

SEPA ENVIRONMENTAL CHECKLIST

Lower Duwamish River Habitat Restoration Plan

A. BACKGROUND

1. Name of proposed project, if applicable:

Lower Duwamish River Habitat Restoration Plan

2. Name of applicant: Port of Seattle

3. Address and phone number of applicant and contact person:

Geo. Blomberg
Seaport Environmental Programs
Port of Seattle
P.O. Box 1209
Seattle, Washington 98111
Telephone: 206-728-3194
E-Mail: blomberg.g@portseattle.org

4. Date checklist prepared: October 31, 2008

5. Agency requesting checklist: Port of Seattle: Port of Seattle (SEPA Number: 08-11)

6. Proposed timing or schedule (including phasing, if applicable):

The Port of Seattle has prepared an evaluation of potential fish and wildlife habitat restoration actions and locations, including use of port-owned bank line and aquatic area in the lower Duwamish River. Approximately 5.3 miles of waterway area, extending from the south margin of Harbor Island, upstream to the head of navigation at Turning Basin Number Three, have been inventoried, including identification of the potential for restoration of aquatic and shoreline area estuarine resource values at 31 locations.

The present Lower Duwamish River Habitat Restoration Plan presents a planning framework and inventory of potential future restoration actions. Environmental checklist information presented below represents a programmatic evaluation of the Lower Duwamish River Habitat Restoration Plan, referred to in the following as the Duwamish restoration plan. No specific restoration project proposals are included in the present plan. Future proposals for fish and wildlife habitat restoration at specific port-owned sites are expected to require project-specific SEPA review, authorization by the port commission, and city, state, and federal approvals. No specific schedule for future habitat restoration actions is included in the Duwamish restoration plan.

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain

The Duwamish restoration plan does not include plans for specific fish and wildlife habitat restoration actions. Separate, detailed environmental evaluations would precede specific proposals for fish and wildlife habitat restoration, focusing on potential environmental effects, including disruption of natural resource attributes during construction, potential effects on

existing Duwamish river industrial, commercial, and residential uses and activities, and potential environmental benefits resulting from proposed restoration actions.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

The present Duwamish restoration plan evaluates existing development and environmental conditions at port-owned property in the Duwamish Waterway, presenting a planning framework for implementation of potential fish and wildlife habitat restoration actions. The Duwamish restoration plan does not propose specific restoration actions at particular sites. Subsequent proposals for construction of fish and wildlife habitat improvements would be supported with specific environmental and land use information and would be subject to SEPA evaluation and local, state, and federal permit review. No detailed, specific information pertaining to the potential fish and wildlife habitat actions presented in the Duwamish restoration plan has been compiled.

The port has prepared numerous environmental studies and assessments for previous development and habitat restoration actions at port marine facilities and properties in the area of the Duwamish Waterway. Local, state, and federal agencies and the Muckleshoot Indian Tribe have also contributed studies and reported on physical attributes, water quality, sediments, and fish and wildlife habitat conditions in the Duwamish Waterway. Copies of previous SEPA determinations, environmental information, and biological assessments compiled for past development and restoration actions in the Duwamish Waterway are available. Please contact: G. Blomberg, Port of Seattle, Seaport Environmental Programs, 206-728-3194 or email at blomberg.g@portseattle.org.

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

The port is preparing plans and designs for re-habilitation of one of four barge cargo berths at Terminal 115 (anticipated 2009) and is continuing with site remediation evaluations at Terminal 117, both located in the Duwamish restoration plan study area. In addition, the port is working with the federal Environmental Protection Agency and other participating federal and state agencies and natural resource trustees, in coordination with other property owners in the Duwamish Waterway, regarding Superfund investigations and decision-making for the Duwamish Waterway.

10. List any government approvals or permits that will be needed for your proposal, if known.

This SEPA checklist evaluates the Lower Duwamish River Habitat Restoration Plan and will be included in actions by the Port of Seattle Commission regarding the plan. The Duwamish restoration plan requires no other approvals or permits. The Duwamish restoration plan is intended for use as guide to shape and design future proposals for fish and wildlife habitat improvements. No local, state, or federal approvals or permits are required at present since the Duwamish restoration plan includes no specific proposals for implementation of fish and

wildlife habitat improvements. Future proposals for site-specific fish and wildlife habitat restoration or improvements may require public review, including SEPA evaluation, and authorization from local, state, and federal agencies, and participating Treaty tribes.

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)

The present Duwamish River Habitat Restoration Plan has been prepared as an inventory for port-owned sites in the Duwamish Waterway where fish and wildlife restoration is potentially feasible and where shoreline and aquatic area restoration would not be expected to interfere with other waterway uses, most importantly water-dependent industrial uses. The objective of the Duwamish restoration plan is to evaluate estuarine restoration opportunities in the Duwamish Waterway and to present a planning framework for shoreline and aquatic area restoration coincident with continuing marine commerce and industrial use. The Duwamish restoration plan provides an inventory of potential fish and wildlife habitat restoration opportunities and guidance for future implementation efforts.

The intent of the Duwamish restoration plan is to develop a habitat restoration framework, demonstrating compatibility with existing and future marine industrial uses and activities in the lower Duwamish River, extending from the south margin of Harbor Island, in south-central Elliott Bay upstream in the Duwamish Waterway to Turning Basin Number Three, approximately river mile 5.3. The present Duwamish Waterway is approximately 5.3 miles long, with maintenance of deep draft navigation provided as a federally authorized navigation channel.

The route of the Duwamish Waterway channel, in relation to principal upland features and the dimensions of the navigation channel, includes the following:

1. Duwamish Waterway and upland features: The north margin of the Duwamish Waterway begins at the south end of the West Waterway, southwest of Harbor Island, in southwest Elliott Bay. The Spokane Street corridor, crossing the south portion of Harbor Island, including the high and low level Spokane Street bridge crossings of the waterway, is located at River Mile 0.4. The south tip of Harbor Island, at the east shoreline of Duwamish Waterway is located at River mile 0.6. The double-span structures comprising the First Avenue South Bridge cross the Duwamish Waterway at River Mile 2.6. The South Park Bridge crosses the Duwamish Waterway at River Mile 3.9, with the upstream end of the navigation channel, Turning Basin Number Three, located at River Mile 5.3.
2. Duwamish Waterway channel dimensions: The Duwamish Waterway channel, between the channel entrance, at the south end of the West Waterway, and the First Avenue South Bridge, is 200 feet wide, with navigation depth maintained at 30 feet below MLLW. The Duwamish Waterway channel, between the First Avenue South Bridge and the South Park Bridge is 150 feet wide and maintained at a depth of 20 feet below MLLW. Upstream of the

South Park Bridge, extending to Turning Basin Number Three, the Duwamish Waterway is 150 feet wide, with a maintained navigational access depth of 15 feet below MLLW. Turning Basin Number Three, at the head of navigation in the Duwamish Waterway, is approximately 500 feet long, 250 feet wide and 15 feet below MLLW in depth. Turning Basin Number Three functions as a navigation channel feature in the Duwamish Waterway as well as a sediment settling basin.

