



DRAFT RESTORATION PLAN AND ENVIRONMENTAL ASSESSMENT FOR THE FOSS 248-P2 OIL SPILL ON DECEMBER 30, 2003



Prepared by:
The Foss-Pt. Wells Natural Resource Trustees

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Department of Ecology
Department of Fish and Wildlife
Department of Natural Resources

Suquamish Tribe

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

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

May 27, 2009

May 27, 2009

INFORMATION SHEET

for the

**RESTORATION PLAN and ENVIRONMENTAL ASSESSMENT (RP/EA) for the
December 30, 2003, Foss 248-P2 Oil Spill**

Lead Agency for RP/EA: U.S. Fish and Wildlife Service
Cooperating Agencies: National Oceanic and Atmospheric Administration,
Suquamish Indian Tribe,
Washington Department of Ecology
Washington Department of Fish and Wildlife
Washington Department of Natural Resources

Abstract: This 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 December 30, 2003, Foss Maritime Company (Foss) tank barge 248-P2 oil spill at the Point Wells asphalt facility. The selected restoration activities of the RP/EA include a combination of protection and enhancement activities to restore natural resource injuries resulting from the oiling of marsh and shoreline in north Port Madison in Central Puget Sound, near Indianola, Washington.

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Administrative Record: The documents comprising the Administrative Record can be viewed at the U.S. Fish and Wildlife Service, Washington Fish and Wildlife Office.

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

Date of Release: **May 27, 2009**

Executive Summary

On December 30, 2003, a spill occurred into Puget Sound during loading of oil onto the Foss Maritime Company (Foss) tank barge 248-P2 at the Point Wells asphalt facility in Shoreline, Washington (Figure 1). Approximately 4,637 gallons of Bunker fuel (#6) were released into the marine waters of Puget Sound. Impacted areas included intertidal and subtidal shellfish habitats of the coastal salt marsh estuary of Port Madison. Approximately 3.5 acres of the Indianola shoreline and 2.8 acres of the Doe-Kag-Wats marsh were oiled. In addition to habitat impacts, documented injuries also include oil impacts to birds, mammals, fish, bivalves, and recreational uses.

Claims for natural resource damages were settled by consent decree under the OPA of 1990 (OPA), 33 U.S.C. 2701 *et seq.* Under the consent decree the defendants agreed to pay \$338,281.00 to restore, rehabilitate, replace, or acquire the equivalent of natural resources injured by the oil discharge.

The Purpose of this Restoration Plan/Environmental Assessment (RP/EA), prepared by State, Federal, and Tribal Trustees, is to address restoration of natural resources injured by the 2003 Foss Pt. Wells oil spill. This RP/EA is presented to the public by the Natural Resource Trustees (Trustees) responsible for restoration implementation under the consent decree. The RP/EA describes the affected environment and illustrates potential restoration alternatives and their environmental consequences. Following consideration of public comments, the Trustees have selected an integrated restoration approach as their preferred alternative to restore, rehabilitate, replace, or acquire the equivalent of natural resources injured in the Foss Pt. Wells oil spill.

The Trustees have selected the following five restoration projects to address resource injuries from the incident.

- Log/Debris Removal and Invasive Species Management in Doe-Kag-Wats Marsh
 - To improve the habitat quality and habitable area for fish and waterfowl in the Doe-Kag-Wats marsh.
 - To increase area available for native plant species.
 - To remove potential contaminant sources from the marsh.
- Indianola Waterfront Preserve Marsh Restoration
 - To increase habitat for fish and wildlife
 - To enhance recreational value of wildlife viewing
- Shellfish Enhancement
 - To restore shellfish killed from oil exposure and oil clean-up actions.
- Tideland Acquisition
 - To increase public recreational access and shellfish harvest opportunity
 - To provide habitat protection
- Doe-Kag-Wats Beach Berm Enhancement
 - To protect, restore, and increase the ecological function of upland habitats impacted by clean-up activities
 - To decrease the vehicle traffic and parking footprint on the beach berm
 - To restore and protect areas for native plants and terrestrial habitats

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1.0 INTRODUCTION

1.1 Summary/Purpose

The purpose of this Draft Restoration Plan and Environmental Assessment (RP/EA), prepared by Federal, State, and Tribal Trustees, is to address restoration of natural resources injured by the Foss tank barge 248-P2 oil spill into Puget Sound at the Point Wells asphalt facility in Shoreline, 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 implementation of restoration actions under the Consent Decree and Memorandum of Agreement (MOA) filed in U.S. District Court, Western District of Washington, in the case of U.S. et al. v. Foss Maritime Company (Civil Action C08-1364-MJP). The RP/EA describes the affected environment and illustrates restoration alternatives and their environmental consequences. This RP/EA 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. In addition, the Trustees entered into a formal Memorandum of Agreement (MOA) to provide guidance for the coordination and cooperation of the trustees in planning and implementing restoration.

1.2 Incident Overview

On December 30, 2003, a spill occurred into Puget Sound during loading of oil onto the Foss tank barge 248-P2 at the Point Wells asphalt facility in Shoreline, Washington (Figure 1). A comprehensive overview of the incident, clean-up efforts, extent of oiling, and assessment efforts is described in the May 2005 report entitled *Data Collected to Support Response and NRDA Activities for the Foss 248-P2 Oil Spill of December 30, 2003*. This report is a part of the administrative record and is available upon request.

An estimated 4,637 gallons of Bunker fuel (#6) were released, based on the recovery of oil from the deck of the barge (approximately 1,075 gallons) and gauge readings on the barge and the facility (difference of 5,712 gallons). The release occurred at 12:05 a.m., and the U.S. Coast Guard (USCG) was immediately notified. During the night, federal and state response agencies as well as emergency response companies were notified and arrived on-site to assess the extent of oiling and initiate clean-up. By 8 a.m. on December 30, a Unified Command was established consisting of the USCG, Washington State Department of Ecology (Ecology), and the responsible party. Subsequently, representatives of the Suquamish Tribe and Kitsap County joined the Unified Command.

Helicopter overflights were initiated by 9 a.m. on December 30, 2003, to document the distribution of oil associated with sensitive resources and direct clean-up efforts. The primary oil slick moved approximately six miles south of the Point Wells facility off the eastern shore of Puget Sound by daybreak on December 30, and began moving to the northwest across Puget Sound. By 9:00 a.m., oil was observed within one mile of Port Madison on the west side of Puget Sound, and was observed within Port Madison before noon. The oil slick began coming ashore between Point Jefferson and Indianola on the afternoon of December 30 and had mostly completed coming ashore by the morning of December 31.

Figure 1. Project Area Map showing the location and movement of the oil spill



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 Foss Maritime Company through ENTRIX, Inc.; the National Oceanic and Atmospheric Administration (NOAA); the Suquamish Indian Tribe; the U.S. Fish and Wildlife Service (FWS); and Washington State Departments of Ecology (Ecology), Fish and Wildlife (WDFW), and Natural Resources (WDNR). 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 the 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 OPA of 1990; 15 CFR Part 990 (Department of Commerce natural resource damage assessment regulations); and the Consent Decree and MOA for the Foss-Pt. Wells Oil Spills (Civil Action C08-1364-MJP).

1.4 Overview of Fish and Wildlife Resources and Natural Resource Injuries

In general, injuries from the December 30, 2003, oil spill at the Point Wells facility were documented as:

- Oiling of the Doe-Kag-Wats salt marsh and estuary, a biologically and culturally sensitive site located on the Suquamish Tribal Reservation between Indianola and Point Jefferson.
- Oiling of several miles of shoreline in North Port Madison, Puget Sound important to recreational access, fisheries and shell-fisheries, as well as an important area for tribal shellfish harvests.
- Direct impacts to individual migratory birds, marine mammals, fish, and invertebrates.
- Impacts to public recreational access and uses as a result of beach closures due to the oil spill and its clean-up.

Detailed information on the impacts to natural resources associated with the Indianola shoreline, Doe-Kag-Wats marsh, open water and eastern shore of Puget Sound can be found in Section 3 of this RP/EA.

1.5 Coordination with Responsible Parties

State and Federal natural resource damage assessment (NRDA) regulations allow the trustees to invite the responsible party(ies) to participate in the NRDA process. Although the responsible party(ies) may contribute to the process, final authority for determining resource injuries rests with the Trustees. Accordingly, the Trustees delivered a formal invitation to Foss on February 9, 2004, to participate in the preassessment process, and Foss formally accepted the invitation by letter dated February 11, 2004. The Trustees and Foss have cooperatively worked together to address natural resource issues.

The Trustees and the responsible party formed an NRDA Committee, which met 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 the responsible party. This cooperative approach is consistent with OPA regulations and is intended to provide the opportunity for settlement of damage claims at reduced cost and without litigation.

1.6 Settlement of Natural Resource Claims

The Trustees and the responsible party evaluated the results of various preassessment and damage assessment studies including various oil spill models. In October 2008, the Trustees and Foss entered into a settlement agreement and consent decree to resolve the Trustees claims for resource injuries associated with the Oil Spill (Civil Action C08-1364-MJP). Under this consent decree, Foss agreed to pay a total of \$338,281.00 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. Of those funds, \$265,281.00 plus any interest earned from the NRDAR Account will be used for direct restoration of the injured resources and up to \$73,000 may be used to reimburse Trustees for their costs to plan and oversee the restoration projects.

