



**UNITED STATES DEPARTMENT OF COMMERCE**  
**Office of the Under Secretary for**  
**Oceans and Atmosphere**  
Washington, D.C. 20230

AUG 13 2001

**TO ALL INTERESTED GOVERNMENT AGENCIES AND PUBLIC GROUPS:**

Under the National Environmental Policy Act, an environmental assessment (EA) has been performed on the following action:

**TITLE:** North Wind's Weir Aquatic Habitat Restoration Project

**LOCATION:** Elliot Bay, City of Seattle, Washington

**SUMMARY:** The Elliot Bay/Duwamish Restoration Program Panel has completed an Environmental Assessment (EA) to restore natural resources injured by pollution in Elliot Bay, Seattle, Washington. This project will create a 1.03-acre intertidal habitat, excavated from an elevation of +6 to +15 feet Mean Lower Low Water and re-vegetation of upland edges with native trees and shrubs to form a riparian buffer. The project site is adjacent to King County's Cecil Moses "open space" park, this is proposed for enhancement. The restoration project site will be separated from the park by vegetation and wood post-rail fence, which will feature educational signs highlighting the historical and cultural significance of the site as well as the habitat features created by this project. The new intertidal habitat will assist migrating salmonids to acclimate to salinity changes on their downstream passage, provide refuge and prey items, stabilize shoreline, improve riparian conditions and provide a natural area for public educational opportunities.

The public and other interested parties have participated in public meetings during the permitting process. The environmental review process has led us to conclude that these restoration actions will not have a significant effect on the human environment. Consequently, the National Oceanic and Atmospheric Administration issued a Finding of No Significant Impact (FONSI).

**RESPONSIBLE OFFICIAL:** William T. Hogarth, Ph.D.  
Acting Assistant Administrator for  
Fisheries  
National Marine Fisheries Service  
1315 East-West Highway  
Silver Spring, Maryland 20910  
301/713-2239



Printed on Recycled Paper



Therefore, an environmental impact statement will not be prepared. A copy of the Finding of No Significant Impact (FONSI) including the supporting EA is available upon request to the responsible Official.

Sincerely,

  
for

Scott B. Gudes  
Acting Under Secretary for  
Oceans and  
Atmosphere/Administrator  
and Deputy Under Secretary

Enclosure

**FINDING OF NO SIGNIFICANT IMPACT  
ENVIRONMENTAL ASSESSMENT  
FOR THE NORTH WIND'S WEIR AQUATIC HABITAT RESTORATION PROJECT  
SEATTLE, WASHINGTON**

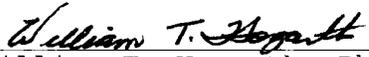
The National Oceanic and Atmospheric Administration (NOAA) is the lead Federal agency for the National Environmental Policy Act (NEPA) compliance for the North Wind's Weir Aquatic Habitat Restoration Project, Green/Duwamish River System, Seattle, Washington. This project is sponsored by the Elliott Bay/Duwamish Restoration Program Panel (EB/DRP or Program), an intergovernmental program established under a consent decree to help restore natural resources injured by pollution in Elliott Bay and the Lower Duwamish River, Seattle, Washington.

The North Wind's Weir project will recreate previously lost intertidal essential fish habitat and restore habitat functions necessary for the successful survival of juvenile chinook salmon (a listed species under the Endangered Species Act) migrating down the Green/Duwamish River System. The project proposal includes excavating an intertidal basin and introducing aquatic and upland habitat improvements. The public and other interested parties have participated in public meetings during the permitting process.

The project will be constructed in compliance with all permits required by the State and Federal regulatory agencies. The Biological Assessment for the project, and the informal consultations (National Marine Fisheries Service and the U.S. Fish and Wildlife Service addressing Endangered Species Act and Essential Fish Habitat) for the North Wind's Weir Habitat Restoration are part of the Administrative Record for this project. The proposed activities were evaluated under the goals and objectives and other evaluation criteria specified by the National Environmental Policy Act (40 CFR 1508.27). Based on a review of all of these factors and the referenced documents, NOAA and the Trustees concluded that the proposed activities would not have a significant effect on the quality of the human environment. NOAA has independently reviewed the permitting and other regulatory documents in the Administrative Record and determined that they adequately evaluate and mitigate as needed any potentially significant impacts to the human environment associated with the Duwamish River, Washington Restoration Project.

**DETERMINATION:**

Based upon an environmental review and evaluation of the Environmental Assessment for the North Wind's Weir Aquatic Habitat Restoration Project, I have determined that the proposed action does not constitute a major Federal action significantly affecting the quality of the human environment within the meaning of Section 102(2)(c) of the National Environmental Policy Act of 1969, as amended. Accordingly, an environmental impact statement is not required for this project.



\_\_\_\_\_  
William T. Hogarth, Ph.D.  
Acting Assistant Administrator for Fisheries  
National Marine Fisheries Service  
National Oceanic and Atmospheric Administration

6 August 2001  
Date

**ENVIRONMENTAL ASSESSMENT  
NORTH WIND'S WEIR  
AQUATIC HABITAT RESTORATION PROJECT**

LEAD FEDERAL AGENCY FOR EA: National Oceanic and Atmospheric Administration

COOPERATING AGENCY FOR EA: U.S. Fish and Wildlife Service (U.S. Dept. Interior)

PROJECT MANAGER and  
STATE SEPA COMPLIANCE: Michael G. Lozano  
King County, Department of Natural Resources

PARTICIPATING AGENCIES/TRIBES: Elliott Bay/Duwamish Restoration Program Panel  
(U.S. Department of the Interior, State of  
Washington, Muckleshoot Indian Tribe, Suquamish  
Tribe, City of Seattle, King County/Metro)

ABSTRACT: This Environmental Assessment has been  
prepared for the North Wind's Weir Aquatic Habitat  
Restoration Project to address restoration of natural  
resources in accordance with a Consent Decree.

The project creates a 1.03-acre intertidal habitat  
(essential fish habitat for ESA "threatened" chinook  
salmon *Onchorhynchus tshawytscha*), excavated  
from an elevation of +6 to +15 feet Mean Lower  
Low Water and revegetation of upland edges with  
native trees and shrubs to form a riparian buffer.  
In-water construction to occur only during absence  
of threatened species.

ADMINISTRATIVE RECORD: (1) See below under "Contact Person"

CONTACT PERSON: Copies of the Final EA are available at the address  
listed below or available for download at  
[www.darcnw.noaa.gov/sites/darc-nw/nww.htm](http://www.darcnw.noaa.gov/sites/darc-nw/nww.htm)

CDR Timothy J. Clancy, NOAA  
Elliott Bay/Duwamish Restoration Program  
Attn: North Wind's Weir EA  
NOAA Restoration Center Northwest  
7600 Sand Point Way NE  
Seattle, WA 98115-0070  
Phone: (206) 526-4348; fax: (206) 526-4321  
EMAIL: [Tim.Clancy@noaa.gov](mailto:Tim.Clancy@noaa.gov)

June 25, 2001

## TABLE OF CONTENTS

EXECUTIVE SUMMARY.....	2
1.0 INTRODUCTION: PURPOSE OF AND NEED FOR RESTORATION.....	3
1.1 Overview.....	3
1.2 Purpose and Need.....	4
1.3 Public Participation.....	4
1.4 Administrative Record.....	4
2.0 AFFECTED ENVIRONMENT.....	5
2.1 Size and Location of Project.....	5
2.2 Condition of the Site.....	6
2.3 Adjacent Properties.....	6
3.0 DESCRIPTION OF ALTERNATIVES.....	6
3.1 Selection Criteria.....	6
3.1.1 Site Assessment Criteria.....	6
3.1.2 Additional Site Assessment Criteria.....	7
3.1.3 Evaluation of Available Technologies.....	7
3.1.4 NEPA Intensity Factors.....	8
3.2 Alternatives Considered.....	8
3.2.1 ALTERNATIVE 1: No Action / Natural Recovery.....	8
3.2.2 ALTERNATIVE 2: Recontour Shoreline - Intertidal Habitat "Bench" Creation...	9
3.2.3 ALTERNATIVE 3: Intertidal Habitat Creation (1 acre) - Preferred Alternative ...	9
3.2.4 ALTERNATIVE 4: Intertidal Habitat Creation (2 acres).....	9
4.0 ENVIRONMENTAL CONSEQUENCES: DIRECT, INDIRECT, OR CUMULATIVE IMPACTS....	10
4.1 Aesthetic Impacts.....	10
4.2 Air Quality.....	10
4.3 Connected Actions.....	10
4.4 Controversial Impacts.....	11
4.5 Cumulative Impacts.....	11
4.6 Economic Impacts.....	11
4.7 Endangered Species/Threatened Species and Critical Habitat.....	11
4.8 Fish and Wildlife Impacts/Essential Fish Habitat.....	12
4.9 Historical and Cultural Impacts.....	13
4.10 Noise Impacts.....	13
4.11 Plants.....	13
4.12 Precedential Effects.....	14
4.13 Recreational Impacts.....	14
4.14 Sediment Quality.....	14
4.15 Transportation.....	14
4.16 Water Quality.....	14
5.0 SELECTION OF THE PREFERRED ALTERNATIVE.....	15
6.0 PROJECT BUDGET SUMMARY.....	16
7.0 COORDINATION WITH OTHER PROGRAMS, PLANS, AND REGULATORY AUTHORITIES..	16
8.0 LIST OF AGENCIES CONSULTED.....	16
9.0 REFERENCES AND LIST OF DOCUMENTS INCORPORATED BY REFERENCE.....	17

# ENVIRONMENTAL ASSESSMENT NORTH WIND'S WEIR AQUATIC HABITAT RESTORATION PROJECT

## EXECUTIVE SUMMARY

This Environmental Assessment (EA) has been prepared for the North Wind's Weir Aquatic Habitat Restoration Project to set forth NOAA's decision making responsibilities for this project, its determination that an alternative (excavation / enhancement) other than the No Action Alternative would be the most ecologically sound alternative, and its determination under the National Environmental Policy Act (NEPA) that an environmental impact statement will not need to be prepared for this project. NOAA has independently reviewed the permitting and other regulatory documents in the Administrative Record and has determined that they adequately evaluate and mitigate as needed any potentially significant impacts to the human environment associated with this Duwamish River, Washington restoration project.