As one of the principal landowners in the lower Duwamish River, the port seeks to sustain and enhance natural resource values and maintain and improve marine industrial, water-dependent uses and activities located in the area. In addition to owning approximately 211 acres of marine cargo and cargo-related facilities adjacent to the Duwamish Waterway, publicly-owned port property includes shore land, bank line, and aquatic area remaining as elements of construction of the Duwamish Waterway more than nine decades ago. The port's public ownership along the Duwamish Waterway includes the entire submerged portion of the Duwamish Waterway navigation channel and adjacent aquatic area, as well as numerous "ribbon parcels" of shore land and bank line at the margins of the 500 feet wide right-of-way (250 feet measured from each side of the navigation channel center line) established in the early 1900s for construction of the present Duwamish Waterway navigation channel. Publicly-owned port "ribbon parcels" comprise approximately 30 acres in the Duwamish Waterway, including approximately 17,000 linear feet. The Duwamish restoration plan evaluates the potential for making use of port-owned areas at the margins of the Duwamish Waterway right-of-way for fish and wildlife habitat restoration sites in the lower Duwamish River. The plan links port-owned properties along the Duwamish Waterway with potential restoration actions and, based on guidance from citizens, agencies and land owners, also notes potential areas for collaboration with adjacent property owners. Preparation of a framework for fish and wildlife restoration and an inventory of potential restoration sites and actions is intended as an aid to future federal Superfund decision-making in the lower Duwamish Waterway, particularly relating to potential soil, groundwater, and sediment clean-up and natural resource damage determinations. In addition, the Duwamish restoration plan will benefit marine industrial development projects which may include the potential for adverse effects on aquatic resources, by describing fish and wildlife habitat restoration capability in the Duwamish Waterway. The Duwamish restoration plan includes information expected to assist agency, Treaty Tribe, citizen, and industrial interests in evaluating the context of habitat restoration in the Duwamish River and provide a basis for a more comprehensive approach to habitat restoration in the Duwamish Waterway. The Duwamish restoration plan also emphasizes the potential for connecting numerous restoration actions of variable size and scope throughout the waterway, identifying the potential for providing increased shoreline and aquatic habitat continuity and quality.

The Duwamish restoration plan includes three habitat planning goals, complemented by supporting policies. The principal goals of the Duwamish restoration plan include: (1) Involve affected stakeholders in habitat planning and build mutually beneficial partnerships for continuing use and stewardship of the waterway. (2) Ensure that habitat projects will be effective and stable. (3) Protect and foster water-dependent businesses while working to

restore habitat along the Duwamish River. The Duwamish restoration plan goals derive from harbor-wide policies presented in the Seaport Shoreline Plan (shoreline plan), distributed in November 2007 and approved by the Port Commission in January 2008. The shoreline plan emphasized preserving, maintaining, and expanding marine industrial and commercial uses throughout the Duwamish Waterway. The shoreline plan also identified the need to balance marine industrial infrastructure needs and requirements with enhancement of shoreline and aquatic area habitat and mitigation actions, including proposing a standard of “no net loss” of natural resource values. The shoreline plan addressed all port facilities, including Shilshole Bay Marina, facilities on the Lake Washington Ship Canal, in north and central Elliott Bay, adjacent to the East and West waterways, and in the Duwamish Waterway, and indicated general areas for use in fish and wildlife habitat restoration. The present Duwamish restoration plan extends the concepts included in the shoreline plan, focusing on evaluation of restoration objectives and potential restoration sites in the Duwamish Waterway.

The Duwamish restoration plan lists 31 potential fish and wildlife habitat restoration opportunities located in port-owned shoreline and aquatic area in the Duwamish Waterway. These restoration opportunities include potential for restoring tide flat, marsh, and riparian habitat. For the purpose of the Duwamish restoration plan, four study areas or sections were identified in the lower river and each section of the waterway was evaluated with respect to three types of potential habitat restoration opportunities: (1) Hub habitat areas: Including relatively large potential restoration sites, with the capability of providing numerous natural resource attributes. Three hub sites have been identified. (2) Pocket habitat areas: Consisting of more compact, localized habitat restoration opportunities, including side-channels and areas of shoreline capable of providing shelter and feeding for fish and wildlife. Three pocket habitat sites have been identified. (3) Corridor habitat areas: Consisting of linear bank line and aquatic areas, where relatively long, narrow fish and wildlife habitat restoration opportunities are present, with the potential for providing shoreline and aquatic area linkages between habitat sites. Twenty-five corridor habitat sites have been identified.

The Duwamish restoration plan lists the location, existing conditions, and suggested restoration actions at 31 potential port-owned fish and wildlife habitat restoration sites. The potential restoration actions described in the plan are based on evaluation of existing adjacent waterway conditions and the availability of port-owned bank line and aquatic area property for use in restoration activities. In general, the restoration actions are intended to provide riparian and aquatic area resource values that may be absent in a particular location in the study area/section or restoration actions that complement existing habitat attributes at the location. Each of the potential restoration actions may include combinations of the following activities: (1) removal of existing bank line and aquatic area rubble, riprap, and derelict materials; (2) removal of non-native, invasive plants; (3) re-grading bank line area to create more gradual slopes, expanding aquatic and shoreline area; (4) creating low-slope inter-tidal substrate areas as exposed mud/sand habitat or for the purpose of establishing marsh vegetation; (5) creating bank line slope areas suitable for planting of native riparian

vegetation; and, (6) installation of erosion-control, bank line stabilization measures, including use of large-woody-debris and fiber materials.

- 12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.**

The Lower Duwamish River Habitat Restoration Plan evaluates potential fish and wildlife habitat restoration sites at port-owned bank line and aquatic areas throughout the Duwamish Waterway, including area upstream from the south tip of Harbor Island, River Mile 0.6, to Turning Basin Number Three, River Mile 5.3.

TO BE COMPLETED BY APPLICANT

B. ENVIRONMENTAL ELEMENTS

1. Earth

- a. General description of the site (circle one): Flat, rolling, hilly, steep slopes, and mountainous, other _____.**

The Duwamish restoration planning area includes the Duwamish Waterway, upstream from the south tip of Harbor Island. The 5.3 mile long Duwamish Waterway navigation channel includes sub-tidal aquatic area, approximately 15 to 30 feet in depth. The margins of the navigation channel include variable sub-tidal side-slopes, between 2:1 and 4:1 slope (horizontal to vertical). The study area includes sub-tidal aquatic area along each margin of the Duwamish Waterway navigation channel and adjacent inter-tidal substrate areas east and west of the navigation channel margins. In addition, the study area includes port-owned bank line and shore land area land-ward of MHHW, extending from approximately 11.3 feet above MHHW to top-of-bank elevations. Top-of-bank elevations are variable throughout the study area, between 14 to 24 feet above MLLW. Upper bank line slopes are variable as well, ranging from vertical to 3:1 and 3:1 structurally stabilized slopes.

- b. What is the steepest slope on the site (approximate percent slope)?**

The steepest slopes included in the Duwamish restoration plan fish and wildlife habitat inventory are vertical, steel and timber bulkhead locations. Existing adjacent upland slopes, land-ward of the top-of-bank, are variable, including flat one to three percent impervious surfaces and un-improved areas with mounded fill and debris features (slopes of 3:1 to 5:1).