The consent decree and MOA require the formation of a Trustee Committee to develop a Restoration Plan/Environmental Assessment before expenditure of funds. The Trustee Committee consists of representatives from the NOAA; the Suquamish Indian Tribe; the FWS; and Washington State Departments of: Ecology, WDFW, and WDNR. The objective for the Foss/Pt. Wells Restoration Committee is to plan and design, coordinate, and implement projects that restore, rehabilitate, replace and/or acquire the equivalent of natural resources injured by the oil spill as defined in the consent decree and the MOA.

The restoration funds were recovered under the OPA and the State's Water Pollution Control Act. OPA requires that the trustees develop a Draft and Final Restoration Plan 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 Foss/Pt. Wells Restoration Committee has developed this 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 this oil spill.

Public review of the 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 (15 CFR Part 990); NEPA (42 USC 4371 *et seq.*) 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 May 27, 2009 to June 26, 2009. Copies of the plan were also sent to local tribal and county governments, property owners, and other interested parties. Written comments received during this public comment period will be considered when preparing the Final RP/EA.

The Foss/Pt. Wells Restoration Committee has established an administrative record that contains information documenting the decision making processes that the committee used when identifying, evaluating, selecting, and implementing restoration projects. The administrative record can be viewed at the U.S. Fish and Wildlife Office, 510 Desmond Dr. SE, Lacey, Washington. Contact: Cindy Schexnider (360-753-4324, Cindy_Schexnider@fws.gov).

1.8 Summary of the Selected Restoration Project Alternative

The NRDA damage claim and settlement for the oil spill directs that the Restoration Fund shall be used only to develop, implement, evaluate and monitor restoration. The selected compensatory restoration actions were selected to meet the intent of the settlement.

The selected restoration alternative represents an integrated restoration approach that focuses on marsh and aquatic resource restoration, but is also expected to provide benefits to other fish and wildlife species in the area and improve recreational use. Section 5 of this RP/EA provides a more thorough description of the selected restoration alternative.

The Trustees considered a variety of different projects during the alternatives development stage. Several were expected to be beneficial but were rejected because they did not meet one or more of the selection and evaluation criteria developed by the Trustees. Refer to Appendix 10.3 for projects considered but rejected.

2.0 AFFECTED ENVIRONMENT AND NATURAL RESOURCE AREAS OF CONCERN

This section describes the restoration area and identifies natural resources of concern that could be affected by implementation of the RP. It describes the current restoration site conditions, which will be compared with conditions after restoration activities have been implemented. The primary restoration area refers to the geographic area primarily impacted by the spill (Fig. 1). The expanded restoration area refers to a larger area that has a biological connection to the primary area through an injured species or the food web to which it is a part.

The restoration area includes the marine waters of Puget Sound, specifically in Port Madison, its associated coastal salt marsh estuary, and both intertidal and subtidal shellfish habitats. The primary restoration area is the Indianola shoreline and Doe-Kag-Wats marsh, within Port Madison. The biological environment includes various fish, shellfish, birds, and other organisms.

2.1 Physical Environment of the Puget Sound/Port Madison Area

The area impacted by the oil spill and included for consideration in the restoration planning is geologically and biologically diverse. Puget Sound is located between the Cascade and Olympic Mountains in northwest Washington State. The northern Puget Sound region was greatly influenced by glaciation during the last Ice Age (10,000 to 20,000 years before present), leaving behind rugged mountains and glacial valleys. Geological processes influencing the Puget Sound ecosystem include the movement of land masses, glaciation, erosion, and deposition. Currents, tides, winds, and waves combined with freshwater inputs create a variety of estuarine habitats in the coastal zone of Puget Sound including coastal waters, rocky intertidal zones, exposed sand and gravel beaches, salt marshes, estuaries and bays (WDOE, 2001).

The Puget Sound coastline consists of sand and gravel beaches, rocky headlands, steep bluffs of glacial deposits, marsh areas, and estuaries. Beaches in Puget Sound are composed of substrate ranging from fine sand, mud, and shell fragments to gravel and cobbles.

The Port Madison and Sinclair Inlet sub-basin nearshore area is only 3% of the entire Puget Sound nearshore. Of the 96 miles of shoreline, 59% is armored. Small tributaries are a dominant feature. The Puget Sound Action Team (PSAT) identified and analyzed 39 pocket estuaries in the area, which represents the greatest concentration of pocket estuaries in Puget Sound with 1.86 per square mile. (Puget Sound Recovery Plan, 2004).

The Point Wells facility is approximately six miles, across open water, from the Port Madison area where the oil came ashore (Figure 2). The shoreline that was impacted by the oil primarily consists of unvegetated, exposed sand and gravel beaches, steep bluffs and a protected salt marsh. The beach area is exposed to high-energy wave action, which

contributes to high remobilization rates of beach sediments and results in substrate that is composed of coarse sand and cobble. This beach area is flanked on both sides by steep bluffs. The bluffs are typical of the Puget Sound region, consisting of unstable glacial sediments. The eroding bluffs provide much of the beach sediment.



Figure 2. Map showing the distribution of oil on the beaches between Indianola and Point Jefferson and in the Doe-Kag-Watts marsh from the Foss P-248 Oil spill.

2.2 Biological Resources

Puget Sound's biological resources include all living organisms that inhabit the marine waters and shorelines. These resources are plankton, invertebrates, fish, birds, mammals, and aquatic vegetation, including species that are either residential or migratory (Puget Sound Action Team, 2007).

The intertidal habitat along the Indianola shoreline likely supports a biological community typical of open, unvegetated rocky shorelines of Puget Sound. Representative fauna includes various bivalve and shorebird species.

2.2.1 Birds

In the Puget Sound basin, the greatest use of estuaries by birds occurs during periods of seasonal migration, as well as winter, with its influx of ducks, geese, shorebirds, loons, and grebes that breed elsewhere (Butler et al. 1989). Herons, bitterns, rails, cormorants, and bald eagles breed locally and feed in estuaries throughout the year, but their numbers are substantially augmented during the non-breeding season. Although northern harriers feed mostly on small mammals in marshes, eagles and other raptors, such as peregrine falcons, feed mainly on ducks and shorebirds. Songbirds use riparian areas and marshes for breeding as well as migration and wintering. Nearshore seabirds feed mainly on fish; diving ducks on benthic plants and invertebrates (Vermeer and Levings 1977). Herons feed on fish (Butler 1991); shorebirds on invertebrates, especially amphipods; and rails and bitterns on a wide variety of fish, invertebrates and insects.

Bird species observed along the Indianola shoreline during shoreline surveys included various waterfowl, gulls, crows, sparrows, and bald eagles (*Haliaeetus leucocephalus*).

Numerous bird species utilize the Doe-Kag-Wats marsh. Various species of waterfowl, gulls, crows, ravens, hawks, herons, sparrows, wrens, shorebirds, woodpeckers, bald eagles, and other waterbirds commonly occur in the area.

2.2.2 Federally Threatened and Endangered Species

Table 1 provides a list of federally listed endangered or threatened species reported to reside in or migrate through Puget Sound during the time of the oil spill (2003). Bald eagles (threatened at the time) were the only federally listed animal observed in the Doe-Kag-Wats marsh or Indianola beach during spill assessment activities. Bald eagles were de-listed from the Federal Endangered Species list in August 2007. Other animals that may potentially occur in the marsh or adjacent forested areas are brown pelican (*Pelecanus occidentalis*) and marbled murrelet (*Brachyramphus marmoratus*). Steller sea-lions (*Eumetopias jubatus*), also a threatened species, may occur in Puget Sound year-round (Johnson and O'Neil, 2001). Chinook salmon (*Oncorhynchus tshawytscha*) (threatened) occur in Puget Sound and may occur in the Port Madison area. No federally listed plants are known to occur in the Doe-Kag-Wats marsh or along Indianola beach. No federally designated critical habitat is present in the marsh or beach area.

Table 1. Federal Endangered and Threatened Species in the Puget Sound Region (*not all are likely to occur in the spill impact zone*).

| Common Name | Scientific Name | Status |
|----------------------------------|-----------------------------------|------------|
| MAMMALS | | |
| Steller Sea-lion | <i>Eumetopias jubatus</i> | Threatened |
| FISH | | |
| Chinook Salmon (Puget Sound ESU) | <i>Oncorhynchus tshawytscha</i> | Threatened |
| Bull Trout | <i>Salvelinus confluentus</i> | Threatened |
| BIRDS | | |
| Bald Eagle | <i>Haliaeetus leucocephalus</i> | Threatened |
| Marbled Murrelet | <i>Brachyramphus marmoratus</i> | Threatened |
| Short-tailed Albatross | <i>Phoebastria albatrus</i> | Endangered |
| Northern Spotted Owl | <i>Strix occidentalis caurina</i> | Threatened |
| Brown Pelican | (<i>Pelecanus occidentalis</i>) | Endangered |
| PLANTS | | |
| No listed species in the area | NA | NA |

The Puget Sound Technical Recovery Team did not identify any historically independent Chinook populations which originate in the Port Madison and Sinclair Inlet sub-basin. However, the sub-basin supports abundance, productivity, spatial structure and diversity for Chinook populations from the main basin (Central Puget Sound). Juvenile Chinook salmon from neighboring populations (e.g., central Puget Sound sub-basin) utilize this sub-basin for feeding and growth, refuge, physiological transition and as a migratory corridor (Redman, et al., 2005). There are no known occurrences of Hood Canal/Eastern Strait of Juan de Fuca summer chum populations in this sub-basin. Use of the area by anadromous bull trout appears to be infrequent based on the current available data. (Chan, 2007)

2.2.3 Fish and Shellfish

The area impacted by the Foss Pt. Wells oil spill supports a variety of bivalve species including Manila (*Venerupis philippinarum*), littleneck (*Protothaca staminea*), cockle (*Clinocrdium nuttallii*), softshell (*Mya arenaria*), and butter (*Mya arenaria*) clams. The subtidal habitat periodically supports a commercial harvest of geoducks (*Panopea abrupta*).

