environmental Policy Act**

SEPA, (Chapter 43.21C RCW), requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. An EIS must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help project proponents and agencies identify impacts from proposal (and to reduce or avoid impacts from the proposal, if it can be done) and to help the agency decide whether an EIS is required.

To comply with the requirements of SEPA, the Trustees prepared and submitted an environmental checklist and provided copies of the Draft RP/EA for review. The plan is made available for a 30-day public review and comment from June 29, 2009 to July 29, 2009. Copies of the plan are provided free of charge to all interested parties and available for download at <http://www.fws.gov/westwafwo/>.

## **11.0 APPENDICES**

### **11.1 List of Acronyms and Abbreviations**

AST – Above Ground Storage Tank

CEQ - Council on Environmental Quality

CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act

CFR- Code of Federal Regulations

Compensation Schedule – Washington State Resource Damage Assessment Compensation Schedule

DOC - Department of Commerce

DOI - Department of the Interior

DOM - dissolved organic matter

EA – Environmental Assessment  
Ecology - Washington State Department of Ecology  
FEIS – final Environmental Impact Statement  
EFH - Essential Fish Habitat  
EIS - Environmental Impact Statement  
EA – Environmental Assessment  
ESA - Endangered Species Act  
FEIS – Final Environmental Impact Statement  
FWCA – Fish and Wildlife Coordination Act  
FWS - U.S. Fish and Wildlife Service  
MOA - Memorandum of Agreement  
MTCA – Model Toxics Control Act  
NPS - National Park Service  
NEPA - National Environmental Policy Act  
NOAA- National Oceanic and Atmospheric Administration  
NRDA - Natural Resource Damage Assessment  
NRDAR – Natural Recourse Damage Assessment and Restoration  
OPA- Oil Pollution Act of 1990  
Plan – Restoration Plan  
PSE – Puget Sound Energy  
PSETC – Puget Sound Energy – Crystal Mountain Trustee Committee  
RCW – Revised Code of Washington  
RP – Restoration Plan  
RP/EA - Restoration Plan/Environmental Assessment  
SEPA - Washington State Environmental Policy Act  
SRFB – Salmon Recovery Funding Board  
Trustees – Natural Resource Trustees  
USFS – U.S. Forest Service  
USFWS - U.S. Fish and Wildlife Service  
WAC – Washington Administrative Code  
WDFW - Washington Department of Fish and Wildlife

## **11.2. Restoration Projects Considered**

Table 3 lists restoration projects considered by the PSETC. The projects were selected and ranked according to the evaluation process discussed in Section 4.2 and 5.0.

**Table 3. Restoration projects considered**

				Custom Criteria					OPA Requirements						
				In Silver Creek	In Upper White and Greenwater	Improves water quality	ESA fish	Efficient Implementation	Cost Effectiveness	Return to baseline / comp for interim loss	Likelihood of success	Prevent future injury	Multiple natural resources	Public Health & Safety	Summary
Restoration Suggestion	Cost	Comments	Benefits	0-2	0-1	0-2	0-2	0-3	0-1	0-2	0 or 1	0-2	0 or 1	0 or 1	
Greenwater - road fill removal from abandoned road in floodplain is underfunded	\$300,000	SRFB funded \$480k for design and implementation of LW placement.	aquatic habitat and water quality	0	1	1	2	3	1	2	1	2	1	1	15
Flood Damage Repair to Huckleberry Creek Acclimation Pond	\$150,000	Replace water withdrawal and convert concrete pond to earthen pond	Spring Chinook fish production	0	1	0	2	3	1	2	1	2	0	1	13
Restoration of campsites in Greenwater and Huckleberry riparian areas	\$60,000	Vehicular access removal, revegetation, and signage. Assumes treatment of 20 sites plus NEPA documentation.	aquatic habitat and water quality	0	1	2	2	1	1	1	1	1	1	1	12
Helicopter support for acclimation pond planting at Cripple Creek	\$50,000	Assumes annual flights until Road 74 access is restored (estimated at 5 years)		0	1	0	2	0	1	1	1	2	0	1	9
Interpretive signs installed at Silver Springs campground to protect fish spawning areas and water quality	\$5,000	Trout Unlimited may provide match up to \$1,000	aquatic habitat and water quality	1	0	1	1	0	1	1	1	1	0	1	8
Land acquisitions/conservation easements				0	0	1	1	1	0	0	1	2	1	1	8
Assessment then potential wood placement in Silver Creek	\$100,000	This assumes LW placement is deemed necessary and \$50,000 for NEPA documentation	aquatic habitat and water quality	2	0	1	1	0	1	0	0	0	0	1	6
Temperature probes for all tributary streams where bull trout spawning is observed	\$1,000		bull trout production	0	1	0	1	0	1	0	1	0	0	1	5
Planning USFS road network reduction and stormproofing (ATM)	\$150,000	Provides a decision document on FS road management for the entire Upper White River	aquatic habitat and water quality	0	1	1	0	0	1	0	0	0	1	1	5