- c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland.**

Existing upland area adjacent to potential aquatic area and shoreline habitat improvements consists of filled former tideland area in south Elliott Bay and the former Duwamish River floodplain (with the exception of area adjacent to Kellogg Island, river mile 1.2-1.5, refer to Item B.13., Historic and Cultural Preservation, below). Fill in the study area consists of sediments dredged from previous tideland areas, excavated in the first two decades of the last century in order to create deep draft navigational access in the Duwamish Waterway, and more recently placed fill material imported from adjacent upland locations. Existing inter-tidal and sub-tidal aquatic areas consist of historic mud, sand, and organic materials remaining from pre-development conditions, covered in many instances with more recent mud/sand deposition and industrial and development fill materials.

The locations included in the Duwamish river restoration plan consist nearly entirely of filled upland and have no previous, existing, or potential agricultural use.

- d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.**

As a filled former aquatic area site, many of the areas included in the Duwamish restoration study area are subject to liquefaction, identified by local critical area maps as liquefaction prone.

- e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.**

The present Duwamish river restoration plan presents an inventory of potential fish and wildlife habitat restoration opportunities. The plan does not propose specific restoration project activities. Future site-specific restoration projects are expected to include demolition, excavation, and grading activities. In addition, limited volumes of select fill materials may be added in particular locations to serve as beneficial inter-tidal substrate. Future site-specific restoration activities will be accompanied by detailed evaluations of filling and grading activities, submitted for public and agency review.

- f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.**

The present Duwamish restoration plan includes an inventory of potential fish and wildlife habitat restoration sites and does not include specific proposals for shoreline and aquatic area habitat improvements. Therefore, it is not possible to evaluate potential erosion conditions. It is important to note, however, that future fish and wildlife habitat restoration projects are expected, in many instances, to replace structurally stabilized or armored riprap, bulkhead, and rubble filled bank lines with non-structural stabilization measures, including native riparian vegetation and large-woody-debris installations.

Future restoration work is expected to replace erosion-prone abrupt slope areas with more gradual slope, vegetative and passive stabilization measures, reducing the potential for future erosion. In addition, future restoration projects would include best management practices to avoid and minimize releases of sediments and soils to the aquatic area during construction. A coincident goal of each fish and wildlife habitat restoration project would be ensuring stable sediment and shoreline soil conditions.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

The Duwamish restoration plan includes no specific fish and wildlife habitat restoration project proposals. However, it is expected that implementation of future fish and wildlife habitat improvements may reduce impervious surfaces in shoreline and top-of-bank areas.

h. Proposed measures to reduce or control erosion, or other impacts to the earth if any:

The Duwamish restoration plan inventory does not propose specific fish and wildlife habitat restoration projects. It should be anticipated, however, that specific projects resulting from the plan would emphasize use of the most recent advances in non-structural erosion control techniques. Best management practices for control of potential sources of erosion would be implemented during demolition, debris removal, grading, and filling necessary for placement of fish and wildlife habitat improvements, consistent with the local government storm water, grading, and drainage control requirements.

2. Air

a. What types of emissions to the air would result from the proposal (i.e., dust, automobile, odors, and industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.

No project-specific fish and wildlife habitat restoration actions are proposed in the present Duwamish restoration plan. Future specific restoration actions would be subject to evaluation of expected air emissions resulting from anticipated construction activities, including the following potential activities: (1) removal of in-water debris, materials and derelict structures; (2) excavation and grading of soils and sediments; (3) placement of clean soils and sediments or substrates; and, (4) placement of large woody debris and native marsh and riparian vegetation.

Air emissions would be expected from vehicles and equipment used during demolition and removal activities and installation of habitat improvement features. Equipment anticipated for use in restoration actions may include motor-powered land-based and barge-mounted construction machinery and heavy trucks.

Please note that air emissions resulting from completed habitat restoration projects will be limited to maintenance vehicles and equipment, with no subsequent use of sites for development purposes.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

Off-site sources of air emissions in the Duwamish industrial area include cement and bulk material manufacturing plants, bulk material transshipment sites, manufacturing operations, warehousing, food processing and cold storage, and cargo facilities, all supported by vehicle and rail traffic infrastructure. No off-site sources of air emissions are present that have the potential to adversely affect potential fish and wildlife habitat sites described in the Duwamish river restoration plan.

c. Proposed measures to reduce or control emissions or other impacts to air, if any:

Motor-powered equipment used for construction activities and subsequent maintenance operations will be operated and maintained consistent with existing air emission requirements. Project-specific environmental review materials would emphasize use of equipment and practices that make full use of recent advances in control of air emissions, including type of fuel and best management practices for control of fugitive dust at habitat construction sites and along equipment and material haul routes.

It is important to note that the outcome of future fish and wildlife habitat restoration actions will, in general, replace derelict structures and un-vegetated shoreline fill margins with gradually sloped native marsh and riparian vegetation, adding to the capability of plant uptake of air emissions and carbon sequestration in the Duwamish Industrial area. Please refer to attached Greenhouse Gas Emissions worksheet.

3. Water

a. Surface

1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

The Duwamish river restoration plan study area, and inventory of potential fish and wildlife habitat restoration sites, is located in the Duwamish Waterway, tributary to the Green/Duwamish watershed (WRIA 9).

2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

The present Duwamish restoration plan does not include specific proposals for fish and wildlife habitat restoration; however, potential habitat restoration projects would take place in existing aquatic and shoreline areas. Potential restoration actions,

including (1) removal of in-water debris, materials and derelict structures; (2) excavation and grading of soils and sediments; (3) placement of clean soils and sediments or substrates; and, (4) placement of large woody debris and native marsh and riparian vegetation, would take place in existing aquatic area and in upland area within 200 feet shoreline planning and management jurisdictions.

- 3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.**

No specific proposals for dredging, excavation, grading, or fill are included in the present Duwamish restoration plan. Construction activities necessary for specific fish and wildlife habitat restoration actions in areas affected by tidal waters and in shoreline area immediately adjacent to MHHW would be subject to detailed environmental and permit reviews. It is emphasized that future dredging, excavation, grading, and fill activities would be for the purpose of habitat restoration.

- 4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.**

No potential for surface water withdrawals or diversions is described in the present Duwamish restoration plan.

- 5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.**

The potential fish and wildlife habitat restoration actions outlined in the Duwamish restoration plan would take place in existing aquatic and shore land area. Removal of existing rubble and industrial bank line materials, re-grading/excavation, placement of beneficial substrate, and installation of marsh and riparian vegetation would take place in area subject to fluctuations in the 100-year floodplain.

- 6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.**

Future fish and wildlife habitat restoration actions, if implemented as described in the Duwamish plan, would not include discharge of waste materials to aquatic area or shoreline locations in the Duwamish Waterway.

Two aspects of potential fish and wildlife habitat restoration actions listed in the Duwamish restoration plan are important to note regarding potential releases of contaminants to aquatic area in the Duwamish Waterway. First, all operating equipment used at habitat restoration construction sites would be subject to best management practices (BMPs) and Spill Prevention, Containment and Countermeasures (SPCC) plans implemented to avoid and minimize potential releases of fuel and petroleum products to the estuarine environment. Second, proposed fish and wildlife habitat improvement activities will be controlled by best

management practices intended to avoid and minimize potential releases of fugitive materials to the aquatic environment.

b. Ground:

1) Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities if known.

Future fish and wildlife habitat restoration actions, if implemented as described in the Duwamish plan, would not include withdrawal of groundwater or discharge of materials to groundwater at the restoration project sites.