Sub-adult and adult salmon from neighboring populations utilize habitats within the Port Madison/Sinclair Inlet sub-basin as a passage corridor and grazing area. Juvenile Chinook salmon from non-natal populations use the area for feeding and growth,

refuge, physiological transition and as a migratory corridor. Port Madison supports prey species, such as surf smelt and herring stock, important to piscivorous fish and birds and marine mammals. Many hatchery salmonids are released in this area as well.

2.2.4 Vegetation

The Doe-Kag-Wats salt marsh is dominated by native marsh vegetation such as *Salicornia virginica*, and some invasive species are also present, such as *Spartina alterniflora*. Queries of the WDNR ShoreZone Inventory data show patches of eelgrass (*Zostera marina*) and brown algae are found in the intertidal zone within the impact area.

2.2.5 Marine Mammals

Nine primary marine mammal species occur in Puget Sound including (listed in order of abundance): harbor seal (*Phoca vitulina*), California sea lion (*Zalophus californianus*), Steller sea lion (*Eumetopias jubatus*), Northern elephant seal (*Mirounga angustirostris*), harbor porpoise (*Phocoena phocoena*), Dall's porpoise (*Phocoenoides dalli*), killer whale (*Orcinus orca*), gray whale (*Eschrichtius robustus*), and minke whale (*Balaenoptera acutorostrata*).

2.3 Cultural Resources

Following the last Ice Age (10,000 to 20,000) years ago, transient hunter-gatherers arrived in the Puget Sound Basin. The area provided a temperate and biologically productive environment. The Port Madison shoreline affected by the spill lies within the Port Madison Indian Reservation of the Suquamish Tribe. The Doe-Kag-Wats marsh is used by the Tribe for ceremonies and gatherings. Harvest of marsh vegetation is also an option for the Tribe. The Tribe harvests intertidal and subtidal shellfish in the Port Madison area including along Indianola Beach. There are no known archaeological resources associated with potential restoration areas. However, any specific restoration actions would be coordinated with the State Historic Preservation Officer and Tribal archaeologists prior to implementation.

2.4 Federal and State Protected Areas

There were no known impacts from the spill to federal or state protected areas.

3.0 INJURED RESOURCES

Initial field assessment efforts focused on collecting ephemeral data concerning the distribution of oil and protecting sensitive resources. The primary methods for determining the distribution and magnitude of oil included helicopter overflights; standardized shoreline and marsh oiling surveys; qualitative boat-based inspections; and water, sediment, and shellfish tissue chemistry analyses. In general, these surveys delineated the temporal and spatial extent of oiling, the type and number of oiled wildlife observed, and the concentrations of petroleum-hydrocarbon constituents in water, sediment, and shellfish tissue. A complete summary of these efforts is described in the Entrix, Inc. May 2005 report entitled *Data Collected to Support Response and NRDA*

Activities for the Foss 248-P2 Oil Spill of December 30, 2003. This report is a part of the administrative record and is available upon request.

The December 30, 2003, oil spill at the Point Wells facility oiled approximately 2.8 acres of marsh and 3.5 acres of open shoreline habitat (Table 2). Six birds were documented as oiled according to records of the USFWS and the International Bird Rescue Research Center (IBRRC). Two of the oiled birds were cleaned and released. One seal was documented to be oiled, which subsequently died (cause of death was undetermined), and there were two other unconfirmed reports of oiled seals that were investigated but could not be confirmed. There were a total of three dead fish collected during the field surveys, all in the vicinity of the Indianola shoreline (cause of death was undetermined). Quantitative analyses indicate that some bivalves along the Indianola shoreline were exposed to oil and had elevated concentrations of petroleum hydrocarbon constituents (PAHs) in their tissues. Additional information on the impacts to natural resources associated with the Indianola shoreline, Doe-Kag-Wats marsh, and open water and eastern shore of Puget Sound is provided below.

Table 2. Summary of Reported Natural Resource Injury

| Injury Category | Injury Estimate | Preferred Restoration Projects |
|--|--|---|
| Doe-Kag-Wats Salt Marsh Habitat Impacts | 2.8 acres of oiled marsh <i>(0.1 acres heavy oiling, 0.5 acre moderate oiling, 1.1 acres light oiling and 1.1 acres very lightly oiled)</i> | Log/Debris Removal and Invasive Species Management in Doe-Kag-Wats Estuary Indianola Waterfront Preserve Marsh Restoration |
| Intertidal Shoreline Habitat Impacts | 3.5 acres of oiled shoreline <i>(2.4 acres were heavily oiled and 1.1 acres were lightly oiled)</i> | Doe-Kag-Wats Beach berm restoration Log Removal and Invasive Species Management in Doe-Kag-Wats Estuary Indianola Waterfront Preserve Marsh Restoration Tideland Acquisition |
| Birds, marine mammals, salmon, marine fish and aquatic biota impacts | <p><u>Birds:</u> Six (6) birds were documented as oiled, 2 of those were rehabilitated and released. Other marine birds were observed in the spill area but were not recovered.</p> <p><u>Marine Mammals:</u> Harbor seals were observed in spill area. <i>Two dead harbor seals were recovered (1 was oiled) by search teams but the deaths were not likely associated with the spill.</i></p> <p><u>Salmon, Marine Fish and Aquatic Biota:</u> Salmon and marine fish in water column, nearshore, and estuarine habitats in the spill area were likely exposed and injured from the spill. <i>(Several dead fish were found during</i></p> | Doe-Kag-Wats Beach berm restoration Log/Debris Removal and Invasive Species |

| | | |
|-------------------------------|---|---|
| | <i>beach surveys but were not likely killed from the spill.)</i> | Management in Doe-Kag-Wats Estuary Indianola Waterfront Preserve Marsh Restoration |
| Intertidal Shellfish/Bivalves | An estimated 1,000 kilograms of clams were killed from the oil spill and shoreline clean-up activities at Pt. Jefferson. | Shellfish Enhancement Tideland Acquisition |
| Human Recreational Use Losses | Beach closure restricted public access of 1.5 miles oiled beach during active clean-up at Point Jefferson for 115 days. Recreational intertidal shellfish harvest closure on two public access beaches at East Indianola and W. Pt Jefferson for 246 days. Subtidal tidelands in North Port Madison and Jefferson Head area were closed to geoduck harvest for 96 days. | Tideland Acquisition Shellfish Enhancement Indianola Waterfront Preserve Estuarine/Marsh Restoration Doe-Kag-Wats Beach Berm Enhancement |

3.1 Marsh

Oil entered the Doe-Kag-Wats marsh via the tidal inlet on December 30. There was minimal evidence of additional new oil entering the marsh after December 31, although an oil sheen did flow back and forth through the inlet based on the tidal cycle. Between January 2 and 4, a comprehensive marsh survey was conducted to determine the extent and magnitude of oiling. The survey found that a total of 2.8 acres was categorized as oiled ranging from very light to heavy. During certain tidal conditions, small patches of sheen may have floated beyond this oiled area, but there were no observations of oiled vegetation or substrate beyond the 2.8 acres.

Of the 2.8 acres of oiled marsh, 0.1 acre was heavily oiled, 0.5 acre was moderately oiled and the remaining 2.2 acres was categorized as lightly or very lightly oiled. The heavy and moderately oiled area was primarily located at the tidal inlet to the marsh.

Water sampling conducted in the marsh inlet two days after the spill indicated that levels of dissolved petroleum hydrocarbon constituents were low or non-detectable (TPH-Diesel was non-detectable and PAH concentrations were a maximum of 0.01 ppb). While it is possible that some wildlife may have been oiled, there was no documentation of oiled or dead birds, mammals (including marine mammals), or fish associated with the oil spill in the marsh.

3.2 Shoreline

On December 30 and 31, 2003, a large proportion of the oil came ashore on the open rock-and-sand shoreline on the western shore of Puget Sound, specifically on the northern shore of Port Madison between Indianola and Point Jefferson. The oiled shoreline extended approximately 1.5 miles, and totaled approximately 3.5 acres based on initial shoreline oiling survey results. The degree of shoreline oiling was categorized as heavy, moderate, light, and very light using standard shoreline oiling assessment methods developed for oil spills by the U.S. Coast Guard (Figure 2.). Of the total acreage oiled, 2.4 acres was categorized as heavy, 0.7 acres was moderate, 0.4 acres was light, and less than 0.1 acre was categorized as very lightly oiled. The most heavily oiled shoreline was in the upper and middle intertidal zone in the immediate vicinity of the Doe-Kag-Wats tidal inlet. Oil penetrated 25-50 cm into the sediments in this area and required extensive flushing with water pumps and sediment reworking to remove the subsurface oil. Field observations and shoreline oiling surveys confirmed that there was no evidence of shoreline oiling along the eastern shore of Puget Sound.

3.3 Open Water

Prior to floating ashore along the Indianola shoreline and Doe-Kag-Wats marsh, the oil floated south along the eastern shore of Puget Sound approximately six miles from the Point Wells facility. It was then blown to the northwest across Puget Sound, reaching the Port Madison area within 12 hours of the spill.

Water and sediment sampling along the eastern shore of Puget Sound found little evidence of oil in the water column or sediment. Inside the containment boom at Point Wells, TPH concentrations in the water were approximately 10 ppm within 24 hours of the spill and less than one ppm within 48 hours. All total PAH concentrations were below 0.5 ppm in eastside water samples including those collected at Point Wells.