This project is proposed by the Elliott Bay/Duwamish Restoration Program Panel (EB/DRP or Program), an intergovernmental program established under a consent decree to help restore natural resources injured by pollution in Elliott Bay and the lower Duwamish River. The National Oceanic and Atmospheric Administration (NOAA) and the U.S. Fish and Wildlife Service are the federal natural resource trustees on the EB/DRP Panel. The Program involves both sediment remediation and habitat development projects. The settlement identified the need to remediate various contaminated sites and restore habitat for the purpose of restoring aquatic health and human safety.

The North Wind's Weir project will recreate previously lost intertidal essential fish habitat and restore habitat functions necessary for the successful survival of juvenile chinook salmon (*Onchorhynchus tshawytscha*) migrating down the Green / Duwamish River system. The chinook salmon is listed as "threatened" under the Endangered Species Act.

Based on a review of the environmental impacts associated with four proposed alternatives, Alternative 3 was selected as the preferred alternative. The Alternative 3 proposal includes excavating an intertidal basin and introducing aquatic and upland habitat improvements. The intertidal marsh to be created on site will be approximately one acre in size excavated from an elevation of +6 to +15 feet Mean Lower Low Water (MLLW). The intertidal basin is designed with a curvilinear edge to create a more natural appearance and to maximize habitat diversity in the edge zone. The upland edges will be revegetated with native trees and shrubs to form a riparian buffer. The project site is adjacent to King County's Cecil Moses "open space" park, which is proposed for enhancement. The park features a paved pedestrian/bike trail, bridge crossing, and restroom facilities; King County will add a small parking lot, paved foot paths, and picnic facilities. The restoration project site will be separated from the park by vegetation and a wood post-and-rail fence, which will feature educational signs highlighting the historical and cultural significance of the site as well as the habitat features created by this project.

Construction of the intertidal basin will occur "in the dry." Connection to the Duwamish River and all "in-water" work will take place during periods of species absence regulated by federal and state authorities. Construction activities shall utilize "Best Management Practices."

## 1.0 INTRODUCTION: PURPOSE OF AND NEED FOR RESTORATION

### 1.1 Overview

The North Wind's Weir project is one of a series of habitat development projects being proposed by the Elliott Bay/Duwamish Restoration Program Panel (Program or Panel). The Program is administered by a panel of participating governments responsible for implementing the requirements of a 1991 consent decree between the Natural Resource Trustees and King County and the City of Seattle.<sup>1</sup> The Program involves the selection and implementation of sediment remediation and habitat development projects and source control actions for the purpose of restoring, replacing, or acquiring the equivalent of natural resources and resource services in Elliott Bay and the lower Duwamish River.

This Environmental Assessment (EA) incorporates by reference the Concept Document, Elliott Bay/Duwamish Restoration Program, Panel Publication 7 (June 1994), as amended. The Concept Document describes the program, the criteria used to identify and evaluate projects and sites, the potentially affected environment, and the potential environmental impacts of alternative techniques and technologies applicable to sediment remediation or habitat development projects. The Concept Document also describes the National Environmental Policy Act (NEPA), as amended<sup>2</sup> and the State Environmental Policy Act (SEPA)<sup>3</sup> environmental review process. Other resource documents incorporated by reference in this EA are noted in Section 9.0. The Administrative Record may be viewed at the repository listed in Section 1.4.

One of the Program's objectives is to identify potential habitat development projects that will benefit natural resources in Elliott Bay and the lower Duwamish River. The Program evaluated the North Wind's Weir Project and found the site, and the project's goals and objectives, to be consistent with the restoration mandate set out in the Consent Decree and the habitat development evaluation criteria defined in the Concept Document.

---

<sup>1</sup> United States, et al. v. The City of Seattle and the Municipality of Metropolitan Seattle, Civ. No. C90-395WD (W.D. Wash., Dec. 23, 1991). In 1994, the Municipality of Metropolitan Seattle became the King County Department of Metropolitan Services. The Natural Resource Trustees are: the National Oceanic and Atmospheric Administration, under the U.S. Department of Commerce; the U.S. Department of the Interior, acting through the U.S. Fish and Wildlife Service; the Muckleshoot Indian Tribe; the Suquamish Tribe; and the State of Washington, acting through the Department of Ecology. The Consent Decree and the Concept Document, both incorporated herein by reference and made a part of the Administrative Record, provide additional information on the settlement.

<sup>2</sup> 42 USC 4321 et seq., 40 CFR Parts 1500-1508, and requirements set out in NOAA's Administrative Order 216-6.

<sup>3</sup> Ch 43 RCW, Ch 197-11 WAC.

## **1.2 Purpose and Need**

This EA was prepared under the requirements of NEPA to determine whether or not there would be significant impacts to the quality of the human environment from the preferred environmental alternative selected for this project. The lead federal agency for NEPA compliance purposes is NOAA. The other federal and state agencies and tribal members of the Panel are cooperating agencies. The State Department of Ecology is the responsible agency under SEPA. The lead federal agency and the Panel participants will be monitoring this restoration project to ensure that any potential environmental impacts which may arise during the course of project development are addressed.

Historically, the wetlands bordering the lower Duwamish River and Seattle waterfront were drained and filled to create land suitable for agriculture, navigation and commerce, and urban development. The historical meandering of the river was replaced by a dredged waterway, and the material was disposed of in adjacent wetlands. At the same time, the shoreline was reinforced with vertical bulkheads or large rocks (rip-rap) to prevent erosion. Restoration of intertidal habitats often requires removal of the fill and shoreline reinforcement and their regrading to create a more gradual slope characteristic of a natural shoreline. Depending on the location in the estuary and site-specific characteristics, intertidal, mudflat, or vegetated wetland habitats can be created.

The North Wind's Weir project will create a 1.03-acre intertidal habitat by excavating from an elevation of +6 feet to +15 feet Mean Lower Low Water (MLLW). The upland edges will be revegetated with native trees and shrubs to form a riparian buffer. The intertidal habitat will be separated from an adjacent King County open space park property by a wood post-and-rail fence, and vegetative ground cover. The new intertidal habitat will assist migrating salmonids to acclimate to salinity changes on their downstream passage, provide refuge and prey items, stabilize the shoreline, improve riparian conditions, and provide a natural area for public education opportunities.

## **1.3 Public Participation**

The public has had numerous opportunities to comment on the Panel's selection of this location for its restoration project, including during the development of the Concept Document, and through the Panel's public meetings and open houses. A public scoping meeting for this project design was held on February 12, 1997 at the City of Tukwila Community Center. Public opportunities to comment on the scope and design of the project have been, and will continue to be, available through the federal and state permitting processes which may be required for this project.

## **1.4 Administrative Record**

This EA references a number of resource documents prepared by and for the Program and through the SEPA process, including the applications and permits required for this project. These documents, incorporated by reference into this EA, are part of the Administrative Record on file for this project with the lead federal agency and may be viewed at:

NOAA Damage Assessment and Restoration Center  
7600 Sand Point Way NE  
Seattle, WA 98115-0070  
Contact: Dr. Robert C. Clark, Jr., EB/DRP Administrative Director  
(206) 526-4338

The complete construction record for the North Wind's Weir project will be on file with the King County Project Manager:

Michael G. Lozano  
Department of Construction and Facilities Management  
King County Administration Building  
500 Fourth Avenue, Room 320  
Seattle, WA 98104-2337  
(206) 296-4240

## 2.0 AFFECTED ENVIRONMENT

### 2.1 Size and Location of Project

The North Wind's Weir Aquatic Habitat Restoration Project is located south of the Duwamish Waterway Turning Basin No. 3, upstream of the navigable waterway on the West bank of the Duwamish River at about 11004 West Marginal Place (Figure 1). The project is within the limits of the City of Tukwila (annexed 1993) in an area currently zoned as "heavy industrial" (Lamb Hanson Lamb Appraisal Associates Inc., 1997).

The Panel purchased from King County a 1.03-acre piece of property for its habitat development project. It is adjacent to an approximately 2-acre parcel of land owned by King County and being operated under its open-space park program (to be designated as the Cecil Moses Memorial Park). The site has been deeded as a habitat site in perpetuity in accordance with the requirements of the Consent Decree and will be managed on behalf of the Panel as a conservation site by the King County Parks Department.

The project is located in the Panel's "Turning Basin Geographic Focus Area," an essential habitat area of the Duwamish River for acclimatization of out-migrating juvenile chinook salmon (Oncorhynchus tshawytscha) due to the location of the salt wedge in the estuary. The more thermally stable saltwater influence mitigates the variability of freshwater temperatures. In addition, the deeper pool of the turning basin, along with the expanded river downstream, when compared to the confined river upstream, provide an estuarine transition zone which has been shown to be a critical factor in the survival of outmigrant salmon (Warner 1995). Juvenile salmonids utilize this estuarine habitat for completing the morphological and osmoregulatory changes necessary to transition to salt water and for achieving rapid growth before entering the marine environment.

Increasing habitat availability for the recovery of these salmon has taken on an extra level of importance since the Puget Sound chinook salmon have been listed as threatened under the Endangered Species Act (64 Fed. Reg. 14307-14329, March 24, 1999).