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example, Domestic sewage; industrial, containing the following chemicals; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

No specific fish and wildlife habitat restoration actions are proposed in the present Duwamish restoration plan. Future site-specific restoration actions would be preceded by detailed environmental review and permitting approvals, however, it is not anticipated that fish and wildlife restoration actions would include discharges of waste material to ground water at project sites.

c. Water Runoff (including storm water):

1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

The present Duwamish river restoration plan does not propose specific fish and wildlife habitat improvement projects. It is anticipated that future restoration actions, perhaps proposed as a result of the present plan, would have the potential to create storm water runoff during construction. Future site-specific restoration actions would be accompanied by erosion control practices as project conditions to avoid and minimize potential discharges of storm water to the Duwamish Waterway.

The potential fish and wildlife habitat improvement sites listed in the Duwamish restoration plan are intended for use only as habitat and open space areas. Following construction, each site could include a combination of aquatic area substrate improvements and native marsh and riparian vegetation. It is anticipated that installation of new impervious surfaces would be minimized. Future site-specific restoration site proposals are not expected to include new storm water conveyance systems or drainage systems. Please note however, the upland margins of future restoration sites may include storm water drainage changes, for example placement of drainage swales or “rain gardens”, intended to protect fish and wildlife habitat

areas from potential upland storm water runoff or added to habitat improvement sites in coordination with adjacent sites as storm water pre-treatment systems.

2) Could waste materials enter ground or surface waters? If so, generally describe.

Since no specific fish and wildlife habitat improvement projects are proposed by the Duwamish restoration plan inventory, it is not possible to evaluate potential releases of waste materials to ground or surface waters. It is important to note, however, that future proposed fish and wildlife habitat improvement projects may include actions with the potential to create waste materials, including: (1) removal of derelict bank line and aquatic area materials and industrial debris and (2) removal of previously placed industrial fill and Duwamish Waterway sediments. Future site-specific restoration plans may include evaluation of debris, sediments, and soils to determine potential site contamination conditions. Materials requiring controlled removal and disposal will be managed consistent with local, state, and federal requirements. Construction activities necessary for site restoration will be controlled with best management practices to avoid and minimize potential releases of treated wood materials and petroleum/hydrocarbon compounds.

Please note that motorized equipment used for future restoration site construction activities will be subject to stringent controls prohibiting discharge of deleterious materials to the aquatic environment.

d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:

The present Duwamish restoration plan does not include proposals for specific fish and wildlife habitat improvements. The restoration plan presents an inventory of potential port-owned restoration sites and actions. However, as with previous shoreline and aquatic area facility development and habitat restoration projects sponsored by the port, it is expected that the following measures would be implemented coincident with future, site-specific proposals for fish and wildlife habitat restoration.

Construction activities would be controlled to avoid and minimize potential releases of debris to the aquatic environment. Motorized equipment and activities necessary to remove rubble, debris and derelict structures, including treated wood, will be subject to prudent best management practices and stringent discharge controls such that potential adverse effects on water quality and wildlife would be limited to temporary, localized turbidity increases immediately adjacent to restoration site construction activities.

Potential adverse effects during construction would be minimized by the following in-water construction controls and best management practices:

- All in-water construction activities will be limited to periods determined by participating state and federal agencies to avoid potential adverse effects on migratory fish.

- Best management practices, spill response procedures, and erosion and sediment control measures will be implemented during all phases of construction, in aquatic area and shoreline locations, to avoid discharges and prevent entry of debris to surface waters. All construction debris, including treated wood fragments, resulting from demolition of derelict in and above-water structures, would be captured and prevented from entering the aquatic area. Best management practices approved by state and federal agencies for removal of treated wood piling would be employed at the restoration project sites.

Restoration activities affecting area water-ward of MHHW would be coordinated with Treaty tribe fishing access in order to avoid and minimize potential effects on usual and accustomed fishing activities in the Duwamish Waterway.

4. Plants

a. Check or circle types of vegetation found on the site:

- deciduous tree: alder, maple, aspen, other
- evergreen tree: fir, cedar, pine, other
- shrubs
- grass
- pasture
- crop or grain
- wet soil plants: cattail, buttercup, bulrush, skunk cabbage, other
- water plants: water lily, eelgrass, milfoil, other
- other types of vegetation

b. What kind and amount of vegetation will be removed or altered?

The present Duwamish restoration plan does not include specific proposals for fish and wildlife habitat site improvements. It is not possible to identify specific effects on upland or aquatic area vegetation affected by potential fish and wildlife habitat sites described and listed in the present Duwamish restoration plan. The effects of specific restoration projects on plant resources would be addressed in project-specific environmental review materials. It is important to note, however, that future restoration project elements would emphasize removal of existing non-native plants and would include establishing marsh and riparian vegetation native to the region.

c. List threatened or endangered species known to be on or near the site.

No threatened or endangered plant species are known to be in the Duwamish restoration plan study area.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

The objective of the potential fish and wildlife habitat improvements outlined in the Duwamish restoration plan is to combine aquatic and shoreline habitat restoration measures with removal of rubble, riprap and derelict materials such that the natural resource attributes of sub-tidal, inter-tidal, and shoreline areas would be improved.

Improvements would focus on creating algal, marsh, and riparian vegetation beneficial to migratory and resident fish and wildlife. Establishing continuous, dense native marsh and riparian planting areas at restoration sites, complemented by placement of large woody debris, will provide over-story/shade in adjacent aquatic areas and produce plant material as a detritus and carbon source for biological productivity in inter-tidal and shallow sub-tidal locations. Native riparian vegetation will also increase the abundance of terrestrial insects in shoreline and aquatic areas adjacent to restoration sites as a food source for migratory fish.

5. Animals

a. Circle any birds and animals which have been observed on or near the site or are known to be on or near the site:

birds: hawk, heron, eagle, songbirds, other:

mammals: deer, bear, elk, beaver, other:

fish: bass, salmon, trout, herring, shellfish, other:

The Duwamish restoration plan describes and lists potential fish and wildlife habitat restoration actions in the Duwamish Waterway. Since the restoration plan does not include specific restoration project plans or proposals, it is not possible to identify specific effects on migratory and resident fish and wildlife. The effects of specific restoration projects on fish and wildlife resources would be addressed in project-specific environmental review materials.

The goal of potential fish and wildlife habitat restoration actions identified in the Duwamish restoration plan is to improve biological resource values in aquatic and shoreline areas at port-owned Duwamish Waterway sites. Future restoration actions would include project elements to increase fish and wildlife habitat values in re-graded aquatic area margins and bank line areas. Physical re-shaping of shoreline and aquatic areas, including removal of debris and fill materials will be complemented with native marsh and riparian vegetation. Future fish and wildlife habitat restoration actions may include the following, as independent or combined actions: (1) removal of existing bank line and aquatic area rubble, riprap, and derelict materials; (2) removal of non-native, invasive plants; (3) re-grading existing bank line conditions to create more gradual slopes, expanding aquatic and shoreline area; (4) creating low-slope inter-tidal substrate areas as exposed mud/sand habitat or for the purpose of establishing marsh vegetation; (5) creating bank line slope areas suitable for planting of native riparian vegetation; and, (6) installation of erosion-control, bank line stabilization measures, including use of large woody debris and plant fiber materials.