3.4 Birds

Wildlife collection and reconnaissance surveys were initiated immediately following the spill and conducted throughout the general spill area in Central Puget Sound through January 5, 2004. Qualitative wildlife surveys continued for approximately two more months (daily to twice/week) in oiled areas along the Indianola shoreline and in the Doe-Kag-Wats marsh.

In all, 16 birds were recovered, 6 of those were documented as oiled, and 2 of the 6 were rehabilitated and released. The birds were collected over an area extending from the Edmonds Ferry Dock to Golden Gardens Park along the eastern shore to Kingston Marina on the west side of Puget Sound. These bird numbers reflect actual recoveries and documented oiling; one herring gull (*Larus argentatus*), one western grebe (*Aechmophorus occidentalis*), one horned grebe (*Podiceps auritus*), one red-necked grebe

(*Podiceps grisegena*), one pied-billed grebe (*Podilymbus podiceps*), and one Canada goose (*Branta Canadensis*).

More birds were observed as oiled, but were not captured. There were reported to be up to 50 birds in the immediate vicinity of the oil slick during the first helicopter overflight on the morning of December 30, 2003. Birds and wildlife in the waters around the Point Wells facility were surveyed several times during the first week after the spill. Gulls, grebes, and goldeneye were observed within the containment boom at the Point Wells facility displaying oiled behavior. None of these animals could be captured nor were any oiled birds collected from surrounding beaches. During the initial days and weeks of the spill, there was relatively little bird activity noted in the oiled Doe-Kag-Wats marsh likely due to the active clean-up efforts along the adjacent shoreline and staging area, and the unseasonably cold weather. No dead birds were found in the marsh, although there was an unconfirmed report of an oiled bald eagle and two oiled gulls. The actual total bird mortality is higher than reflected by the documentation because some carcasses were likely sunk, scavenged, or not found by rescue or clean-up workers.

3.5 Bivalves

Intertidal bivalves in the spill area include Manila, cockle, littleneck, butter, softshell, and geoduck clams. Manila clams are typically found in the upper intertidal zone (up to eight foot tidal elevation). Cockles are mobile clams that are found in both the upper and lower intertidal zone. Manila, littleneck, softshell, and butter clams may be found lower in the intertidal zone (about -3 to +4 foot tidal elevation). Geoduck clams are present in the lower intertidal zone and are relatively common in the subtidal zone. The bivalve densities along the Indianola shoreline are reported to be highly variable and densities along the oiled portion of the shoreline appear to be relatively low based on substrate characteristics, anecdotal reports, and sampling effort required for this project.

In the three weeks following the spill, tissue samples were collected from intertidal bivalves along the heavily oiled shoreline including Manila, cockle, littleneck, softshell, and butter clams. The tissue samples were analyzed to assess the concentration of oil, specifically polycyclic aromatic hydrocarbons (PAH), in the tissue. Tissue concentrations ranged from less than 200 parts per billion (ppb) to over 17,000 ppb total PAH. The lowest concentration was in a littleneck clam sample, and approximated the ambient concentrations in intertidal bivalves in Puget Sound. The highest concentrations were found in Manila and cockle clam tissues. Three composite butter clam samples were collected approximately six weeks after the release and the maximum tissue concentration was 5,200 ppb total PAH.

A literature review was conducted to assess whether the measured tissue concentrations would cause lethal or sub-lethal effects to bivalves. The review found that the tissue concentrations in the Indianola bivalves were approximately two to four orders of magnitude below acute or lethal values identified by DiToro et al.

(2000). Similarly, the Indianola tissue concentrations were one to three orders of magnitude below concentrations associated with reduced feeding, reduced growth rates, or other chronic effects (Widdows et al. 1987, Donkin et al. 1989, DiToro et al. 2000).

Bivalves in the most heavily oiled area were primarily impacted by shoreline clean-up activities. The most heavily oiled shoreline was in the upper intertidal zone in the immediate vicinity of the Doe-Kag-Wats tidal inlet. Oil penetrated 25-50 cm into the sediments in this area and required extensive flushing using water pumps and sediment reworking to remove the subsurface oil. The sediment reworking and surf washing redistributed the beach sediments and the associated biological community, including bivalves. Field observations indicate that bivalves in this cleanup area were dislodged from their habitats and died as a result of these cleanup actions.

A conservative estimate of bivalve injury was developed for restoration purposes based on the extent of oiling and information on shellfish biomass. Manila and cockles tend to occur in the upper and middle intertidal zones, which was the primary portion of the intertidal habitat that was oiled. Historic bivalve population surveys conducted by the Suquamish Tribe along the Indianola shoreline indicate that the biomass of Manila clams was approximately 100 kilograms per acre (kg/acre). To conservatively incorporate the other bivalve biomass that could be present in the upper intertidal zone, other bivalve species (primarily cockles) were assumed to be three times as productive as Manila clams (300 kg/acre). Thus, the theoretical bivalve biomass in the upper intertidal zone that was oiled would be 400 kg/acre. This biomass was applied to the shoreline acreage that was categorized as heavily oiled (2.4 acres) equaling 960 Kg in the oiled area. For purposes of bivalve enhancement, injury to bivalve resources was assumed to be 1,000 kilograms.

3.6 Marine Mammals

Two seals were reported inside the Point Wells facility booms on December 30. One harbor seal was collected and subsequently died (Table 2). The necropsy report indicates the seal was oiled and had pneumonia. The second harbor seal escaped the boomed area and was not collected. The WDFW - Marine Mammal Investigations Unit received two additional unconfirmed reports from the public of live oiled seals. On December 31, 2003, one live seal was reported to have oil on it at Edmonds Beach. This animal could not be located during subsequent searches conducted by the National Marine Fisheries Service. One un-oiled, dead seal was collected outside of the spill area on January 2, 2004.

3.7 Recreation

Human recreational use was impacted along the Indianola shoreline and Doe-Kag-Wats marsh. The primary impacts included 115-day all access beach closure in the area of active cleanup operations along Indianola and the Doe-Kag-Wats marsh, and a 246 day shellfish harvest closure/advisory along approximately 2 miles of the Indianola shoreline.

Subtidal tidelands in North Port Madison and Jefferson Head area were closed to geoduck harvest for 96 days. For the purposes of restoration planning, it is assumed recreational activities have been impacted over approximately two miles of beach including the 1.5 miles of previously oiled shoreline.

4.0 RESTORATION PLANNING

4.1 Restoration Strategy

Since resource damages for the Foss Pt. Wells oil spill were recovered under the authority of OPA 1990, the trustees were required to develop this restoration plan under the 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.

The Trustees have developed this RP/EA to comply with the directives and intent of the Settlement Agreement, Consent Decree and MOA in U.S. et al. v. Foss Maritime Company (Civil Action C08-1364-MJP) and with regulatory requirements under OPA, NEPA, and SEPA.

In developing this RP/EA, the trustees and the responsible party 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 Foss 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 Foss Spill.”*

Restoration actions under the OPA regulations are either primary or compensatory. Primary restoration is action(s) taken to return the injured natural resources and services to baseline on an accelerated time frame by directly improving the resources or services damaged. 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 will 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 will 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 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 Project Alternatives

OPA regulations recommend that the Trustees state their preferred alternative(s) and explain the basis for their selection or rejection of other alternatives. The Foss – Pt. Wells Restoration Committee evaluated and selected restoration projects using guidance provided in OPA 90, 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.

OPA regulations recommend that the Trustees develop a reasonable range of primary and compensatory restoration projects and then identify the preferred projects based on criteria provided at 15 CFR Part 990.54(a):

1. Cost to carry out the project.
2. Extent to which each project 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. Likelihood of success of each project.
4. Extent to which each project would prevent future injury as a result of the incident and avoid collateral injury as a result of implementing the alternative.
5. Extent to which each project benefits more than one natural resource and/or service.
6. Effect of each project on public health and safety.

The MOA lists the following guidance on use of the FOSS NRD funds:

1. The funds in Foss NRD 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 Foss Spill.

2. To the extent practicable, the Trustees will use the funds in the Foss NRD Fund for natural resource restoration or replacement activities within close proximity to the Foss Spill site and within the same river system so as to provide equivalent habitat, resources, and services.
3. The funds in the Foss Spill NRD Fund 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 placed in the Foss Spill NRD Fund 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 Foss Spill NRD Fund and managing the Trustee decision making and restoration implementation process.
5. Funds in the Foss Spill NRD Fund 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.

In addition, the trustees considered other factors including:

1. Cost effectiveness.
2. Opportunities to collaborate with other entities involved with restoration planning.
3. Compliance with applicable state and federal laws and policies.

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 10 factors:

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

4.3 Summary of Restoration Projects Considered

The restoration alternative presented in this draft RP is for compensatory restoration. The Trustees believe that compensatory restoration is more appropriate than primary restoration to return natural resources injured in this spill to their baseline condition. The size or scale of the compensatory restoration projects depend on the nature, extent, severity, and duration of the resource injury.

Early in the restoration planning process, the trustees and the responsible party considered the injuries caused by the spill and developed a list of nine projects with appropriate nexus to the injury. The projects included a variety of restoration options including marsh creation and enhancement, enhancement of aquatic resources, and upland and tideland acquisition. All projects in the preferred alternative are from this initial list.

The trustees considered using several different scaling methods – including contingent valuation for recreational use and the WA state compensation schedule – to determine the amount of restoration needed to compensate for the injuries resulting from the spill. Developing these methods to the necessary degree of certainty would have required a considerable investment of resources and the Trustees determined that the necessary level of effort for this work could not be justified by the scale of the injury apparently caused by the Point Wells spill. The trustees and the responsible party agreed that moving straight to restoration would be more appropriate than spending time and effort on further scaling activities.