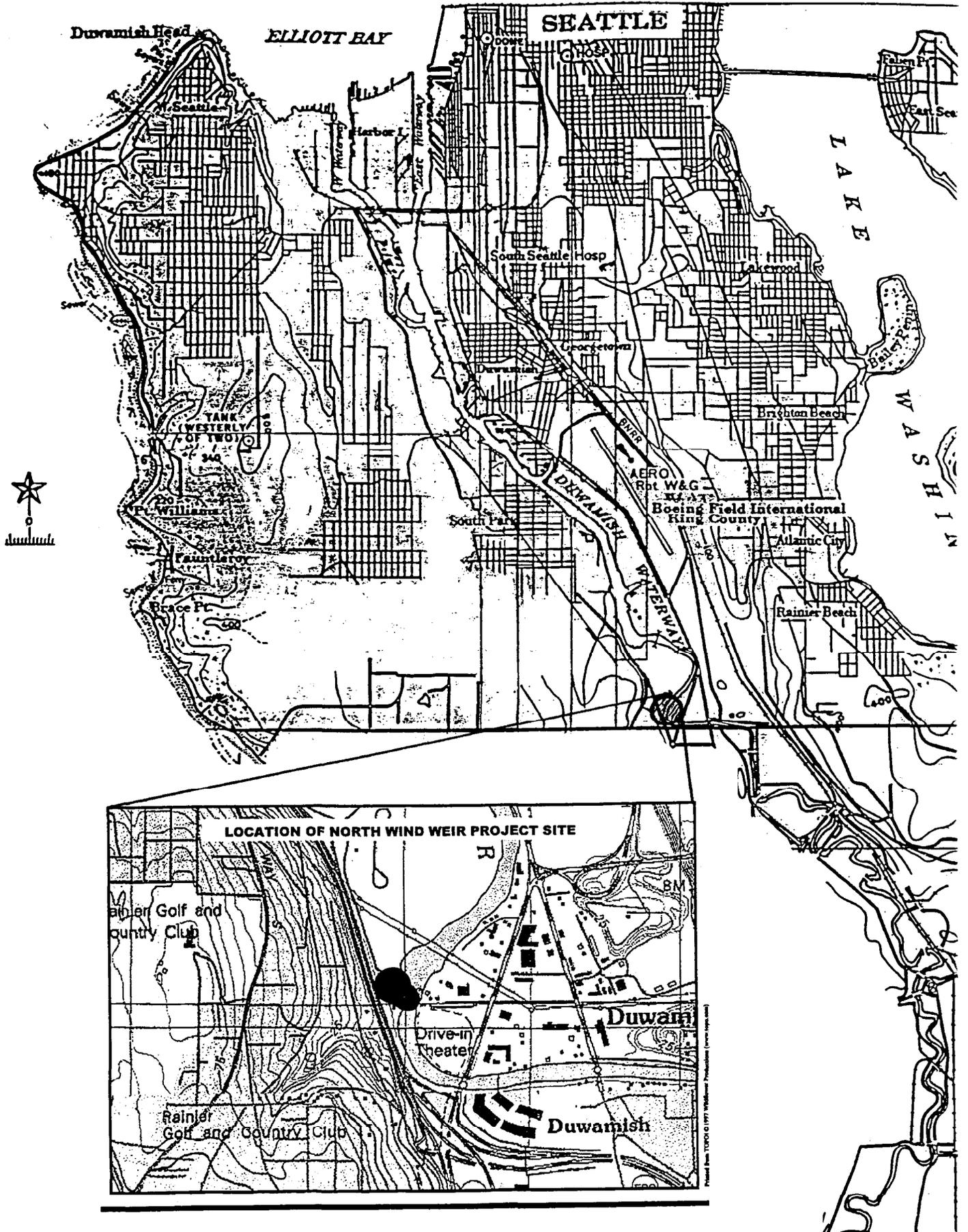


Figure 1. Project Location

## **2.2 Condition of the Site**

The site was originally improved industrial land developed in the 1930's and 1940's for single family residential housing (13 lots). All residential structures have been removed from the site. The property is generally level, slightly below grade compared to West Marginal Way South and the adjoining properties. The soils are products of glaciation. The lower elevations are composed of lacustrine clays. The middle and upper layers are composed of dense sand with the highest layers capped with Lodgment Till (hardpan). There is a steep bank along the river right-of-way which slopes steeply downward (almost vertical) approximately 20 feet to the river bed. The shoreline is rip-rap in the lower intertidal to subtidal areas. Substantial mature evergreen and deciduous trees remain on site.

No sediment contamination, hazardous substances, or other environmental conditions are known to exist on the site.

## **2.3 Adjacent Properties**

The adjacent King County park property contains structures from previous land use which includes a partial roadway, a bulkhead constructed from used tires chained together, water and sewer mains, and underground electrical cabling. The City of Seattle maintains a 60-foot-wide pipeline right-of-way near the southern portion of the property. A King County sewer line and paved trail border the western property boundary (bordering West Marginal Way South) which curves east toward the southern end of the property. The trail leads to a foot bridge constructed across the Duwamish River at the southeastern corner of the site. To the north is the U.S. Postal Service - Seattle Processing and Distribution Center, and to the south is the West Marginal Way South highway median. Boeing Customer Service Center facilities occupy the property on the east side of the Duwamish River.

The site is located near other Panel-sponsored habitat restoration projects (Turning Basin No. 3, intertidal portion of Hamm Creek, and Site #1), a Panel-sponsored sediment remediation project (Norfolk Combined Sewer Overflow), and a Coastal America project in the northern portion of Turning Basin No. 3 (Figure 2).

## **3.0 DESCRIPTION OF ALTERNATIVES**

### **3.1 Selection Criteria**

The Panel considered a number of factors during its evaluation of the North Wind's Weir site. These included the following:

#### **3.1.1 Site Assessment Criteria**

The site was evaluated against the site assessment criteria developed in the Concept Document. Once it was determined that the site was highly ranked as a suitable habitat development site, the Panel requested its King County representative to initiate negotiations with the King County Parks Department for a portion of the site abutting the Duwamish River.

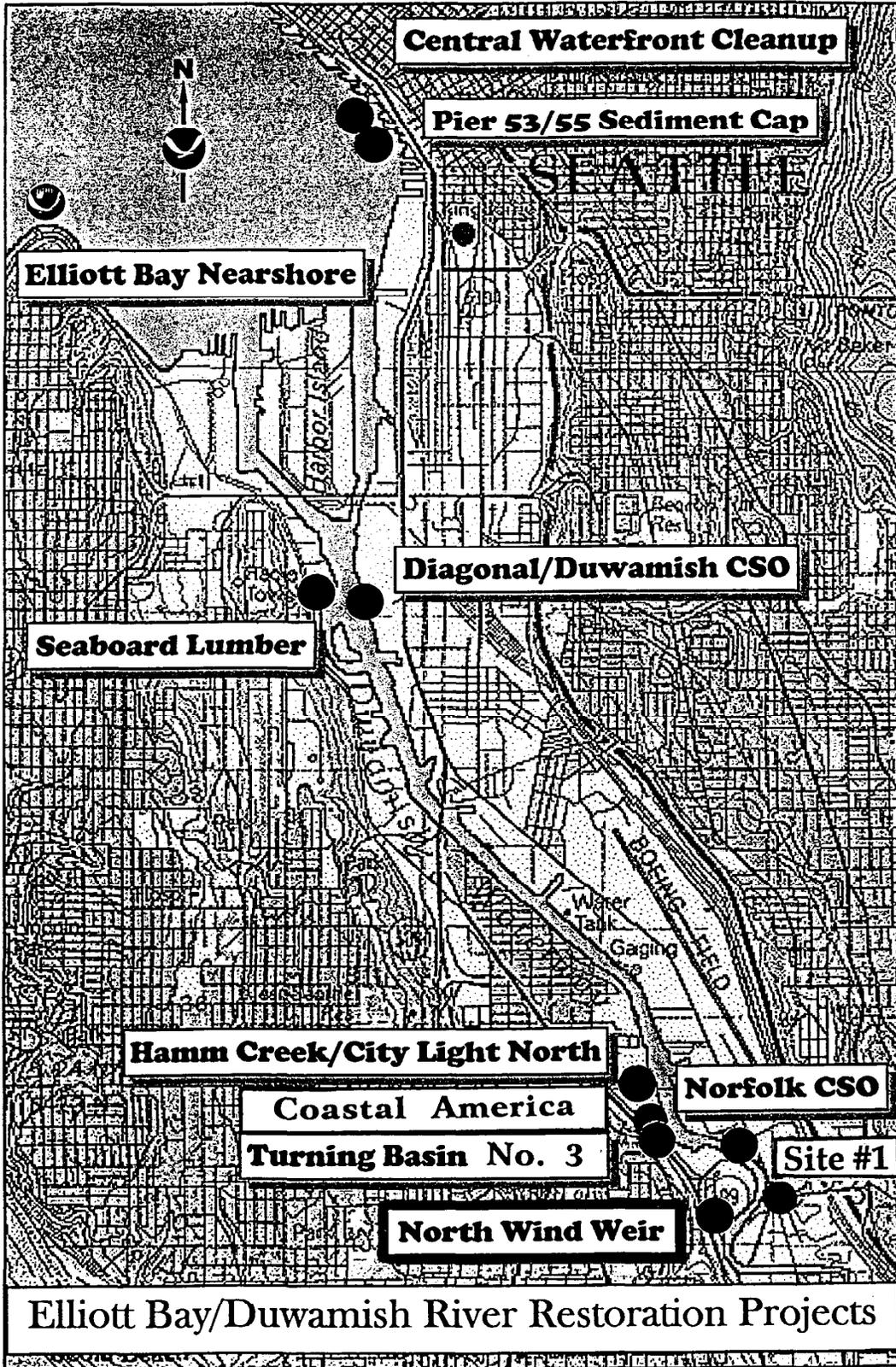


Figure 2. Adjacent Restoration Projects

### **3.1.2 Additional Site Assessment Criteria**

The following factors were also critical to the selection of the site and subsequently, the preferred alternative:

- **Acreage Available.** The King County Parks Department (the land owner) controlled how much acreage would be made available to the Panel. Final negotiations limited available acreage to approximately one acre.
- **Land Acquisition Costs.** The area is highly desirable for commercial/industrial development due to its location to the transportation corridors in South King County. In general, vacant or available sites in the City of Tukwila area are at a premium. Acquisition cost is a factor for Panel consideration as resources are limited and must be apportioned among Panel projects.
- **Construction Costs and Engineering Feasibility.** The complexity and scale of each construction alternative and their related costs is a factor for Panel consideration as resources are limited and must be apportioned among Panel projects. In general, project construction costs depend on the amount of shoreline construction, sedimentation control, and the degree of disturbance to existing infrastructures.
- **Maximize use of existing riparian vegetation.** The amount of existing vegetation increases its desirability. This site contains numerous mature deciduous and evergreen trees and associated shrubs and groundcover. It is desirable to leave as much of this vegetation as possible intact to create a buffer for the intertidal habitat.

### **3.1.3 Evaluation of Available Technologies**

Based on the evaluation of the above-listed factors and the general and specific habitat goals and objectives defined in the Concept Document, the Panel and the public reviewed and evaluated possible alternatives for creating needed intertidal habitat at the site. Examples of available methods that could be used to restore and/or replace estuarine habitat include:

- fill removal,
- regrading and excavation,
- stream daylighting,
- revegetation,
- substrate modification,
- water depth changes, and
- contaminant removal.