Future fish and wildlife habitat improvements may require in-water construction activities for the purpose of increasing aquatic and shoreline natural resource values, with no activities for the purpose of subsequent development use. Habitat restoration activities would require review by City of Seattle, state, and federal agencies, and participating Treaty Tribes. It is important to note that in recent years project review of in-water construction activities in marine and estuarine locations in Puget Sound has included increased scrutiny as a result of Endangered Species Act listings.

Species listed under the Endangered Species Act (ESA) that may be present in the vicinity of future Duwamish Waterway restoration actions include: (1) Puget Sound Chinook salmon – threatened; (2) bull trout- threatened; (3) Stellar sea lion – threatened; (4) humpback whale – endangered; (5) bald eagle – threatened; and, (6) Puget Sound Orca whales--endangered.

The Duwamish Waterway is part of a migration corridor important to anadromous salmon species, serving as a connection between Elliott Bay and the Green/Duwamish watershed. In particular, Puget Sound Chinook and bull trout are known to use the project area.

In general, future implementation of fish and wildlife habitat restoration actions inventoried in the present Duwamish river restoration plan would be designed and constructed in order to avoid direct effects, indirect effects, or cumulative effects on ESA-listed species of concern in the Duwamish Waterway, with the long-term objective of improving estuarine habitat conditions important to migratory and resident fish and wildlife.

b. List any threatened or endangered species known to be on or near the site.

Species listed under the Endangered Species Act (ESA) that may be present in the vicinity of the proposed project include: (1) Puget Sound Chinook salmon – threatened; (2) bull trout- threatened; (3) Stellar sea lion – threatened; (4) humpback whale – endangered; (5) bald eagle – threatened; and, (6) Puget Sound Orca whales--endangered.

c. Is the site part of a migration route? If so, explain.

South Elliott Bay, the East and West Waterways, and the Duwamish Waterway, comprise a portion of the migration corridor important to anadromous salmon species, linking Elliott Bay and the Green/Duwamish watershed. In particular, Puget Sound Chinook and bull trout are known to use the Duwamish Waterway restoration plan study area.

d. Proposed measures to preserve or enhance wildlife, if any:

The Duwamish restoration plan describes and lists restoration policies for the Duwamish Waterway and includes an inventory of potential fish and wildlife habitat restoration sites. No specific restoration actions are proposed by the plan, however, measures to avoid and minimize potential adverse effects on ESA species of concern and, as a result, function as conservation measures, are expected to be included in future restoration site proposals, including the following:

- Timing restrictions specifying allowable in-water work periods--typically between August 15 and February 15, or other periods determined by state and federal agencies.

- Water quality standards and procedures that limit the effect of turbidity to a defined mixing zone and stipulate limits for disruption of water column, implemented by the Washington Department of Ecology.
- Best management practices (BMPs) required to reduce the potential for construction-related effects on aquatic species and their habitats, including: (1) prevention of releases of petroleum products, chemical, or other toxic or deleterious materials to the water; (2) immediate stop of work to report and contain any spills or releases, and, (3) preparation and application of a Spill Prevention, Control, and Countermeasure (SPCC) plan.

6. Energy and Natural Resources

- a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.**

The Duwamish restoration plan identifies potential fish and wildlife habitat improvements in the Duwamish Waterway. Future implementation of habitat restoration sites is not expected to result in significant changes in use of energy. No lighting is proposed and no structures or other energy-requiring facilities are anticipated as elements of future habitat restoration projects.

- b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.**

Future implementation of restoration actions at locations identified as potential restoration sites in the Duwamish restoration plan is not expected to result in adverse effects on potential use of solar energy at adjacent sites.

- c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:**

Future implementation of restoration actions at locations identified as potential restoration sites in the Duwamish restoration plan would be expected to include fuel-efficient electrical and motorized equipment to the extent possible during construction. Please note that subsequent fish and wildlife habitat restoration projects would not be expected to include operations with requirements for energy use.

7. Environmental Health

- a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.**

No specific fish and wildlife habitat improvement project proposals are included in the present Duwamish restoration plan. Future site-specific habitat restoration proposals would include detailed evaluation of potential environmental risks, emphasizing the following.

Motorized equipment used for construction of future habitat restoration sites may include potentially hazardous materials in the form of fuel, lubricants, and associated materials. These materials will be subject to local, state, and federal controls and regulations pertaining to use, handling, and storage. No increase in exposure is anticipated.

Future fish and wildlife habitat improvements are not expected to include operations or activities with the potential to produce hazardous materials or waste products at the site. However, construction of fish and wildlife habitat improvements has the potential to generate hazardous materials due to past industrial uses and activities, including storm water discharges to the Duwamish Waterway.

Because the Duwamish Waterway includes existing, recognized sediment and ground-water contamination, future proposals for in-water construction activities required for habitat restoration will be evaluated by the Environmental Protection Agency and Washington Department of Ecology and constructed consistent with Superfund and Model Toxics Control Act environmental cleanup requirements for the Duwamish Waterway. The scope and extent of future fish and wildlife habitat projects may be revised or supplemented by federal and state agency determinations. Particular emphasis will apply to soils and sediments exposed by future restoration activities, and potential changes in ground-water entry to the waterway. It is anticipated that the conditions of surface sediments exposed or placed at restoration sites will require specific over-sight, to ensure that aquatic area conditions at completed habitat restoration areas are consistent with state and federal sediment standards.

1) Describe special emergency services that might be required.

No specific fish and wildlife habitat improvement projects are proposed at present. However, it is not expected that implementation of future habitat restoration projects will require the need for special emergency services.

2) Proposed measures to reduce or control environmental health hazards, if any:

The present Duwamish restoration plan does not include specific proposals for fish and wildlife habitat improvements. Future site-specific restoration projects will receive detailed environmental and local, state, and federal permit evaluations. Future evaluations will include information identifying potential hazardous materials and environmental health exposure conditions, emphasizing pre and post-project soil, sediment and ground-water conditions.

b. Noise

1) What types of noise exist in the area which may affect your project (for example: traffic equipment, operation, other)?

The Duwamish Waterway and adjacent industrial area include numerous existing sources of noise produced by marine vessels, motor-driven vehicles and heavy trucks, and industrial processes and equipment. The present Duwamish restoration plan does not include specific

proposals for habitat improvements and it is not possible to determine the affect of existing noise conditions on potential restoration projects.

2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.

Future fish and wildlife habitat improvement projects stemming from the Duwamish restoration plan would include short-term noise level increases during construction. Noise-generating construction equipment would include demolition and clean-up activities and hauling of construction materials to and from each site.

Construction activities would be expected to take place during normal working hours. It is expected that noise generated from construction equipment would be within existing industrial area day time baseline levels and noise levels are not expected to exceed industrial noise code standards implemented by local jurisdictions.

No significant increase in noise would be expected to result from potential fish and wildlife habitat improvement projects.

3) Proposed measures to reduce or control noise impacts, if any:

Motorized construction equipment used for future fish and wildlife habitat restoration projects would be maintained and operated consistent with prudent measures to control potential noise emissions.

8. Land and Shoreline Use

a. What is the current use of the site and adjacent properties?

The Duwamish restoration plan study area includes potential fish and wildlife habitat improvements located in the Duwamish industrial area, surrounded by sites and businesses built and committed to water-dependent marine industrial and general industrial uses and activities. It is important to note that areas of Georgetown and South Park include residential uses adjacent to or near the Duwamish Waterway.

b. Has the site been used for agriculture? If so, describe.