The OPA regulations provide in 15 CFR §990.25, that Trustees may “settle claims for natural resource damages under this part at any time, provided that the settlement is adequate in the judgment of the trustees to satisfy the goal of OPA and is fair, reasonable, and in the public interest, with particular consideration of the adequacy of the settlement to restore, replace, rehabilitate, or acquire the equivalent of the injured natural resources and services.” Employing the results of an initial habitat equivalency analysis (HEA) it had unilaterally developed, they proposed to develop a subset of the identified restoration projects. To ensure that the settlement was in the public interest and adequately compensated the public for injuries caused by the spill, the Trustees insisted upon the broader list of projects currently identified as the preferred alternative. The Trustees judged that the expanded project list would provide a significant margin of error that would ensure that any uncertainty resulting from the informal initial HEA results would be resolved in favor of the public. The Trustees judge that this conservative approach should completely compensate the public for spill-related injuries.

The restoration alternatives identified below as preferred are based on preliminary designs. The final selected projects may require refinements or adjustments to suit site conditions or other factors. Specific restoration project designs also may change to reflect public comments and further Trustee analysis.

5.0 EVALUATION OF RESTORATION ALTERNATIVES

The general restoration types include a no-action alternative and an integrated restoration alternative. The integrated restoration alternative includes five preferred restoration options that the Trustees believe best compensate the public for injuries to natural resources from the Foss Pt. Wells oil spill. Table 3 provides a summary of the preferred restoration projects under the integrated restoration alternative. Additional restoration projects considered but not selected are included in Appendix 10.3.

Table 3. Summary of Preferred Restoration Projects under the Integrated Restoration Alternative

| Preferred Restoration Project | Project Description | Restoration Objectives |
|--|--|--|
| Log/Debris Removal and Invasive Species Management in Doe-Kag-Wats Marsh | Remove creosote-treated wood, non-natural “anthropogenic” wood and other marine debris from selected channels in the marsh to increase area and amount of fish and wildlife habitat. Manage and control invasive species in the marsh and prevent invasive species from colonizing restored areas. Restore native plant species within the marsh. | Improve marsh and estuarine habitat for fish and wildlife. Improve the habitat quality and habitable area for fish and waterfowl in the Doe-Kag-Wats marsh. Increase the area available for native plant species. Remove potential contaminant sources from the marsh (i.e., creosote-treated wood). |
| Indianola Waterfront Preserve Marsh Restoration | Restore an estuarine pocket estuary and wetland at the 3.5 acre Indianola waterfront preserve. This site has dredge spoils which were used to fill the original estuary, which was part of Miller Bay. This project would contribute to the estuarine restoration portion of this multiple-phase project. Remove fill from approximately 0.3 acre of marsh and re-vegetate with native plants. | Increase aquatic estuarine habitat for fish and wildlife. Improve compatible recreational opportunities for the public (e.g., wildlife viewing). |
| Shellfish Enhancement | Seeding of shellfish (½ acre of clams and ¼ acre of oysters) in intertidal areas of Indianola or other location in Port Madison. | Enhance intertidal shellfish resources and provide increased recreational and subsistence harvest opportunities along the Indianola and Port Madison shoreline. |
| Tideland Acquisition | Acquisition of tideland parcel (approximately 1.5 acres) to add to existing state park tidelands. | Increase public access, increase shellfish harvest and other compatible recreational use opportunities. Habitat protection. |
| Doe-Kag-Wats Beach Berm Restoration | Redesign parking areas and reduce amount of road bed utilizing large woody debris and other natural features to confine vehicle use area. Replant beach berm area with native vegetation. Establish formal gathering places and recreational use locations (construct permanent fire pits and picnic tables). | Restore natural features and ecological functions to the beach berm area near the mouth of the Doe-Kag-Wats estuary. Improve recreational use amenities available to the tribe and public. |

The primary goal of the proposed restoration is to meet the statutory objective to compensate the public for injuries to natural resources from the Foss Pt. Wells oil spill. Injury was clearly documented to marsh and shoreline habitats, birds, shellfish, and human recreational uses. Therefore, the goals of the Trustees as outlined in this RP/EA are to restore, rehabilitate, and/or replace those injured resources. The proposed habitat restoration projects provide maximum benefit to a range of natural resources that may

have been injured by the spill, including birds, fish, shellfish, as well as other species that use those environments, and the human recreational activities associated with them. Section 5.2 describes the restoration projects in the preferred integrated restoration alternative. 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 by the Trustee Committee before implementation of any project.

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, the interim losses suffered would not be compensated under the no-action alternative. 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.

Primary restoration for many of the injured resources may have occurred through natural recovery processes. However, 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 spill 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. Failure to undertake compensatory restoration projects would result in uncompensated interim losses of natural resources. Accordingly, the no-action alternative is not preferred for compensatory restoration.

5.2 Preferred Integrated Restoration Alternative

The integrated restoration alternative involves acquisition and restoration of estuarine marsh and tidelands, as well as, enhancement of shellfish populations. This preferred restoration alternative compensates the public for injuries to salt marsh and intertidal shoreline habitats; aquatic and terrestrial fish, wildlife, and plants; and human recreational uses. The preferred projects include: log/debris removal and invasive species management in Doe-Kag-Wats Marsh; Indianola Waterfront Preserve estuarine/marsh restoration; shellfish enhancement; tideland acquisition; and Doe-Kag -Wats beach berm restoration.

5.2.1 Log/Debris Removal and Invasive Species Management in Doe-Kag-Wats Marsh

5.2.1.1 Restoration Objectives. Improve the habitat quality in the Doe-Kag-Wats marsh by: 1) Removing creosote-contaminated wood, selected large woody debris, and marine debris impacting the biological community of the marsh, and 2) managing growth and expansion of the invasive plant *Spartina alterniflora* and other invasive plant species in the marsh.

5.2.1.2. Project Description. The Doe-Kag-Wats marsh has an inordinate amount of large woody debris (LWD) deposited in a wrack line along the midsection of the marsh parallel to the shoreline. In general, this extensive LWD impacts vegetative growth since the logs lay on the substrate or in piles on the substrate. Of additional concern is that much of the material is cut logs that average about 20 feet in length and are more mobile than naturally recruited trees, since they do not have a root-wad to stabilize them. Therefore, they float or roll more easily with the tides than naturally-occurring LWD with the root structure attached. Log movement results in a larger impact to the marsh habitat than the footprint of the log itself. Field observations indicate some individual logs may roll across marsh habitat up to 25 feet or even 50 feet (i.e., 50 times the log diameter). The resulting impacts to native vegetation could disturb the vegetative community and provide colonization sites for invasive species, such as *Spartina alterniflora*.

Approximately 5% to 10% of these cut logs have been previously soaked in creosote, and may cause greater impact to the marsh habitat by leaching contaminants into the marsh. Removal of cut logs, especially unstable and creosote logs, would serve to eliminate adverse, anthropogenic impacts to the native marsh vegetation, increase the area available for native plant species, reduce the potential expansion of invasive species in the marsh, improve hydrologic circulation, and eliminate a contaminant source to the Doe-Kag-Wats marsh.

Log removal would focus on cut logs in or near tidal channels, and creosote logs from the channels or the marsh plain in a manner that does not substantially impact the marsh. Removal may require using a chainsaw to reduce the logs to a manageable size and floating or hauling the logs out of the marsh with a small boat during high tides or other methods may be used in order to avoid incidental impacts on the marsh. Once the cut logs are removed from the marsh, the creosote logs would need to be disposed of following hazardous waste procedures. The logs that have not been soaked in creosote may be used for firewood, building material, fill, or properly disposed of at a landfill, depending on the quality of the wood. To maximize the benefit of the effort, log removals would be repeated periodically to minimize the redistribution of logs and maintain the marsh habitat.

Spartina alterniflora is an invasive wetland plant that has been documented in Doe-Kag-Wats marsh. Various *Spartina* species have invaded wetlands throughout the Puget Sound area. The invasive plant tends to out-compete native vegetation,

especially in disturbed areas, and can alter the long-term wetland habitat by trapping sediments thereby raising the elevation of the substrate and reducing the wetland function.

In Doe-Kag-Wats marsh, the Suquamish Tribe has identified approximately 2.8 acres of *Spartina alterniflora*. Management of this invasive species would focus on a combination of mechanical removal and chemical applications. The most efficient mechanical method for removal in the Doe-Kag-Wats marsh is digging up the plants and their roots. Mechanical removal would focus on maximizing the elimination of subsurface rhizomes since they can recolonize the area even if the aboveground portion of the plant is removed. Similarly, care would also be taken to remove all plant parts from the marsh and dispose of them appropriately without spreading the seeds or rhizomes (such as on equipment or clothing). Substantial effort would be required for the first year to limit the extent of the *Spartina* in the Doe-Kag-Wats marsh, and then ongoing monitoring and control would be necessary on an annual basis.

5.2.1.3 Benefit. It is assumed that the presence of the logs reduces habitat quality since they may completely prevent vegetative growth beneath the log (conservatively estimated at five times the diameter of an “average” log), and substantially reduce growth within the area physically impacted by rolling/floating logs and chemically impacted by creosote. Once the logs are removed, the habitat quality would increase gradually via recolonization of native vegetation (assumed to be approximately three years) and would permanently eliminate log-related impacts.

Invasive plants out-compete native vegetation. By removing invasive plants and maintaining the control of them, wetland functions would be improved and protected.