The Panel concluded that the desired habitat development/restoration at the North Wind's Weir site fits into two basic methods: (1) regrading the existing shoreline to create an intertidal bench, or (2) excavating the shoreline and creating a new intertidal area. Under both alternatives, revegetation with native plants would be required to form a riparian buffer.

### **3.1.4 NEPA Intensity Factors**

The Panel also evaluated another tier of evaluation factors prior to selecting its preferred alternative for the habitat development project. These factors related to the severity (significance) of the potential impacts of the project (see 40 CFR, 1508.27). These included:

1. Impacts that may be both beneficial and adverse.
2. Degree to which the project affects public health and safety.
3. Unique characteristics of the geographic area, such as proximity to historic or cultural resources, park lands, etc.
4. Degree to which the effects on the quality of the human environment are likely to be highly controversial.
5. Degree to which possible effects of implementing the project are highly uncertain or involve unique or unknown risks.
6. Degree to which the action establishes a precedent for future actions with significant effects or represents a decision in principle about a future consideration.
7. Individually insignificant but cumulatively significant impacts.
8. Degree to which the action adversely affects entities listed in or eligible for listing in the National Register of Historic Places, or may cause loss or destruction of significant scientific, cultural, or historic resources.
9. Degree to which endangered or threatened species, or their habitat, are adversely affected by the project.
10. Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.

### **3.2 Alternatives Considered**

The following summarizes and analyzes the environmental alternatives considered for the North Wind's Weir aquatic habitat restoration project. These are:

1. No Action / Natural Recovery,
2. Recontour Shoreline - Intertidal Habitat " Bench" Creation,
3. Intertidal Habitat Creation (1 acre),
3. Intertidal Habitat Creation (2 acres).

#### **3.2.1 ALTERNATIVE 1: No Action / Natural Recovery**

Under Alternative 1, No Action/ Natural Recovery, the Program would not take any direct action to restore injured natural resources or create habitat development projects, contrary to the mandate of the parties under the settlement agreement. No habitat restoration activities would occur on-site and no long-term monitoring would be performed using Program funds. The No Action/Natural Recovery Alternative allows biological impacts to recover naturally.

In order for Alternative 1 to be selected as the preferred alternative: (1) the natural process must be more effective in restoring the environment than available or potentially available

restoration options and alternatives; (2) the time to recovery must not be significantly different from that resulting from human intervention; (3) the affected area will not suffer from additional adverse ecological effects before the site returns to a natural state; (4) no negative threats to

the health and safety of the general public will be caused by the time lag of natural recovery; and (5) funds are not available for restoration.

### **3.2.2 ALTERNATIVE 2: Recontour Shoreline - Intertidal Habitat “Bench” Creation .**

Alternative 2 proposes to remove existing vegetation and structures and recontour and revegetate the area to provide an enhanced natural intertidal habitat (Figure 3). Due to the steep slopes of the shoreline and the property shape, habitat improvements are proposed by creating an upper tidal bench at an elevation of approximately +8 feet MLLW. This proposed improvement would create approximately 0.6 acres of intertidal habitat along the shoreline of the property. The upland edges would be revegetated with native trees and shrubs to form a riparian buffer.

This alternative would require the following:

- Removal of the shoreline bulkhead (tires stacked and chained together) at the southeast corner of the property.
- Removal of the Seattle Water District 48” water main and vertical thrust block in the southeast corner of the property.
- Removal of all trees, shrubs, and ground cover bordering the shoreline. This includes the removal of 25 mature deciduous and coniferous trees.
- Excavation of approximately 7,500 cubic yards of soil in order to form the bench at the proper elevation (+8 feet MLLW).

### **3.2.3 ALTERNATIVE 3: Intertidal Habitat Creation (1 acre) - Preferred Alternative .**

Alternative 3 would excavate and create approximately one acre of intertidal slough from the site (Figure 4). The slough would be connected to the Duwamish River at the northeast end of the property. In addition to the aquatic habitat area created, the upland edges would be revegetated with native trees and shrubs to form a riparian buffer.

This alternative would require the following:

- Removal of approximately 15 mature trees, as well as shrubs and ground cover in the area to be converted to intertidal habitat and revegetation of the buffer area surrounding the newly formed slough.
- Geotechnical improvements (seismic protection of the water main) or removal and relocation of the Seattle Water District 20” water main.
- Excavation of approximately 6,000 cubic yards of soil in order to create the slough at the appropriate tidal elevation.

### **3.2.4 ALTERNATIVE 4: Intertidal Habitat Creation (2 acres) .**

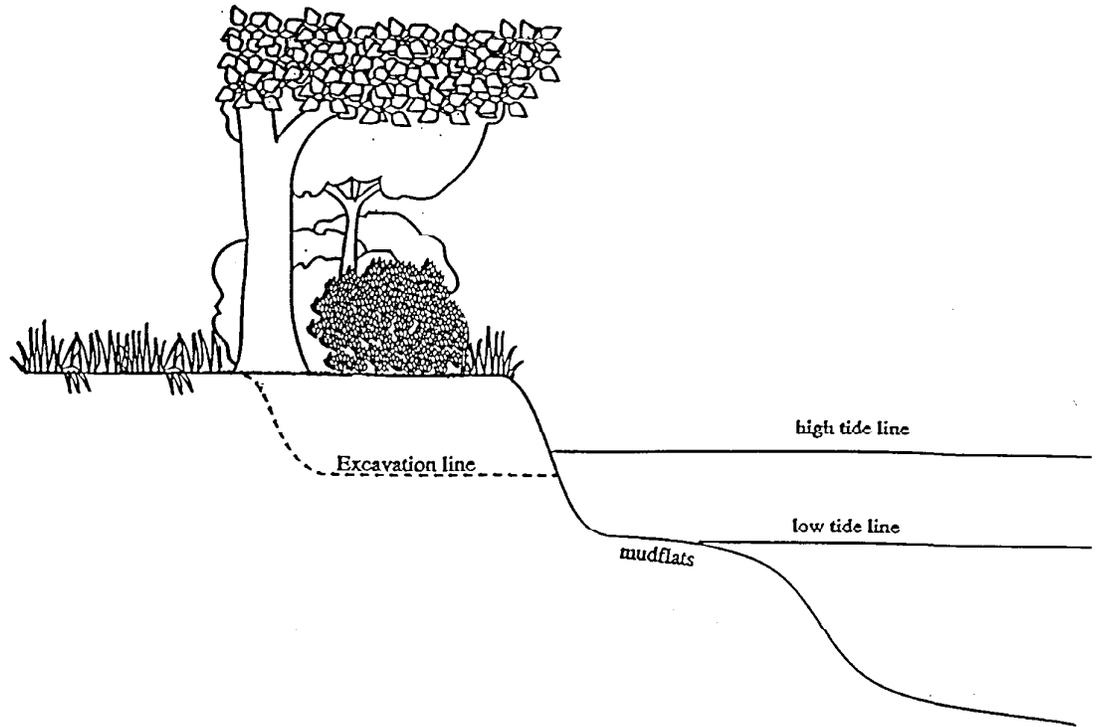
Alternative 4 doubles the area of excavation of Alternative 3 to create an intertidal habitat which would provide approximately 2.0 acres of intertidal slough (Figure 5). Connection to the Duwamish River would also be made at the northeast end of the property. The upland edges would be revegetated with native trees and shrubs to form a riparian buffer.

This alternative would require the following:

- Removal and relocation of the Seattle Water District 48” water main and vertical thrust block in the southeast quadrant of the property.
- Removal and relocation of Seattle Water District 20” water main.

### Profile of Existing Contours

Removes Tire Bulkhead, Vertical Thrust Riser, vegetation to maximize existing habitat potential.



### Property After Recontouring Shoreline

Creates an additional 0.6 acre of upper intertidal habitat.

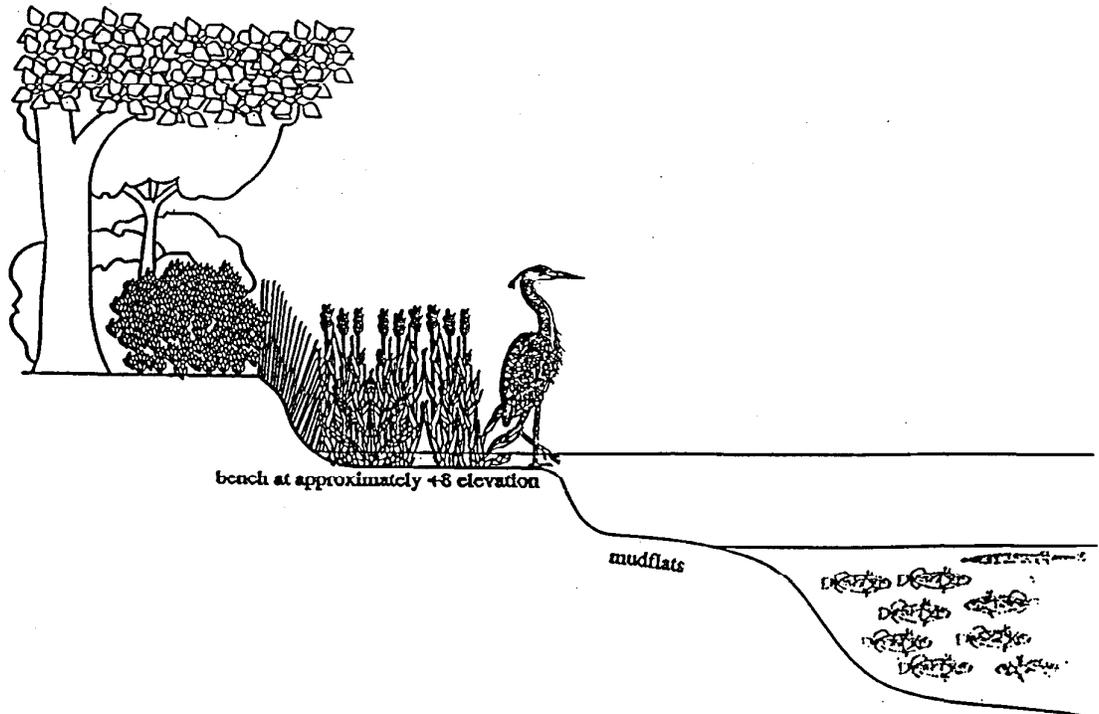


Figure 3. ALTERNATIVE 2 - Recontour Shoreline (0.6 acre)