Potential fish and restoration sites outlined in the Duwamish restoration plan are located in filled, former aquatic area, in south Elliott Bay and the Duwamish River. None of the potential restoration sites have been used previously agricultural production.

c. Describe any structures on the site.

The present restoration site inventory presented in the Duwamish restoration plan does not include proposals for specific projects. Many of the potential restoration sites include derelict structures and debris and would require documentation as an element of future site-specific restoration environmental review and permit review.

d. Will any structures be demolished? If so, what?

No structures would be demolished as a result of the present SEPA checklist review. Subsequent, future fish and wildlife habitat restoration actions may include removal/demolition of existing derelict structures and debris. Project-specific environmental review materials would detail proposed demolition activities at each site.

e. What is the current zoning classification of the site?

The Duwamish restoration plan inventory area includes aquatic and shoreline areas with general industrial, industrial buffer, and manufacturing zoning designations.

f. What is the current comprehensive plan designation of the site?

Principal existing comprehensive land use designations in the Duwamish restoration plan study area include General Industrial and Industrial Buffer classifications. Please note that potential restoration areas in the vicinity and upstream of the South Park bridge include area with existing residential, commercial, and manufacturing uses and activities.

g. If applicable, what is the current shoreline master program designation of the site?

The present shoreline master program designations in the Duwamish restoration plan study area include urban industrial, conservancy management, and conservancy protection shoreline areas.

h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.

In most instances, potential restoration sites listed in the Duwamish restoration plan include locations within a liquefaction zone, since the area was created on fill in a portion of former Duwamish estuary tidelands. Liquefaction zones are considered environmentally sensitive but not environmentally critical areas.

i. Approximately how many people would reside or work in the completed project?

The present Duwamish restoration plan includes two potential restoration area with existing adjacent residential uses, the South Park neighborhood, River Mile 3.7 to 3.8 (Site Number 20) and South Park at River Mile 4.1 to 4.3 (Site Number 23). The restoration concepts presented in the Duwamish restoration plan do not include the potential for removal or disruption of existing residences.

In general, the Duwamish Waterway is an important area for industry and industrial employment. Numerous existing businesses are located adjacent to fish and wildlife habitat restoration sites described in the Duwamish restoration plan.

j. Approximately how many people would the completed project displace?

The Duwamish restoration plan does not include proposals for site-specific fish and wildlife habitat improvement projects. The Duwamish restoration plan has been compiled, however, such that future habitat restoration could be accomplished without displacing or negatively affecting industrial uses and activities, adjacent to or in the area of potential restoration actions.

k. Proposed measures to avoid or reduce displacement impacts, if any:

The Duwamish restoration plan does not include specific proposals for habitat improvements. The plan has been prepared in light of policies to avoid and minimize any potential displacement or disruption of employment.

l. Proposed measures to ensure the proposal are compatible with existing and projected land uses and plans, if any:

The potential fish and wildlife habitat restoration actions listed in the Duwamish restoration plan have been described with the objective of complementing existing plans approved by the City of Seattle, King County, and the City of Tukwila, recognizing the need to provide measures for improving natural resource values consistent with continuing marine industrial development uses and activities. The potential fish and wildlife habitat improvements noted in the Duwamish restoration plan are intended to be consistent with adjacent industrial uses and activities, while serving as important environmental resources. The sites listed in the Duwamish restoration plan are consistent with the port's long-range Seaport facility objectives and the 2008 Seaport Shoreline Plan.

9. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

The Duwamish restoration plan includes two sites, Number 20 and 23, where potential fish and wildlife habitat restoration would be located adjacent to or near existing residential uses. Since the present plan includes no specific habitat restoration proposals, no housing units are would be adversely affected. In addition, it is expected that habitat restoration actions guided by the present plan would be accomplished without displacement or disruption of existing housing.

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

The present Duwamish restoration plan does not included specific proposals for altering or eliminating housing or residences at any of the potential restoration sites listed in the plan.

c. Proposed measures to reduce or control housing impacts, if any:

Since no specific restoration projects are included in the present Duwamish restoration plan no adverse effects on housing will result. Future site-specific restoration project proposals would include designs and measures to avoid and minimize potential negative effects on housing. It is anticipated that future habitat restoration actions would serve as community assets rather than result in disruption of housing.

10. Aesthetics

- a. **What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?**

The Duwamish restoration plan includes general concepts for improvement of fish and wildlife habitat and lists potential restoration sites. Although no specific proposals for habitat restoration are included in the present plan, it is expected that future fish and wildlife habitat improvement projects would include grade-level and below grade in-water construction activities, without proposed new above-grade structures.

- b. **What views in the immediate vicinity would be altered or obstructed?**

No adverse effects on views of adjacent water and shoreline areas are expected to result from the potential fish and wildlife habitat improvements listed in the Duwamish restoration plan. It is anticipated that removal of derelict in-water and bank line structures, combined with growth of native riparian vegetation will improve shoreline views/perspectives adjacent to future project sites.

- c. **Proposed measures to reduce or control aesthetic impacts, if any:**

No specific proposals for improvement of fish and wildlife habitat are included in the present Duwamish restoration plan. However, it is expected that future restoration projects would be designed to improve view conditions at project sites and that no offsetting aesthetic measures would be included in specific instances.

11. Light and Glare

- a. **What type of light or glare will the proposal produce? What time of day would it mainly occur?**

No specific fish and wildlife habitat restoration actions are included in the present Duwamish restoration plan. The habitat restoration concepts and restoration sites listed in the plan do not include lighting features or requirements.

- b. **Could light or glare from the finished project be a safety hazard or interfere with views?**

The present Duwamish restoration plan does not include proposed fish and wildlife habitat projects. The potential habitat restoration actions listed in the plan do not require lighting and would not introduce additional light; however, future site-specific restoration plans will include evaluations of light, glare and light safety conditions, including potential interference with views and vessel navigation sight lines.

- c. **What existing off-site sources of light or glare may affect your proposal?**

No off-site sources of light and glare in the Duwamish restoration plan study area have been identified as potential negative effects on future fish and wildlife habitat restoration.

- d. **Proposed measures to reduce or control light and glare impacts, if any:**

No lighting changes are proposed by the present Duwamish restoration plan. Evaluation of future site-specific proposals for restoration would include evaluation of lighting conditions.

12. Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity?

The Port of Seattle has constructed and maintains six public shoreline access areas in the Duwamish restoration plan study area:

Harbor Island Marina Corporate Center at Terminal 102 (river mile 0.6): Public shoreline use improvements include approximately 600 linear feet of shoreline pathway, viewing areas, and seating. The site includes approximately 1700 linear feet of bank line and 0.39 acres of riparian vegetation slope area.

Duwamish Public Access at Terminal 105 (river mile 0.7): Including 210 feet of shoreline, 1.3 acres of upland use area, fishing pier, shelter area with two covered tables, hand-carried boat launch, and fish and wildlife habitat, with native riparian vegetation landscaping.

Duwamish Public Access at Terminal 107 (river mile 14.2 to 1.5): Site includes approximately 7.2 acres of shore land and 2250 feet of shoreline, improved with viewing areas, pathways, seating/shelters, and interpretive exhibits/information. Two habitat restoration sites are also present.

Duwamish Public Access at Terminal 108 (river mile 1.1): Approximately 1.2 acres and 700 linear feet of shoreline, with seating, interpretive information, pathways, and native riparian information. A 0.4 acre fish and wildlife habitat restoration site is also present.