5.2.1.4 Environmental and Socio-Economic Consequences. This project is not expected to have any significant adverse environmental or socio-economic impacts. Positive benefits would be realized by eliminating a substantial physical and chemical anthropogenic impact to the biological community and enhancing the natural wetland habitat by eliminating or decreasing the non-native vegetation that out-competes native wetland vegetation.

5.2.1.5 Probability of Success. The probability of success is high for LWD removal since the effort is primarily dependent on physical labor. The probability of long-term success for the invasive vegetation control is relatively high since there has been success with these strategies in other places.

5.2.1.6 Cost-Effectiveness. The LWD removal project should be cost-effective since it does not require technological innovations and is not dependent on seasonal weather conditions or biological productivity. It is assumed the LWD removal would

require a four-person team a total of four weeks per year for log removal and disposal. To be conservative, the restoration proposal is for work to be repeated at least once a year for 3 years.

The control of invasive plants should be cost-effective since it would be essentially mechanical removal and would control the future spread of invasive vegetation. If delayed and *Spartina* spreads, this work could become much more costly to implement.

5.2.1.7 Performance Criteria and Monitoring. The success criteria for this project would be documenting the increase in natural re-vegetation following log and invasive plant removal, as well as confirming successful eradication of invasive plants. Log removal efforts may be repeated periodically to minimize the redistribution of logs and manage invasive vegetative species. A monitoring plan will be developed with the goal of measuring success.

5.2.1.8 Evaluation. This project is a preferred restoration alternative since the resource that would be restored is in-kind and on-site within the Doe-Kag-Wats marsh. The restoration alternative has a high likelihood of success and would result in long-term benefits to multiple resources. It should be a cost-effective approach to restoring the resources injured by the oil spill.

5.2.2 Indianola Waterfront Preserve Marsh Restoration

5.2.2.1 Restoration Objectives. 1) Restore 0.3 acres of historic marsh habitat that was converted to upland habitat in the Indianola Waterfront Preserve and, 2) enhance the quality of marsh habitat in the Indianola Waterfront Preserve (IWP).

5.2.2.2 Project Description. The Indianola Chapter of the Great Peninsula Conservancy (GPC) and Kitsap County Parks and Fair has developed a management plan for the Indianola Waterfront Preserve (IWP) that specifies recommendations for enhancing the quality of marsh habitat (Springwood Associates, Inc. 2001). These recommendations include: restoration of marsh habitat in the IWP to recreate the marsh habitat that was lost to historic filling practices, implement invasive species control, improve recreational access, and modify to the hydrologic flow to Miller Bay.

IWP management plan (Springwood Associates, Inc. 2001) recommends replacing the existing 18-inch culvert with a structure that allows unrestricted tidal flow between the Preserve and Miller Bay, such as a box culvert or bridge. This project was reviewed during the development of the RP by the trustees but set aside due to the estimated cost. Subsequently, the Salmon Recovery Funding Board (SRFB) funded the design for culvert

replacement (2006), which was completed in 2008. Federal and state investigations into the safety and handling violations of the Pt Wells oil spill lead to a settlement for violations amounting to \$415,000. These monies have been transferred to Kitsap County for the implementation of the culvert replacement project designed with the SRFB grant. The project is currently in the process of acquiring final permits for construction. The permits and design work include the marsh restoration component discussed here.

This project would utilize restoration funds to restore approximately 0.3 acres of marsh habitat that was historically filled with substrate dredged from Miller Bay. Project design has already been completed using the SRFB grant (2006) and is intended to be constructed, in conjunction with the culvert replacement (separately funded), in the summer of 2009.

Marsh restoration would entail excavating the existing fill using heavy equipment, and revegetating the reclaimed area with native vegetation.

5.2.2.3 Benefit. This project is expected to restore approximately 0.3 acres of marsh habitat that would offset ecological function lost as a result of the spill. Coupled with the culvert replacement, the ecological benefits include more than 0.8 acres of new intertidal habitat.

5.2.2.4 Environmental and Socio-Economic Consequences. This project would provide positive benefits by restoring and increasing natural wetland/marsh habitat and eliminating invasive upland plants. This project would be completed “in the dry” and is not expected to have any significant adverse environmental or socio-economic impacts.

5.2.2.5 Probability of Success. Marsh restoration would technically have a high probability of success. Because the project area is composed of historic fill, the excavation, access, and material removal should pose little disturbance to surrounding natural areas. When coupled with the culvert replacement project the restoration of natural tidal flows into this pocket estuary would increase the range and diversity of salt water exchange from Miller Bay. Discharge modeling for this project, at the most extreme tidal exchanges, has determined flow rates below levels anticipated to cause channel scouring. With invasive removal and replanting, natural marsh vegetation is expected to reestablish within two years.

5.2.2.6 Cost-Effectiveness. The marsh restoration coupled with the county culvert replacement project (separately funded) should be cost-effective. The site is accessible to the types of equipment which are anticipated to be required for both projects.

5.2.2.7 Performance Criteria and Monitoring. Measuring the success of marsh restoration would require monitoring and re-vegetation. This could partially be

achieved through preserve stewardship, presently organized under the Indianola Chapter of the Great Peninsula Conservancy, that conducts ongoing invasive vegetation management and annual stewardship reporting.

5.2.2.8 Evaluation. The project is off-site from the injured resources, but would provide in-kind restoration of marsh habitat.

This project, especially if done in conjunction with the culvert replacement project to improve tidal flows into the estuary, has a high probability of success obtaining diverse ecological benefits.

5.2.3 Shellfish Enhancement

Restoration to compensate for the injury to intertidal shoreline habitat was incorporated into the two marsh restoration alternatives identified above, which would serve to enhance wildlife and fisheries habitat, and could enhance recreational opportunities. Additional restoration alternatives were identified to focus on enhancement of bivalve resources and recreational harvest opportunities.

5.2.3.1 Restoration Objectives. Enhance intertidal shellfish resources and recreational/ subsistence harvest opportunity along the Indianola shoreline and Port Madison area.

5.2.3.2 Project Description. This restoration project focuses on seeding Manila clams and oysters in selected intertidal areas of Port Madison. Natural recruitment of Manila clam seed on any particular beach is unreliable and unpredictable due to normal fluctuations in water temperature, weather, wind, and currents. Survivability of the clams to a harvestable size is greatly reduced by predation. Manila clams are commonly planted with exclusion material to enhance clam production on beaches in the Puget Sound and the seed is readily available and produced commercially. Cockle populations are also enhanced through seeding and predator exclusion, or by allowing the seed to naturally settle where protective material is provided.

Populations of Manila clams are generally most abundant between +3 and +8 feet tide height (MLLW). They prefer substrates containing a mixture of sand, shell, small gravel and mud (Quayle and Bourne 1972). They are typically found on semi-protected beaches with limited substrate transport. General water temperatures that are above 55° Fahrenheit for at least six months of the year would support growth. Salinities generally falling within the range of 24-28 parts per thousand are acceptable. Manila clams are subject to predation by starfish, moon snail, crab, and various fish and birds (Toba et al. 1992). There appears to be suitable substrate and semi-protected areas along the Indianola shoreline for Manila clam seeding, although the entire shoreline does not provide suitable habitat. Cockles occupy the same type of habitat although they are also found in the lower intertidal zone. Cockles are

mobile clams, and larger individuals tend to occupy the lower intertidal zone once they are large enough to avoid predation (Quayle and Bourne 1972).

Technology and protocols for the grow-out of Manila clams is well developed. The beach area is prepared for planting by harvesting any existing clam populations. This aerates the substrate and reduces competition from other clams. To prevent predation of the seed, diamond mesh predator netting made of extruded polyethylene, would be placed onto the beach prior to seeding. Optimal mesh size is 1.2 cm. A secondary benefit of the netting is natural settling and protection of cockles under the nets. There appears to be a substantial population of cockles in this area that would likely provide a significant natural seed source. Once the beach is prepared and netted, seeding of Manila clams would take place by broadcast distribution of clams just as the water reaches the planting site. This ensures the seed is placed in a few cm of water to prevent dehydration and breakage of the seed. To improve survivability, larger seed clams (10-15 millimeters) would be used. These can either be purchased directly from a hatchery or purchased at a smaller size and grown in trays to the larger size. The clams would be seeded at approximately 40 per square foot (ft² or 432 clams per m²). Healthy clam seed would dig themselves into the substrate within 30 minutes.

5.2.3.3 Benefit. To ensure that potential bivalve injuries as well as potential impacts to other aquatic resources and recreational use are adequately compensated, 0.5 acres of Manila clam seeding would be conducted, which would produce approximately 10 times more clams than were estimated to be lost as a result of the spill. In addition, the presence of the netting would provide a substrate for cockle settling as well as protecting the cockles from predation, thereby, enhancing the populations of Manila clams and cockles.

5.2.3.4 Environmental and Socio-Economic Consequences. This project would provide positive benefits by enhancing intertidal shellfish resources and recreational/subsistence harvest opportunity along the Indianola shoreline. This project is not expected to have any significant adverse environmental or socio-economic impacts.

5.2.3.5 Probability of Success. The probability of success is high since Manila clam enhancement methods are well-established.

5.2.3.6 Cost-Effectiveness. The cost-effectiveness of this restoration alternative is high relative to other intertidal restoration alternatives.

5.2.3.7 Evaluation. This project is a preferred restoration alternative because it would provide on-site and in-kind restoration, it has a high probability of success, and it would be cost-effective relative to other bivalve enhancement alternatives.

5.2.4 Tideland Acquisition

5.2.4.1 Restoration Objectives. To provide public access to shellfish resources and other recreational opportunities by obtaining privately owned tidelands in the general region of the spill impacted area.