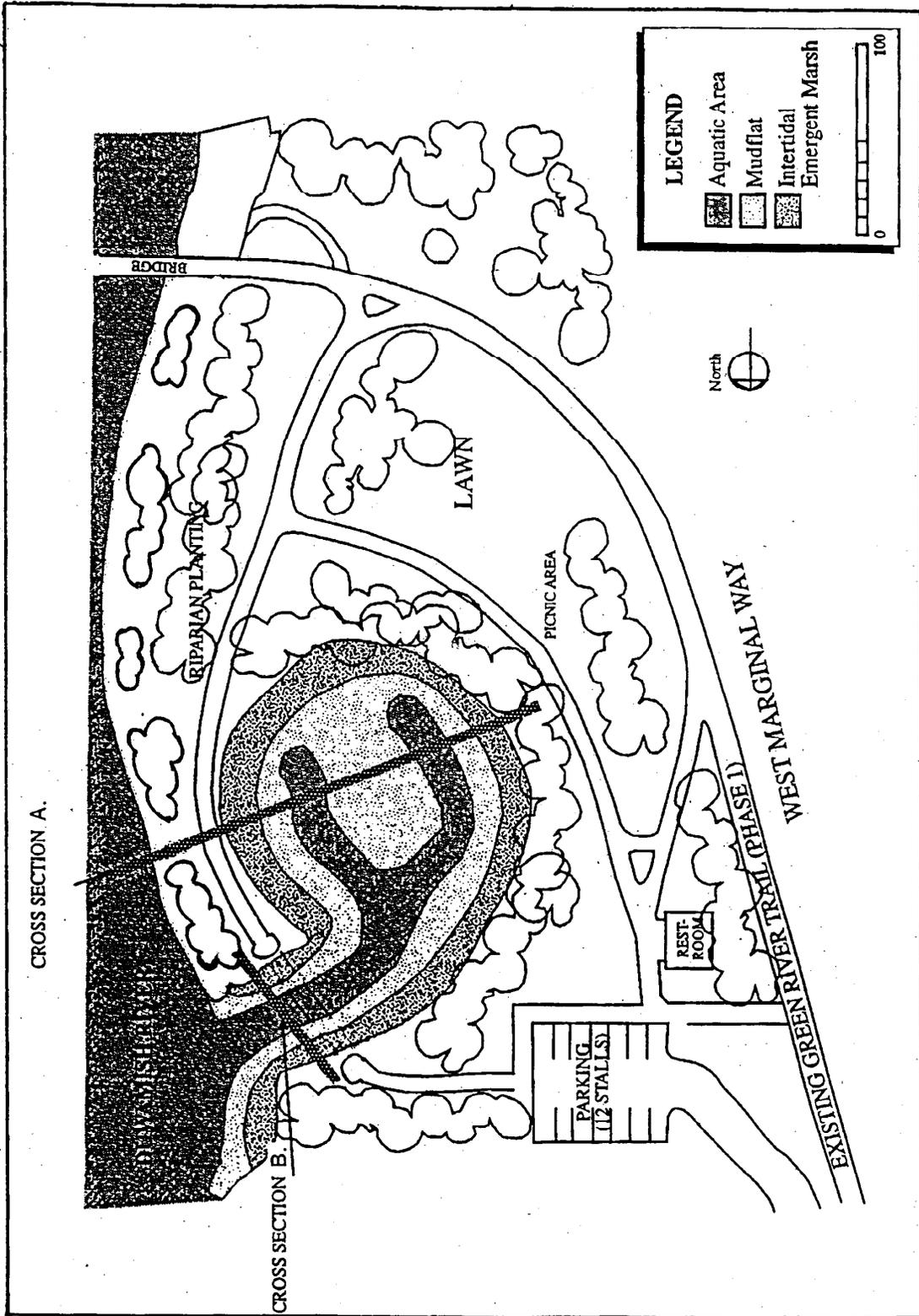


Figure 4. ALTERNATIVE 3: Intertidal Habitat Creation (1 acre) - Preferred Alternative  
Plan View

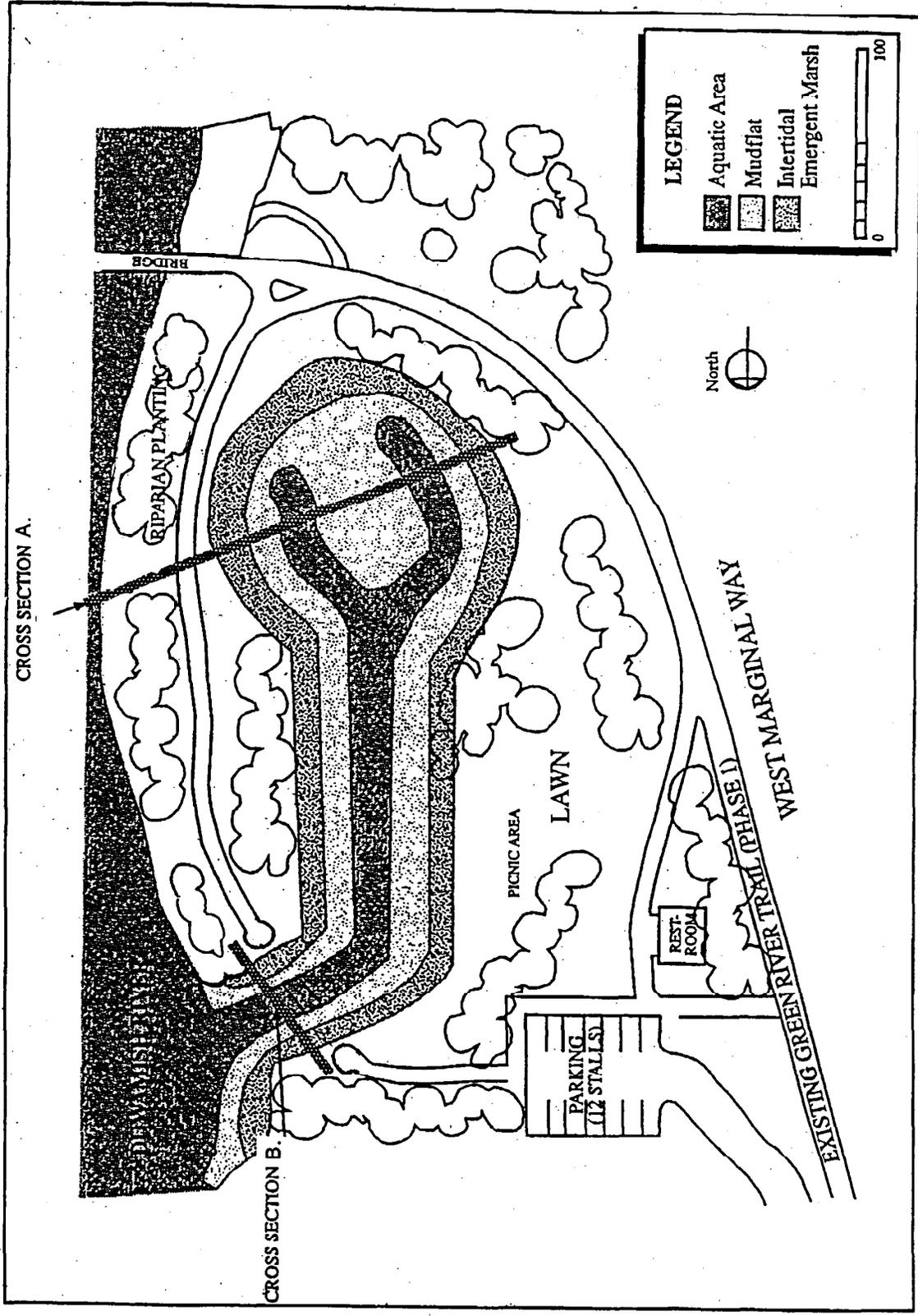


Figure 5. ALTERNATIVE 4: Intertidal Habitat Creation (2 acres)  
Plan View

- Removal of numerous mature trees (approximately 30), shrubs, and ground cover in the area to be converted to intertidal habitat.
- Excavation of approximately 12,000 cubic yards of soil in order to create the slough at the appropriate tidal elevation.

#### **4.0 ENVIRONMENTAL CONSEQUENCES: DIRECT, INDIRECT, OR CUMULATIVE IMPACTS**

There is a great deal of similarity in the direct, indirect, or cumulative environmental impacts to the following categories, regardless of the alternative selected. It is only in the areas of sediment quality, water quality, and vegetation that the impacts are different. Most adverse impacts are short-term and construction-related in nature and dependent on the extent of the excavation and scope of the project. Mitigation and monitoring plans would be in place to minimize those short-term impacts. All appropriate permits would be applied for and each of their conditions met.

##### **4.1 Aesthetic Impacts**

In all alternatives other than Alternative 1, the more natural slope and curvature of the shoreline, along with the increased vegetation to create a riparian buffer, will have a beneficial aesthetic effect on the restoration of the site. It is believed that the beneficial aesthetic impact would extend to the users of the adjacent park and trail system as well as boaters, kayakers, and other users of the marine waters.

##### **4.2 Air Quality**

Under all alternatives other than Alternative 1, there would be short-term emissions from construction activity (vehicles, occasional dust, etc.). Minimal automobile emissions are expected from automobile traffic to and from the adjacent upland park. Emissions would consist of fossil fuel combustion byproducts. The quantities are unknown at this time. Construction equipment would be equipped with exhaust controls and would be operated only during construction activity to reduce emissions. If visible emissions are observed, techniques such as periodically watering down dust during construction to control emissions would be employed. Truck loads would also be covered or load levels kept below sideboards to control dust. No emissions to air will result from the completed project. Mitigation and monitoring protocols would be in place.