South Park Public Shoreline Access site (river mile 3.3): Shoreline access includes approximately 17,000 square feet and 310 linear feet of shoreline, with seating, interpretive exhibits/information, and native riparian bank line stabilization.

Turning Basin Number Three (river mile 5.3): Shoreline access at this site includes pathway and interpretive information surrounding approximately 1.6 acres of restored fish and wildlife habitat.

The City of Seattle operates and maintains two public shoreline access areas in the Duwamish restoration plan study areas: (1) First Avenue South recreational boat launch (river mile 2.6): Located at the north east end of the First Avenue South bridge land fall, the boat launch consists of a two lane asphalt ramp, with adjacent street right-of-way parking. (2) Duwamish Waterway Park (river mile 3.5): Located on west shoreline, site includes approximately 1.6 acres shore land and approximately 475 linear feet bank line, with seating and native riparian vegetation.

b. Would the proposed project displace any existing recreational uses? If so, describe.

The present Duwamish restoration plan includes an inventory of potential fish and wildlife habitat restoration sites, however, no specific proposals for restoration are presented. The Duwamish restoration plan was prepared with reference to existing public shoreline use areas and potential restoration sites listed in the plan would not displace or diminish existing recreational uses in the Duwamish Waterway. It is anticipated that future habitat restoration proposals may include opportunities for combining habitat restoration with public access to

shorelines where successful clean-up and habitats improvement actions have been implemented.

c. Proposed measures to reduce or control impacts, if any:

The present Duwamish restoration plan proposed project will not affect uses and activities at nearby public use areas. It is expected that shoreline views from several existing public shoreline access sites may be improved, if restoration sites listed in the plan are included in future project proposals.

13. Historic and Cultural Preservation

a. Are there any places or objects listed on, or proposed for, national, state, or local preservation registers known to be on or next to the site? If so, generally describe.

The present Duwamish restoration plan includes an inventory of potential fish and wildlife habitat restoration sites. No specific proposals for habitat restoration are included in the Duwamish restoration plan and it is not possible to evaluate the likelihood for the presence of historic or cultural resources at specific locations. Future proposals for fish and wildlife habitat restoration may require site evaluations and testing to determine potential effects on historic and cultural resources.

It is important to note that potential fish and wildlife habitat restoration actions described for area at Kellogg Island, Site Number Four (river mile 1.2 to 1.5) are in the area of an existing cultural resource site. A portion of upland area at the existing Terminal 107 public shoreline access site, west of the channel separating upland public shoreline use area from Kellogg Island, includes listed and protected cultural resources. Public shoreline access improvements in upland area at Terminal 107 were completed following consultation and approval for local, state, and federal agencies, and participating Treaty Tribes.

Future use of Kellogg Island for grading and excavation as a fish and wildlife habitat improvement project, altering area separate from and approximately 400 feet east of the listed cultural resources site in existing upland area at the Terminal 107 public shoreline access site, would likely require cultural resource investigation and testing.

Please note that each of the potential fish and wildlife habitat restoration sites described in the Duwamish restoration plan include grading and excavation actions with the potential to affect shoreline and aquatic area in the Duwamish Waterway. The Duwamish Waterway includes Treaty-protected "usual and accustomed" fishing area. The Muckleshoot Indian Tribe and the Suquamish Indian Tribe, together with the Washington Department of Fish and Wildlife, manage fishing activity in the Duwamish Waterway. Fishing by Tribal members in this area is consistent with past federal government treaties and subsequent court decisions. Treaty fishing is an ongoing activity, and thus, a baseline condition within this area.

Members of the Muckleshoot Indian Tribe and Suquamish Indian Tribe harvest Chinook, coho, chum, and steelhead salmon in south Elliott Bay and Duwamish Waterway traditional fishing areas during summer, fall, and winter of each year, generally from August through February. The potential fish and wildlife habitat restoration sites described in the Duwamish restoration plan are located in active set net fishing area.

b. Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.

With the exception of upland public use area at Terminal 107, no landmarks or evidence of historic, archaeological, scientific, or cultural features of importance are known to be in the Duwamish Plan study area. It is important to note that no specific restoration plans are included in the present plan and that future habitat restoration proposals may include specific evaluations of historic and cultural resources.

c. Proposed measures to reduce or control impacts, if any:

No specific habitat restoration proposals are evaluated in the present SEPA checklist. Future habitat restoration projects may require evaluation of historic and cultural resources as an element of project review.

The Duwamish restoration plan identifies potential fish and wildlife habitat improvements in the Duwamish Waterway. Future implementation of specific habitat restoration projects may include actions and activities with potential effects on Treaty fishing access. For example, removal of aquatic area and shoreline rubble and debris may benefit Treaty fishing. In contrast, placement of large woody debris in shoreline areas may impede fishing access. Future habitat restoration projects will require consultation with the Muckleshoot Indian Tribe and Suquamish Indian Tribe to determine actions necessary to avoid and minimize potential negative effects on Treaty fishing access. It is important that construction activities necessary for restoration work, and completed habitat improvements, avoid and minimize potential disruption of Treaty fishing activities. Construction activities will require coordination with fishing periods in order to minimize potential disruption of fishing access.

14. Transportation

a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.

The Duwamish restoration plan study area includes numerous existing vehicle, rail, and water transportation routes and facilities. The central transportation feature in the study area is the 5.3 mile long Duwamish Waterway, providing vessel, barge, tug, and recreational boat access. Surface transportation includes three bridges, Southwest Spokane Street, First Avenue South, and South Park (16th Avenue), crossings of the Duwamish Waterway. The study area is further served by principal traffic arterial corridors along East Marginal Way South and West Marginal Way Southwest. In addition, rail access is present along East Marginal Way South and West Marginal Way Southwest.

b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

Public transit passes through the Spokane Street transportation corridor and along East Marginal Way South and West Marginal Way Southwest.

c. How many parking spaces would the completed project have? How many would the project eliminate?

The present Duwamish restoration plan does not include specific habitat improvement project proposals; however, none of the potential restoration project presented in the plan inventory would alter parking areas located in adjacent upland or public right-of-way areas.

d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private).

The Duwamish restoration plan does not include proposals for specific fish and wildlife habitat improvements. None of the potential restoration actions outlined in the plan include new roads, streets, or street improvements of any kind.

e. Will the project use (or occur in immediate vicinity of) water, rail, or air transportation? If so, generally describe.

None of the potential fish and wildlife habitat restoration actions listed in the Duwamish restoration plan entail changes in adjacent upland vehicle, rail, or water transportation facilities. In particular, future, site-specific habitat restoration projects would be expected to avoid disruption of water-based transportation or navigational access. In some instances, water transportation may be improved by removal of debris and derelict structures.

f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.

No change in the volume of vehicle use is anticipated to result from potential restoration actions described in the Duwamish restoration plan.

The present Duwamish restoration plan does not include specific project proposals; however, it is important to note that future construction of fish and wildlife habitat improvements will entail vehicle use and truck trips necessary for material hauling (including removal of demolition materials and delivery of construction materials) and construction employee trips. In addition, water-based construction equipment may use adjacent waterway areas. It is not possible to evaluate construction vehicle trips and waterway use characteristics at present.

g. Proposed measures to reduce or control transportation impacts, if any:

The present Duwamish restoration plan includes no specific fish and wildlife habitat improvements proposals. Future habitat improvement projects would be accompanied by evaluation of net transportation effects in particular project areas. Measures may include control of activities to reduce potential adverse construction-related transportation effects. Please note that habitat improvement work would not entail new operation traffic volumes.