5.2.4.2 Project Description. Tideland acquisition would serve to compensate for recreational use injuries by providing public access to tidelands where public access did not previously exist. The project would also protect tideland habitat from development and other environmentally detrimental uses.

Several potential acquisition sites have been identified within the region and landowners have expressed interest in selling. The particular parcels under consideration are adjacent to existing publicly accessible tidelands, are located in areas with abundant shellfish resources, and would have convenient public access.

5.2.4.3 Benefit . The primary benefit of obtaining these lands would be to provide public access for recreational users. The trustees believe that acquisition of tidelands would adequately compensate for impacts to recreational lost use from the spill and beach closures by providing an appropriate increase in total long term public access for shellfishing and other recreation in the region. This project, along with the shellfish enhancement project (5.2.3) would compensate the public for lost recreational uses.

5.2.4.4 Environmental and Socio-Economic Consequences. This project is not expected to have any significant adverse environmental impacts. Property acquisitions would benefit the tideland resources by providing it with permanent protection. This protection would be provided by retaining this parcel under a conservation easement or deed restriction that would restrict uses other than access and recreation. This project would provide positive benefits by providing new public lands and public access opportunities in the general region of the spill. It would also provide positive public education benefits. The acquisition approach to habitat protection would restrict future development and other activities on the tidelands. Acquisition would only occur from willing sellers and landowners would be compensated at fair market value.

5.2.4.5 Probability of Success. The probability of success for purchasing tidelands is high. Several parcels have been identified and the landowners have expressed a willingness to sell at a fair market value. The Washington State Parks and Recreation Commission (Parks) is willing to take title of the property with a potential conservation easement or deed restriction for public use and recreation, with a reversionary clause to the Washington Department of Natural Resources. The properties could be purchased with funds from this settlement or leveraged with other tideland acquisition projects being considered as a part of the Puget Sound Restoration initiatives.

5.2.4.6 Cost-Effectiveness. The cost effectiveness of this alternative is good. The landowners have expressed a willingness to sell at a fair market value and the value of the parcels is commensurate with the costs.

5.2.4.7 Evaluation. The trustees believe that acquisition of tidelands will adequately compensate for impacts to recreational lost use from the spill and beach closures by providing long term public access for shellfishing and other recreation. This project, along with the shellfish enhancement project (5.2.3) would compensate the public for lost recreational uses. Willing sellers have been identified and enough funding is available for acquisition and transaction costs.

5.2.5 Doe-Kag-Wats Berm Enhancement

5.2.5.1 Restoration Objectives. To restore and enhance the natural features and increase habitat and ecological functions to the area between the previous oiled shoreline and Doe-Kag-Wats marsh, and increase recreational access to the area.

5.2.5.2. Project Description. The beach berm area is a depositional shore feature that separates the Doe-Kag-Wats marsh from the marine water of Port Madison. It accumulates large volumes of wood, wrack, and anthropogenic debris. For many years, the berm has been used by tribal members as a road to access recreation, hunting, fishing, shellfishing, and cultural activities within the tribally owned Doe-Kag-Wats reserve area. The beach berm was degraded from spill response activities because it was the primary means of access for cleanup and assessment crews.

This project would shorten the length of road by approximately 300 feet with the placement of large rock and strategic placement of large woody debris. More formal pullouts and parking spots would be established to confine and limit the impact of vehicle traffic on sensitive vegetation. A sign would be placed at the existing information kiosk explaining the purpose of the road shortening and vehicle use limits. In the road areas abandoned, large wood and rootwads would be placed to mimic natural conditions, reduce erosion, and promote sediment accretion. Plantings of appropriate vegetation would be interspersed with the large wood to accelerate re-vegetation of the old road bed and pull out areas. To enhance recreation at Doe-Kag-Wats, low impact amenities such as primitive fire pits and garbage cans would be added to the area.

5.2.5.3 Benefit. This project would restore approximately 300 feet of road bed to a natural accretion shore habitat and enhance tribal recreational use of Doe-Kag-Wats to compensate for lost use from the spill.

5.2.5.4 Environmental and Socio-Economic Consequences. This project would increase recreational capabilities of the area providing a beneficial environmental effect for most recreational users of the area. Reducing the length of the road would enhance

natural accretion of sediments and wood on the beach berm and allow vegetation to reestablish, and therefore improve the ecological conditions.

5.2.5.5 Probability of Success. The probability of success for this project is high. Partially abandoning the roadbed, providing structured parking areas, and educating the recreational public on the importance of returning the area to a more natural condition is likely to increase habitat and ecological functions and improve the overall recreational experience

5.2.5.6 Cost-Effectiveness. The cost of providing these enhancements would be relatively low. Undeveloped shore accretion forms similar to the beach berm at Doe-Kag-Wats are rare in central Puget Sound. The cost of enhancing the ecological functions and values of this habitat at Doe-Kag-Wats is very low relative to restoring those functions and values at an alternative location.

5.2.5.7 Evaluation. This project would provide on-site and in-kind restoration of natural processes, is cost effective, and has a high probability of success.

5.3 Environmental Consequences (Indirect, Direct, Cumulative)

To restore resources and/or services lost as a result of the incident, the Trustees examined a variety of proposed projects under the following restoration alternatives: 1) no-action (i.e. natural recovery) and 2) aquatic restoration. The Trustees intend to avoid or reduce negative impacts to existing natural resources and services to the greatest extent possible. However, in implementing or approving the implementation of restoration actions, the Trustees could undertake actions that may have short- or long-term effects upon existing habitats or non-injured species. Project-specific environmental consequences for each project are provided in this section. This section addresses the potential overall cumulative, direct, and indirect impacts and other factors requiring consideration in both OPA and NEPA regulations.

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

5.3.1 Indirect Impacts

Environmental consequences would not be limited to the project location. Indirect beneficial impacts would occur throughout fish, wildlife, and native plant populations and habitats of Puget Sound. Cumulative impacts at the project locations, and in the surrounding area, are expected to improve habitats for a variety of species and provide increased natural resource recreational opportunities. These activities would be beneficial to the overall well being of the species as a whole by providing the benefit of improved and expanded habitat for food, shelter, and increased reproductive opportunities. In addition, the projects would increase interaction of human and wildlife

and potentially provide for the expansion of human understanding of and appreciation for wildlife.

5.3.2 Direct Impacts

Overall, preferred restoration actions included in this final RP/EA would enhance the functionality of the ecosystem and provide long-term protection to environmentally sensitive areas and habitats used by threatened salmon species. There may be, however, some short-term negative impacts from the restoration project(s) such as:

5.3.2.1 Noise and Air Pollution. Machinery and equipment used during construction and other restoration activities would generate noise. Noise may temporarily disturb wildlife and humans.

5.3.2.2 Threatened, Endangered, and Candidate Species. As discussed in more detail in the previous sections, there may be short-term impacts on fish and wildlife species as a result of construction. In accordance with state and federal permit conditions, in-water work would only take place in the absence of endangered or threatened species and during regulated time periods, when no major fish runs occur. Impacts on mobile species (*e.g.*, birds, mammals) would be minor, consisting of short-term displacement. Overall, the construction of the fish habitat projects as part of the Preferred Alternative would benefit fish and wildlife species dependent on these types of habitat.

5.3.2.3 Water and Sediment Quality. Although implementation of the projects should result in no violations of water quality standards, there may be temporary increases in sedimentation and turbidity. Best management practices along with other avoidance and mitigation measures required by regulatory agencies would be employed to minimize any water quality and sedimentation impacts.

5.3.2.4 Visual. There may be temporary visual impacts during implementation of the restoration projects. Once projects are completed, the visual impacts would cease. Beneficial aesthetic impacts would then extend to the users of these areas.

5.3.2.5 Public Access/Recreation. Public access may be temporarily affected during construction. Because implementation time for these projects would be relatively short, the impact would be short-lived.

5.3.2.6 Archaeological and Cultural Resources. Archaeological sites may be located in the selected restoration areas. The 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 archaeological sites would remain undisturbed by the proposed restoration actions.

5.3.2.7 Other (*e.g.*, economic, historical, land use, transportation). No significant adverse effects are anticipated to soils, geologic conditions, energy consumption, wetlands, or floodplains. The restoration projects would have no adverse social or economic impacts on neighborhoods or communities.

5.3.3 Cumulative Impacts

Since the Trustees selected projects primarily to promote the recovery of injured natural resources and services, the cumulative environmental impacts would be beneficial. These cumulative impacts include restoration of the injured ecosystem by increasing fish, invertebrate and wildlife habitats. Certain projects may also provide educational opportunities. The Trustees anticipate that monitoring of projects funded under this final RP/EA would confirm that cumulative impacts would be beneficial rather than adverse. Any unanticipated cumulative adverse effect that is identified prior to implementation of a project would result in reconsideration of the project by the Trustees.

6.0 COORDINATION WITH OTHER PROGRAMS, PLANS AND REGULATORY AUTHORITIES

6.1 Overview

Two major federal laws guiding the restoration of injured natural resources and services resulting from the oil spill are OPA and NEPA. OPA and its regulations provide the basic framework for natural resource damage assessment and restoration in association with oil spills. 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 compliment other efforts to improve the environment.

6.2 Key Statutes, Regulations and Policies

6.2.1 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 people. 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.

6.2.2 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 the NEPA regulations adopted by the CEQ. These regulations outline the responsibilities of federal agencies under NEPA 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:

- Summarizing the current environmental setting;
- Describing the purpose and need for restoration action;
- Identifying alternative actions, assessing the preferred actions' environmental consequences and;
- 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.