##### **4.3 Connected Actions:**

Intertidal Habitat Impact on Adjacent Park: The intertidal habitat should have a positive impact on the adjacent King County open-space park. The project should provide the public with improved understanding of the natural functions of the Duwamish River through increased visibility and educational and cultural signage and materials. The removal of the 15 mature trees for construction of the intertidal habitat will be mitigated with the planting of 72 native trees (plus associated shrubs and ground cover) and will create a vegetative buffer from the park property. The Panel does not believe there are any negative impacts to the Park from the intertidal project.

**Park Impact on Intertidal Habitat:** The potential for increased noise and human activity associated with park use could impact the intertidal habitat. This will be partially mitigated by a cedar post fence with interpretive and educational signs informing park users of the importance of the intertidal habitat and the stewardship responsibilities associated with the habitat site. King County will also provide vegetative buffers (such as trees, shrubs, and groundcover) and trail setbacks, and will locate adequate waste receptacles, and parking and restroom facilities away from the intertidal habitat to decrease human disturbances to the habitat project.

#### **4.4 Controversial Impacts**

The Panel participants believe that this restoration project, under any action alternative, would pose no uncertain or controversial risks.

#### **4.5 Cumulative Impacts**

Several existing and proposed habitat development projects are in the vicinity of this proposed restoration project (see Figure 2). Creation of additional estuarine habitats such as this proposed project would be invaluable to salmon and would result in positive cumulative effects on the species and other natural resources of the Duwamish River.

#### **4.6 Economic Impacts**

This habitat development project is adjacent to an existing park and bike/walking trail system which has already been dedicated to open space through the Shoreline Improvement Fund (created under the West Point Treatment Plant mitigation requirements). Therefore, no new direct or indirect adverse economic impacts would result from this project, under any alternative.

#### **4.7 Threatened, Endangered, and Candidate Species**

**Chinook Salmon:** Key habitat requirements for chinook salmon survival include adequate stream flow, gravel quality, temperature, dissolved oxygen, side channels for rearing, and estuarine food sources for juvenile rearing.

The Puget Sound Evolutionary Significant Unit (ESU) of chinook salmon has been listed as “threatened” under the federal Endangered Species Act (ESA). Overall abundance of chinook salmon in this ESU has declined substantially from historical levels. The types of habitat degradation that have occurred in the Green/Duwamish Basin include diking for flood control, draining and filling of freshwater and estuarine wetlands, and sedimentation from forest and agricultural practices, and urbanization.

**Bull Trout:** The Puget Sound Distinct Population Segment (DPS) of bull trout is listed as a threatened species under the federal ESA. Bull trout are found in interior and some coastal drainages from northern California to southeast Alaska. Bull trout in the Puget Sound region and coastal streams may include anadromous, fluvial, adfluvial, and resident populations.

**Coho Salmon:** The Puget Sound coho ESU is a candidate for listing under the ESA. As a candidate species, no federal protection is in place; however, this species is under consideration for listing. Green/Duwamish River coho run size has not changed significantly since monitoring began in 1965.

**Anadromous Cutthroat Trout** : Anadromous, or sea-run, cutthroat trout are widespread through Washington west of the Cascade mountain range and are typically found in lower elevation and lower gradient streams below barriers to passage. The Puget Sound anadromous cutthroat trout ESU is a candidate for listing under the ESA. As a candidate species, no federal protection is in place; however, this species is under consideration for listing.

**Bald Eagle**: The bald eagle is federally listed as threatened in Washington. Bald eagles migrate to wintering ranges in Washington in late October and are most commonly found along lakes, rivers, marshes, and other wetland areas west of the Cascade Range. The limiting features of bald eagle breeding habitat are nest sites, perch trees, and available prey.

#### **4.8 Essential Fish Habitat / Fish and Wildlife Impacts**

The Magnuson-Stevens Fishery and Conservation Management Act (16 USC 1801 et seq.) 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. The Pacific Fishery Management Council (PFMC), responsible for federal fishery management in Washington, Oregon, and northern California, defined essential fish habitat for the salmon fishery as the aquatic habitat necessary to allow for salmon production needed to support long-term sustainable salmon fishery and salmon contributions to a healthy ecosystem. The EFH for salmon includes all those streams, lakes, ponds, wetlands, and other water bodies currently or historically accessible to salmon in Washington except areas upstream of longstanding naturally impassible barriers (i.e., natural waterfalls in existence for several hundred years). The overall goal of salmonid conservation as recommended by PFMC (1999) is to ensure that salmonid habitat requirements are met by maintaining habitat features within the natural range for the particular system.

The Duwamish River estuary provides habitat for many fish, birds, and mammal species. Refer to the Biological Assessment for Listed and Proposed Threatened and Endangered Species for this project (Attachment 2) for a listing of these species. The Duwamish estuary also provides nursery habitat for numerous marine fish species, including trout, steelhead, bottom fish, and juvenile salmonids.

The lower 6 to 8 miles (10 to 13 km) of the Duwamish estuary is an important transition zone for juvenile chinook salmon to acclimate to salt water. Salmonids are considered the most commercially and recreationally important fish species using the river. In particular, as noted in Section 2 (Affected Environment), the chinook salmon has been listed as a "threatened species" under the Endangered Species Act. The creation of this intertidal habitat should provide essential habitat for this critical species, as well as enhanced habitat for some other estuarine species and smaller wildlife species.

Letters regarding formal Section 7 Endangered Species Act and Essential Fish Habitat consultations with the National Marine Fisheries Service and the U.S. Fish and Wildlife Service are attached (Attachment 1) and included as part of the Administrative Record. Upon review of the Biological Assessment for Listed and Proposed Threatened and Endangered Species (Attachment 2), both agencies concurred with findings of "may affect, not likely to adversely affect" for the North Wind's Weir Project.

In any alternative other than Alternative 1, and in accordance with State code and permit conditions, excavation of the shoreline and connection to the Duwamish River will only take

place in the absence of threatened species and during regulated time periods when no major fish runs occur. Impacts on mobile species (e.g. birds, mammals) will be minor, consisting of only short-term displacement. Construction of an intertidal habitat and planting of an associated riparian buffer should create essential fish habitat which will benefit fish and wildlife species dependent on these types of habitat.

No essential fish habitat will be adversely affected by any of these alternatives.

#### **4.9 Historical and Cultural Impacts**

According to archaeological reports on file in the Administrative Record, Native Americans used the area for fishing, and a fishing station generally referred to as "North Wind's Weir," may have been located on the site. Although no direct archeological evidence has been uncovered to date, the project archaeologist has noted the potential archaeological significance of the site and has prepared archaeological monitoring recommendations for how to proceed during construction. Archaeological studies of both the adjacent upland park and the restoration project site were prepared as part of the SEPA process. Although the site currently is not listed on national, state, or local registers, it is a culturally sensitive area for local Native American tribes and, according to the archaeological reports, may meet the criteria for consideration as a traditional cultural property and may be eligible for consideration under the National Registry of Historic Places, although that evaluation has not been conducted.

King County will continue to coordinate with the Native American tribes and the State Office of Archaeology and Historic Preservation regarding the adjacent park site. As the Panel's project manager for the intertidal habitat project, King County will also ensure that archaeological monitoring will occur during construction of the intertidal estuary project. The Muckleshoot Indian Tribe and the Suquamish Tribe are also members of the Panel, and are actively participating in the evaluation, planning and design, construction, implementation, and monitoring phases of the intertidal restoration project.

#### **4.10 Noise Impacts**

Background noise levels in the vicinity of the project area are characteristic of a commercial/industrial area. Predominant sources of noise include automobile and airplane traffic, and noise generated by commercial/industrial activities. There would be short-term noise from construction-related daytime activities. The SEPA checklist for the adjacent Park site provides additional information on how the construction noise impacts on both the adjacent park site and the habitat site will be minimized. The Panel anticipates that under any alternative, the noise levels near the river would be short-term and not excessive.

#### **4.11 Plants**

The upland portion of the site contains deciduous trees (black cottonwood, black locust, willows, poplars, ornamentals) and evergreen trees (fir, cedar, hemlock), shrubs (ornamentals, blackberries) and grass. There are no known threatened or endangered plant species on or near the project site. The preferred alternative, Alternative 3, would require the removal of approximately 15 significant deciduous and evergreen trees and associated shrubs in the northeast quadrant of the property for intertidal habitat creation. This would be mitigated by a specific planting plan in accordance with the City of Tukwila construction code, which will result in the planting of 72 trees.

#### **4.12 Precedential Effects**

The Panel participants believe that the creation of an estuarine habitat site on the Duwamish River is a positive influence on the River and its users.

Additionally, locating restoration projects adjacent to existing natural parks on the Duwamish River will not only increase the fish and wildlife habitat and benefit the overall natural resources of the system, but will enhance the appreciation and intrinsic values placed on such natural places by providing public viewing and educational opportunities to explain such habitats.

#### **4.13 Recreational Impacts**

The Duwamish River is used by motorized and non-motorized vessels. Tribal subsistence and regulated recreational fishing occurs in the vicinity. The adjacent Green River Trail, which extends along the western edge of King County's park, may be interrupted for several days during construction of the intertidal habitat, but King County will provide an alternative route if that occurs. Adverse impacts to recreation, either shoreside or in the marine environment, are anticipated to be insignificant.

#### **4.14 Sediment Quality**

In general, benefits to fish and wildlife resources are increased by removing fill and shoreline reinforcements and regrading to create a more gradual slope characteristic of a natural shoreline and intertidal habitat. Whenever construction involves the modification or stabilization of sediments, a temporary erosion/sedimentation control plan (TESCP) in accordance with state and local government guidelines must be in place prior to and during construction, along with implementing Best Management Practices (BMPs) such as covering or stabilizing areas of exposed soil. This approach minimizes the amount of erosion which could occur as a result of earthwork construction (filling, grading, etc.).

#### **4.15 Transportation**

Both the King County park and the Panel's intertidal habitat project are accessed via West Marginal Way Place (park's parking lot), off of West Marginal Way South. West Marginal Way South is a five-lane arterial. The five lanes include two lanes of travel in each direction, plus a center two-way turn lane. The posted speed limit is 40 mph. The nearest public transit stop is on West Marginal Way South, approximately 1/4 to 1/2 mile away. The current transportation infrastructure would be unchanged as a result of the project. Traffic volume would increase on the access road to both the park and the intertidal habitat project during construction. The adjacent park project will provide 11 parking spaces. Vehicle trips to the park are estimated at 10-15 trips per day, depending on the season. The park will be visited at various times by a variety of users. It is assumed that some of the park visitors will also be interested in viewing and learning about the intertidal habitat.