15. Public Services

- a. Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.**

Although the present Duwamish restoration plan includes no specific habitat improvement project proposals, it is anticipated that implementation of fish and wildlife habitat restoration projects would not increase the need for public services.

- b. Proposed measures to reduce or control direct impacts on public services, if any.**

Measures for offsetting, reducing or controlling negative effects on public services are unlikely to result from implementation of fish and wildlife habitat projects described in the present habitat restoration plan.

16. Utilities

- a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other.**

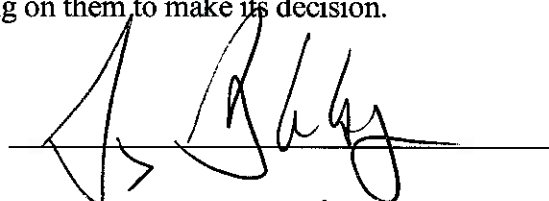
The potential habitat restoration sites described in the Duwamish restoration plan do not include locations with established utility service to the habitat sites/locations.

- b. Describe the utilities that are proposed for the project, the utility providing the service and the general construction activities on the site or in the immediate vicinity that might be needed.**

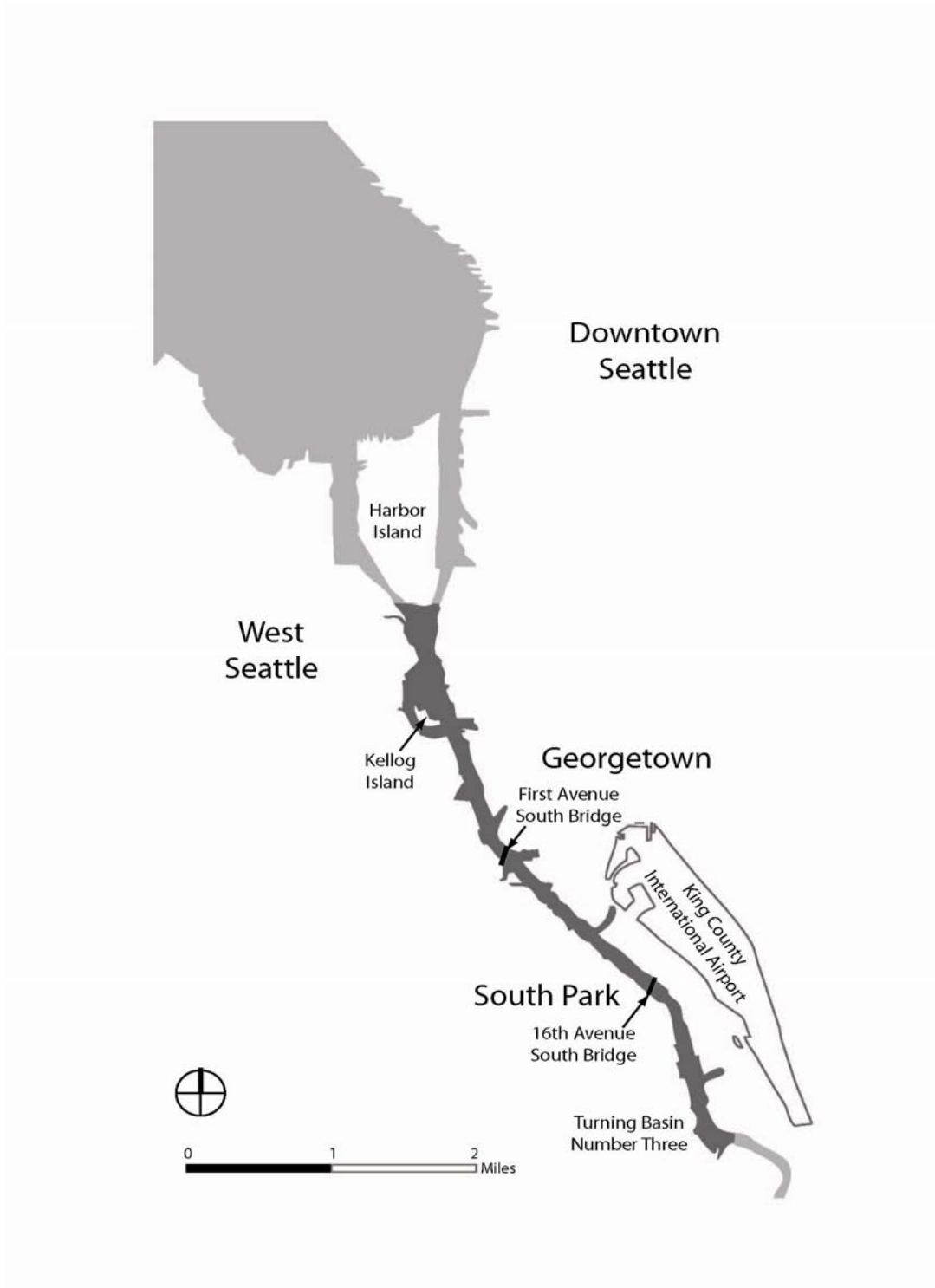
The Duwamish restoration plan does not include specific habitat improvement project proposals, however, it is anticipated that implementation of fish and wildlife habitat restoration projects would not require new utility services.

C. SIGNATURE

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: 

Date Submitted: 12-10-08



Project Area Map: The Lower Duwamish Restoration Plan study area extends from Harbor Island in the north to Turning Basin Number Three in the south.

Construction Emissions:

	Working Days	Hours Operating per Day	Rate of Fuel Use (gph)	Type of Fuel	Total Fuel Use (gallons)	Total Emissions (metric tons CO ₂)
Excavator/Loader	475	8	9	B20 ¹	28728	289.7

	No. of One Way Trips	Trip Distance (miles)	Rate of Fuel Use per trip (gallons)	Type of Fuel	Total Fuel Use (gallons)	Total Emissions (metric tons CO ₂)
Dump Truck	7500	36	7.2	Diesel ²	54000	544.5

Carbon Sequestration:

	Acres Restored	Avg. Carbon Sequestration per Year (metric tons of carbon) ³	Total No. Years at Avg Rate ⁴	Total Carbon Sequestered (metric tons carbon)	Total Carbon Sequestered (metric tons CO ₂)
Terrestrial Forest	5.2	1.0	120	624	2288
Salt Marsh	9.2	0.8	40	298.1	1093.0

¹ B20 CO₂ emissions = 18.73 lbs/gallon

² Diesel CO₂ emissions - 22.3 lbs/gallon

³ Birdsey (1996), Chmura (2003),

⁴ Birdsey (1996), Tulio (2002)

Construction Emissions	834.1
Sequestered Carbon	922.1
Net Total Emissions	-87.9

(metric tons CO₂)

Greenhouse Gas Emissions: Based on the Port's analysis, implementation of habitat restoration actions described in the Lower Duwamish River Restoration Plan has the potential to reduce carbon emissions to the atmosphere by approximately 88 metric tons of CO₂. It should be noted that the above analysis is based on planning-level information only. More precise GHG emission estimates will be completed for each site when restoration is proposed and project-specific information is available.