6.2.3 State Environmental Policy Act (SEPA), RCW 43.21C

The State Environmental Policy Act (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.

6.2.4 Park System Resource Protection Act, 16 U.S.C. 19jj

Public Law 101-337, Park System Resource Protection Act (16 U.S.C.19jj), requires the Secretary of the Interior to assess and monitor injuries to park system resources. The Act specifically allows the Secretary of the Interior to recover response costs and damages from the responsible party causing the destruction, loss of or injury to park system resources. This Act provides that any monies recovered by the NPS may be used to reimburse the costs of response and damage assessment and to restore, replace or acquire the equivalent of the injured resources.

6.2.5 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 navigable waters. The U.S. 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 navigable 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.

6.2.6 Coastal Zone Management Act (CZMA), 16 U.S.C. 1451, et seq. 15 CFR Part 923

The goal of the CZMA is to preserve, protect, develop and, where possible, restore and enhance the nation's coastal resources. The federal government provides grants to states with federally approved coastal management programs. The State of Washington has a federally-approved program. Section 1456 of the CZMA requires that any federal action inside or outside of the coastal zone that affects any land or water use or natural resources of the coastal zone shall be consistent, to the maximum extent practicable, with the enforceable policies of approved State management programs. It states that no federal license or permit may be granted without giving the State the opportunity to concur that the project is consistent with the State's coastal policies. The regulations outline the consistency procedures. To comply with the CZMA, the Trustees intend to seek the concurrence of the State of Washington that their preferred projects are consistent to the maximum extent practicable with the enforceable policies of the state coastal program.

6.2.7 Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. §§ 9601, et seq.

CERCLA provides the basic legal framework for clean up and restoration of the nation's hazardous substances sites. Generally, parties responsible for contamination of sites and the current owners or operators of contaminated sites are liable for the cost of clean up and restoration. CERCLA establishes a hazard ranking system for assessing the nation's contaminated sites with the most contaminated sites being placed on the National Priorities List (NPL).

To the extent that restoration projects are proposed for areas containing hazardous substances, the Trustees would avoid exacerbating any potential risk posed by such substances and would undertake no actions that might constitute “arrangement for disposal of hazardous substances.” At this time, the Trustees are not aware of any potential hazardous substance problem associated with the areas where proposed restoration projects would occur.

6.2.8 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 the NOAA and/or FWS 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 Section 7 consultations.

6.2.9 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 defined in the Pacific Groundfish Fishery Management Plan. 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.

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

The FWCA requires that federal agencies consult with the FWS, the NMFS 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 coordination 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.

6.2.11 Rivers and Harbors Act, 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 permits may also require permits under Section 10 of the Rivers and Harbors Act. The Trustees will ensure compliance with the Rivers and Harbors Act through coordination with the Corps.

6.2.12 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. The EPA and the Council on Environmental Quality (CEQ) 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.

6.2.13 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 development 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.

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

The Model Toxics Control Act (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.

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.*

Marine Mammal Protection Act, 16 U.S.C. 1361, *et seq.*

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

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

National Park Act of August 19, 1916 (Organic Act), 16 U.S.C. 1, *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. The Trustees prepared a draft restoration plan for the Foss Pt. Wells oil spill. The RP is made available for public review and comment from May 27, 2009 to June 26, 2009. A News Release announcing the availability of the draft Restoration Plan/Environmental Assessment (RP/EA) was released on May 27, 2009. The Trustees posted a copy of the draft RP/EA on a publicly accessible Internet site maintained by USFWS at

http://www.fws.gov/westwafwo/newsroom/Draft_PWOS_Environmental_Assessment.pd

Copies of the RP will also be provided free of charge to all interested parties, upon request.

The public comment period closes on June 26, 2009. Copies of written comments received during the comment period will be included in the Administrative Record.

8.0 PREPARERS, AGENCIES AND PERSONS CONSULTED

8.1 Foss Pt. Wells Restoration Committee Members

The following Trustee representatives on the Foss Pt. Wells Restoration Committee were involved with the preparation of this document and with the selection of the preferred alternatives.

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8.2 Other people consulted.

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10.0 APPENDICES

10.1 List of Acronyms

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
CZMA - Coastal Zone Management Act
DARP - Damage Assessment and Restoration Plan
DOC - Department of Commerce
DOI - Department of the Interior
DOM - dissolved organic matter
EA - Environmental Assessment
Ecology- Washington State Department of Ecology
EPA – Environmental Protection Agency
FEIS – Final Environmental Impact Statement
EIS - Environmental Impact Statement
ESA - Endangered Species Act
EFH - Essential Fish Habitat FWS-
FEIS – Final Environmental Impact Statement
FWS - U.S. Fish and Wildlife Service
GPC - Great Peninsula Conservancy
HEA - Habitat Equivalency Analysis
IWP - Indianola Waterfront Preserve
LWD -large woody debris
MOA - Memorandum of Agreement
MTCA - Model Toxics Control Act
NPL - National Priorities List under CERCLA
NPS - National Park Service
NEPA - National Environmental Policy Act
NMFS - National Marine Fisheries Service
NOAA- National Oceanic and Atmospheric Administration
NRDA - Natural Resource Damage Assessment
NRDAR --Natural Recourse Damage Assessment and Restoration
NWR - National Wildlife Refuge
OPA- Oil Pollution Act of 1990
RCW – Revised Code of Washington
RFP - Request for Proposals
RP – Restoration Plan
RP/EA - Restoration Plan/Environmental Assessment
SOAL - State owned aquatic lands

SEPA - Washington State Environmental Policy Act
Trustees – Natural Resource Trustees
USFWS - U.S. Fish and Wildlife Service
WAC – Washington Administrative Code
WDFW - Washington Department of Fish and Wildlife
WDNR – Washington Department of Natural Resources
WRIA - Water Resource Inventory Areas

10.2 Compliance with NEPA and SEPA

10.2.1 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 and thereby require the development of an Environmental Impact Statement.

To comply with the requirements of NEPA, the Trustees prepared and submitted this RP/EA for public comment. The RP/EA is made available for a 30-day public review and comment period (May 27, 2009 to June 26, 2009). A News Release announcing the availability of the draft Restoration Plan / Environmental Assessment (RP/EA) was distributed on May 27, 2009. The Trustees posted copies of the draft RP/EA on a publicly accessible Internet site http://www.fws.gov/westwafwo/newsroom/Draft_PWOS_Environmental_Assessment.pdf Copies of the plan will also be provided free of charge to all interested parties, upon request

10.2.2 SEPA

The SEPA, chapter 43.21C RCW, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. Project proponents must complete a SEPA environmental checklist. 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 there would be probably significant environmental impacts. An environmental impact statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment.

To comply with the requirements of SEPA, the Trustees prepared and submitted an environmental checklist and provided copies of the draft restoration plan for review.

The RP/EA is made available for a 30-day public review and comment from May 27 to June 26, 2009. A News Release announcing the availability of the draft Restoration Plan / Environmental Assessment (RP/EA) was distributed on May 27, 2009. The Trustees posted copies of the draft RP/EA on a publicly accessible Internet site. http://www.fws.gov/westwafwo/newsroom/Draft_PWOS_Environmental_Assessment.pdf Copies of the plan will also be provided free of charge to all interested parties, upon request.

10.3 Summary of non-preferred restoration projects

| Alternative | Project Description |
|---|--|
| No Action | Allow natural recovery to occur to compensate for all lost natural resources and services. |
| Invasive Species Management | Contribute funds for invasive species management and Spartina control programs in the general Port Madison and Kitsap Peninsula areas. |
| Cowling Creek Land Acquisition | Support Friends of Miller Bay and Great Peninsula Conservancy to purchase 18 acres of land in the Cowling Creek watershed to protect chum salmon habitat and fish, shellfish and wildlife habitat in Miller Bay. |
| Miller Bay Tidelands Acquisition | Purchase privately owned tidelands in former log storage area in Miller Bay. |
| Grovers Creek Hatchery | Develop a new well for salmon hatchery to address water supply issues. |
| Tidelands acquisition in the Kianna to the tribal center area. | Purchase privately owned tidelands near the Suquamish Tribal Center for shellfish enhancement and habitat protection. |
| Chico Creek Watershed and Estuary | Help fund the acquisition of 623 acres of prime forest land in the Chico Creek watershed to protect and conserve critical habitats for fish and wildlife. |
| Curley Creek Watershed | Fund acquisition, habitat conservation, and restoration projects in the watershed. |
| Runoff and Septic system in the Port Madison area. | Fund measures to control and manage runoff and discharges from septic systems in the area. |
| Geoduck Planting using intertidal - tubes | Plant geoducks in the intertidal areas of Port Madison. |
| Eelgrass Transplants | Plant eelgrass in degraded areas in Port Madison and Miller Bay area. |
| Derelict Fishing Gear Removal | Fund program to remove derelict fishing nets and crab pots in the Central Puget Sound and Port Madison area. |
| Shoreline Armoring | Remove bulkheads from selected shoreline areas in the Port Madison area. |
| Creosote log and piling removal in Bainbridge Island and Port Madison area. | Fund removal of logs and creosote pilings from the Port Madison and Miller Bay area. |
| Signs and Interpretation in Doe-Kag-Wats Marsh | Fund signs and an interpretation program to inform the public of the spiritual, cultural and biological importance of the Doe-Kag-Wats Marsh. |
| Submerged tideland acquisition | Purchase privately owned parcels of submerged tidelands in Miller Bay, near the Suquamish Tribal Center, or in the Indianola areas for habitat protection and restoration. |