#### **4.16 Water Quality**

There are a variety of land uses in the project area which probably contribute to the discharge of contaminants to the river, including heavy industries and businesses, and major traffic corridors. However, water quality in the Duwamish River is generally considered to be good (classified 400 Class B, Good under Washington Administrative Code 173-201A). None of the alternatives

for this project involves discharges of waste materials to surface waters.

A small amount of water will be diverted from the Duwamish River for development of the intertidal habitat (estuary). The quantity of diversion flow is not known at this time, but will vary with tidal influence. BMPs established to minimize sediment suspension to the river will be used during the construction of the intertidal habitat. Construction of the habitat will occur only during appropriate windows established by regulatory authority during periods of minimal use of the river by important salmonid species. The Panel does not believe that construction of the intertidal habitat will pose any negative long-term impacts to water quality.

## **5.0 SELECTION OF THE PREFERRED ALTERNATIVE**

Alternative 1, No Action/Natural Recovery, was not selected since it does not meet the legal requirements for complying with the settlement, nor does it meet the Program's goals and objectives. Because over ninety-eight percent of the wetlands in this system have been lost to development activities, the Panel believes that restoring habitat to the system is an essential means of benefiting fish and wildlife populations that have declined because of habitat loss and degradation. This alternative will not benefit fish and wildlife or restore lost habitat function and has therefore not been further considered in this evaluation.

Alternatives 2, 3, and 4 were then evaluated against the Selection Criteria outlined in Section 2.0 and the potential impacts discussed in Section 3.0.

Alternative 2: Recontour Shoreline - Intertidal Habitat Bench Creation was examined. This alternative creates the least amount of habitat (0.6 acres). Construction costs are assumed to be high due to erosion and sedimentation control of the steep river bank and associated river currents, and the removal and relocation of the 48" water main and vertical thrust riser. Construction would also remove a significant amount of mature riparian vegetation bordering the shoreline. For these reasons Alternative 2 was not selected.

Alternatives 3 and 4 both create intertidal habitat by excavating an intertidal slough on site. Alternative 4 creates the largest amount of desired intertidal habitat (two acres). During the course of the negotiations with the landowner (King County Parks Department), Alternative 4 was determined to be too large and would affect the ability of King County to provide any amenities to the proposed Cecil Moses Memorial Park. The incursion into the park property would also result in the need to remove two large water mains and approximately 30 additional trees. It was decided that decreasing the scope of the habitat project would still result in a functioning intertidal habitat that was valuable at this location and it could be constructed consistent with the Panel's goals and objectives. Therefore, Alternative 3 was selected as the preferred alternative.

In summary, Alternative 3 meets the Program's goals and objectives of maximizing ecological benefits, creates essential fish habitat, and minimizes potential impacts to the environment within available acquisition and construction resources and constraints set by the land-owner. Alternative 3 utilizes acceptable available technology and minimizes the short-term environmental impacts to the maximum extent possible. Alternative 3 construction minimizes the removal of mature deciduous and coniferous trees and incorporates them into the riparian buffer portion of the intertidal habitat, and minimizes disturbance to the existing structures (bulkhead, water main and thrust riser) at the southern end of the property.

## **6.0 PROJECT BUDGET SUMMARY**

The Panel, during the course of the development of the Concept Document and review of public comments received, selected the North Wind's Weir site for a restoration project. In November of 1996, the Panel passed Resolution 1996-30 authorizing King County up to \$107,749 to coordinate the planning, design, and permitting of a project at that site. An appraisal of the site conducted in 1997 (Lamb Hanson Lamb) placed a value of \$416,000 for a 1.03-acre parcel. With the selection of the preferred alternative, a final design of the site will be prepared, and the project manager will be requested to proceed with coordinating the planning, design, permitting, construction, and monitoring activities for the project.

The Panel has determined these, and projected implementation costs, are reasonable and necessary to fulfill the Consent Decree requirements for restoring, replacing, or acquiring the equivalent of natural resources of the Duwamish River.

Monitoring of this project will occur under the Panel's Intertidal Habitat Projects Monitoring Program (IHPMP). The IHPMP is a ten year program which will monitor success and provide adaptive management actions as necessary to ensure continued viability and protection of this project, and to ensure full compliance with all permit conditions.

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

The Concept Document references a number of area programs which may be potentially applicable to this project. The project manager will ensure that there is coordination where applicable. There are also a number of potentially relevant laws, regulations, and policies which need to be considered during the development of this restoration project, as well as several regulatory requirements which are typically evaluated during the federal and state permitting processes. A supplemental list of these requirements has been included in the Administrative Record.

## **8.0 LIST OF AGENCIES CONSULTED**

U.S. Department of Commerce, National Oceanic and Atmospheric Administration,  
National Marine Fisheries Service  
U.S. Department of the Interior, U.S. Fish and Wildlife Service  
U.S. Army Corps of Engineers  
The Suquamish Tribe  
Muckleshoot Indian Tribe  
Washington State Department of Ecology  
Washington State Department of Natural Resources  
Washington State Department of Fish and Wildlife  
Washington State Office of Archeology and Historical Preservation  
King County Surface Water Management Division  
King County Parks Department  
City of Tukwila

## 9.0 REFERENCES AND LIST OF DOCUMENTS INCORPORATED BY REFERENCE

These documents have been included in the Administrative Record for this project. Other documents will be added to the Record as the project is proceeding through its planning, design, construction, and monitoring phases.

Aitkin, J. Kevin. 08/98. The Importance of Estuarine Habitats to Anadromous Salmonids of the Pacific Northwest: A Literature Review. U.S. Fish and Wildlife Service, Western Washington Office, Aquatic Resources Division, Lacey Washington. 23 pp.

Eldred (Lamb Hanson Lamb Appraisal Associates, Inc.) to King County Office of Open Space. 06/20/97. Limited Scope Appraisal of North Wind Weir Habitat Mitigation Property, Duwamish Pocket Park, West Marginal Place South, Tukwila, King County, Washington.

Elliott Bay/Duwamish Restoration Program Panel. 6/94. Concept Document, Panel Publication Number 7, as amended (Description of the program and process used to identify and evaluate projects and sites).

Elliott Bay/Duwamish Restoration Program Panel. 03/96. Technical Working Group Minutes; assessing habitat sites in the Turning Basin Geographical Focus Area.

Elliott Bay/Duwamish Restoration Program Panel. 05/96. Resolution 1996-10 formally adopting North Wind Weir site; requesting King County to develop a proposal for the site.

Elliott Bay/Duwamish Restoration Program Panel. 06/96. Resolution 1996-13: Amendment #1 to Concept Document (Panel Publication #7) to include language describing sites 1 and 2 in the Turning Basin Geographic Focus Area.

Elliott Bay/Duwamish Restoration Program Panel. 10/96. Development of preliminary scope, schedule and budget for the proposed project.

Elliott Bay/Duwamish Restoration Program Panel. 02/12/97. Public meeting about proposed project.

Elliott Bay/Duwamish Restoration Program Panel. 02/25/97. "King County acquires 1.03 acre site for intertidal habitat."

Elliott Bay/Duwamish Restoration Program Panel. 10/97. Resolution 1997-20 authorizing King County up to \$416,000 for acquisition of real property for the North Wind Weir Project.

Hardman (Hong West & Associates). 01/22/96. Supplemental Final Report. Supplemental Geotechnical Engineering Report to King County for a Restroom at the North Wind Weir Park. Supplements the Geotechnical Investigation, Final Report, dated 11/12/91.

King County. June 2000. Biological Assessment for Listed and Proposed Threatened and Endangered Species – Cecil Moses Memorial Park [North Wind's Weir] Tukwila, Washington: Final Report, prepared by URS, Seattle, Wa.

King County . 04/02/97. Submission of SEPA Environmental Checklist for the North Wind Weir Park (adjacent site development). The checklist was prepared by King County to include both the park project and the Elliott Bay/Duwamish Restoration Program Panel's intertidal habitat project in the SEPA document.

Montgomery (BOAS, Inc.) to Reckord (MacLeod Reckord Landscape Architects). 04/24/97. Transmitting the archaeological monitoring of geological coring report.  
Myers, et al. 1998. NMFS Status Report on West Coast Salmon. Contact Branch Chief, NMFS, Northwest Region, Protected Resources Division, 525 N.E. Oregon St. Suite 500, Portland, OR 97232-2737.

National Oceanic and Atmospheric Administration. Final Rule: Threatened Status for Three Salmon Evolutionarily Significant Units in Washington and Oregon, and Endangered Status of One Salmon ESU in Washington. 64 Fed. Reg. 14307-14329, March 24, 1999.

Onat (BOAS, Inc.) to Reckord (MacLeod Reckord Landscape Architects), 02/24/97. Transmitting the cultural resource investigation report on the restoration site at North Wind Weir Park, along with the Cultural Resource Treatment Matrix establishing criteria to identify archaeological remains of "sufficient significance to warrant site monitoring or halt construction."

Pacific Fishery Management Council. 1999. Description and identification of essential fish habitat, adverse impacts and recommended conservation measures for salmon, Amendment 14 to the Pacific Coast Salmon Plan.

Stump (BOAS, Inc.) to Reckord (MacLeod Reckord Landscape Architects), 07/05/96. Summarizing activities and findings that the North Wind Weir Park may be eligible for consideration as potential traditional cultural property.

United States, et al. v. City of Seattle and Municipality of Metropolitan Seattle C90-395WD (W.D. Wash., Dec. 23, 1991). Consent Decree establishing the Elliott Bay/Duwamish Restoration Program Panel.

Warner, Eric J., and Fritz, Robert L. 8/11/95. The Distribution and Growth of Green River Salmon (*Oncorhynchus tshawytscha*) and Chum Salmon (*Oncorhynchus keta*) Outmigrants in the Duwamish Estuary as a Function of Water Quality and Substrate. Muckleshoot Indian Tribe Fisheries Department. 71pp.



## United States Department of the Interior

*CT*  
COPY FOR YOUR  
INFORMATION

### FISH AND WILDLIFE SERVICE

Western Washington Office  
510 Desmond Drive SE, Suite 102  
Lacey, Washington 98503  
Phone: (360) 753-9440 Fax: (360) 753-9008

NOV 29 2000

Sandy Gurkewitz, Program Analyst  
ESA Policy Coordination Office  
King County Executive  
M.S. KSC-EX-0705  
201 South Jackson Street  
Seattle, Washington 98104-3488

*FWS Reference: 1-3-00-I-0155, King County Department of Construction and Facilities Management, Cecil Moses Memorial Park, Tukwila, Washington (PN 1998-2-02018)*

Dear Ms. Gurkewitz:

This letter is in response to your cover letter and attached Biological Assessment for the proposed Cecil Moses Memorial Park Project in Tukwila, Washington. The project is proposed by the King County Department of Construction and Facilities Management and includes intertidal habitat restoration elements being completed under the Elliott Bay/Duwamish Restoration Program, as well as recreational amenities. The letter was dated October 19, 2000, and received in this office on October 21, 2000. Your letter states that the Biological Assessment has been reviewed by the King County Biological Review Panel, which has concurred its conclusions.

The proposed action is being undertaken to restore intertidal and riparian habitat and provide additional recreational access to the Duwamish River and the Green River Trail. Proposed activities include:

- construction of a parking lot
- construction of interpretive signs and kiosks
- construction of an intertidal habitat area
- installation of benches and picnic tables
- development of walking paths
- dedicated canoe/kayak access
- installation of irrigation and drainage systems

The project is one of four intertidal habitat restoration projects being completed under the auspices of the Elliott Bay/Duwamish Restoration Program which includes involvement by the Mukleshoot and Suquamish Indian Tribes, City of Seattle, King County, Washington Department

of Ecology, National Oceanic and Atmospheric Administration, and the U.S. Fish and Wildlife Service.

The project proponent has determined that the proposed project may affect, but is not likely to adversely affect bull trout (*Salvelinus confluentus*), and may affect, but is not likely to adversely affect bald eagle (*Haliaeetus leucocephalus*). The U.S. Fish and Wildlife Service believes that sufficient information has been provided on project effects to listed species for the lead Federal agency to conclude a determination of effect.

This concurrence is based on our understanding of the following issues as described in the Biological Assessment and subsequent discussions:

1. Sediment and erosion control measures described in Section 6.3 of the Biological Assessment and further detailed in Appendix 2, Sheet D3 will be followed.
2. Native trees removed to allow for excavation of the intertidal embayment will be used for habitat development in the project area, for example as snags for perching or large woody debris.

In order to expedite the environmental review process, if the U.S. Army Corps of Engineers concurs with your effect determinations for listed species, then you may consider this action to be in compliance with requirements of 50 CFR 402.13, thereby concluding the consultation process. This project should be re-analyzed if new information reveals effects of the action that may affect listed/proposed species or critical habitat in a manner or to an extent not considered in this consultation/conference; if the action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this consultation/conference; and/or, if a new species is listed or critical habitat is designated that may be affected by this project.

If you have further questions about this letter or your responsibilities under the Act, please contact John Grettenberger at (360) 753-6044 or Curtis Tanner at (360) 753-4326.

Sincerely,



Gerry A. Jackson, Manager  
Western Washington Office

c: King County Department of Construction and Facilities Management (M. Lozano)



**UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration**

NATIONAL MARINE FISHERIES SERVICE  
Northwest Region  
7600 Sand Point Way N.E., Bldg. 1  
Seattle, WA 98115

June 22, 2001

Colonel Ralph H. Graves  
District Engineer  
Corps of Engineers, Seattle District  
Post Office Box 37551  
Seattle, Washington 98124-3755

Re: Section 7 Informal Consultation on the King County's Cecil Moses Park/North Winds Weir Restoration Project and Essential Fish Habitat Consultation (NMFS No. WSB-01-211).

This correspondence is in response to a request for consultation under the Endangered Species Act (ESA) so that a concurrence letter may be filed with the Joint Aquatic Resource Permit Application (JARPA). Additionally, this letter serves to meet the requirements for consultation under the Magnuson-Stevens Fishery Conservation and Management Act (MSA).

#### **Endangered Species Act**

The National Marine Fisheries Service (NMFS) has reviewed the September 2000 Biological Assessment for concurrence with findings of "may affect, not likely to adversely affect" for the above referenced project, prepared for King County in partial fulfillment of their Elliott Bay/Duwamish Restoration Program (EB/DRP) settlement. The findings were in regard to the listing of Puget Sound chinook salmon (*Oncorhynchus tshawytscha*) as Threatened under the ESA. This consultation will be included in the Section 404 permit portion of the JARPA with the United States Army Corps of Engineers (ACOE) and is conducted under section 7(a)(2) of the ESA, and its implementing regulations, 50 CFR Part 402.

The NMFS Habitat Conservation Branch staff has provided on-going oversight to the design of this living marine resources restoration project as an EB/DRP Trustee of record. The NMFS concurs with the findings of "may affect, not likely to adversely affect," to either the species or the designated critical habitat, because of the reasons provided in the Biological Assessment: 1) the work will be done during a time of the year when chinook salmon are not present; 2) upland excavation and construction will occur "in the dry"; 3) 4,650 cubic yards of fill will be removed and 1.03 acres of off-channel habitats will be restored to provide critical and essential functions of intertidal and shallow subtidal substrates with associated buffers; 4) the project complements on-going Turning Basin vicinity restoration and mitigation efforts, such as the nearby Natural Resource Trustees-sponsored Duwamish/Hamm Creek Estuary, Turning Basin No. 3 Restoration Project, Coastal America project site, Port of Seattle mitigation site, and a proposed salmon restoration project (Site 1) directly across the Duwamish River; 5) shoreside exotic brush will be replaced with native riparian plants; and 6) the project will meet all conditions of the Washington Department of Fish and Wildlife Hydraulic Project Approval.



This concludes informal consultation on these actions in accordance with 50 CFR 402.14(b)(1). The ACOE must reinitiate this ESA consultation if: 1) new information reveals effects of the action that may affect listed species in a way not previously considered; 2) the action is modified in a manner that causes an effect to the listed species that was not previously considered; or 3) a new species is listed, or critical habitat designated, that may be affected by the identified action.

### **Essential Fish Habitat**

Federal agencies are obligated, under Section 305(b)(2) of the MSA and its implementing regulations (50 CFR 600), to consult with NMFS regarding actions that are authorized, funded, or undertaken by that agency, that may adversely affect Essential Fish Habitat (EFH). The MSA (§3) defines EFH as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." Furthermore, NMFS is required to provide the Federal agency with conservation recommendations which minimize the adverse effects of the project and conserve EFH (MSA §305(b)(4)(A)). This consultation is based, in part, on information provided by the Federal agency and descriptions of EFH for Pacific coast groundfish, coastal pelagic species, and Pacific salmon contained in the Fishery Management Plans produced by the Pacific Fisheries Management Council.

The proposed action and action area are described in the *Biological Assessment*. The action area is at the upstream limit of the marine salt wedge of the Duwamish River and includes habitats which have been designated as EFH for various life stages of 17 species of groundfish, four coastal pelagic species and two species of Pacific salmon (Table 1). Information submitted in the *Biological Assessment's* General Impacts of the Proposed Action section is sufficient for NMFS to conclude that the effects of the proposed action are transient, local, and of low intensity and are not likely to adversely affect EFH in the long-term. NMFS also believes that the conservation measures proposed as an integral part of the action would avert, minimize, or otherwise offset potential adverse impacts to designated EFH and would both increase the quantity and enhance the quality of EFH.

*EFH Conservation Recommendations:* The conservation measures that are included as part of the proposed action are adequate to minimize the adverse impacts from this project to designated EFH for the species in Table 1. It is NMFS' understanding that the project proponent intends to implement the proposed activity with these built-in conservation measures that minimize potential adverse effect to the maximum extent practicable. Consequently, NMFS has no additional conservation recommendations to make at this time.

Please note that the MSA (§305(b)(4)(B)) requires the Federal agency to provide a written response to NMFS' EFH conservation recommendations within 30 days of its receipt of this letter. However, since NMFS did not provide conservation recommendations for this action, a written response to this consultation is not necessary.

This concludes EFH consultation in accordance with the MSA and 50 CFR 600. The ACOE must reinitiate EFH consultation with NMFS if the proposed action is substantially revised in a manner that may adversely affect EFH, or if new information becomes available that affects the basis for NMFS' EFH conservation recommendations (50 CFR 600.920(k)).

This concludes ESA and EFH consultations. If you have questions regarding either of these consultations, please contact Robert Clark at 206-526-4338.

Sincerely,

A handwritten signature in black ink, appearing to read "Donna Darm" followed by a flourish.

Donna Darm  
Acting Regional Administrator

Table 1. Species of fishes with designated EFH in the action area.

<b>Groundfish Species</b>	<b>Sablefish <i>Anoplopoma fimbria</i></b>	<b>Coastal Pelagic Species</b>
Spiny Dogfish <i>Squalus acanthias</i>	Bocaccio <i>S. paucispinis</i>	anchovy <i>Engraulis mordax</i>
California Skate <i>R. inornata</i>	Brown Rockfish <i>S. auriculatus</i>	Pacific sardine <i>Sardinops sagax</i>
Ratfish <i>Hydrolagus colliei</i>	Copper Rockfish <i>S. caurinus</i>	Pacific mackerel <i>Scomber japonicus</i>
Lingcod <i>Ophiodon elongatus</i>	Quillback Rockfish <i>S. maliger</i>	market squid <i>Loligo opalescens</i>
Cabezon <i>Scorpaenichthys marmoratus</i>	English Sole <i>Parophrys vetulus</i>	<b>Pacific Salmon Species</b>
Kelp Greenling <i>Hexagrammos decagrammus</i>	Pacific Sanddab <i>Citharichthys sordidus</i>	chinook salmon <i>Oncorhynchus tshawytscha</i>
Pacific Cod <i>Gadus macrocephalus</i>	Rex Sole <i>Glyptocephalus zachirus</i>	coho salmon <i>O. kisutch</i>
Pacific Whiting (Hake) <i>Merluccius productus</i>	Starry Flounder <i>Platichthys stellatus</i>	Puget Sound pink salmon <i>O. gorbuscha</i>