

### 3.11 SHORELINE RESTORATION ELEMENT *(new 11/17/05)*

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## A. Introduction

**Intent.** The purpose of this restoration element is to compile the potential shoreline restoration actions that have been identified in the City of Everett, and to describe the City's strategy for restoration. The information is based primarily on the analysis of ecological functions and potential for ecological restoration described in the Snohomish Estuary Wetland Integration Plan (SEWIP) and the Salmon Overlay. These documents were developed in cooperation with other local, state, and federal agencies; consultants; and the Tulalip Tribes. The information is also based on more detailed restoration planning that was completed for the Marshland Subarea addressed in the Marshland Subarea Plan. (*Revised 3/17/2011*) This element also includes information from the planning efforts of the Snohomish Basin Salmon Recovery Forum<sup>1</sup> and other organizations, including the Port of Everett, Sound Transit, and Puget Sound Nearshore Ecosystem Restoration Project (PSNERP).

SEWIP and the Salmon Overlay used a landscape approach to evaluate the estuary as a whole, without regard to jurisdictional boundaries. Therefore, this element also includes information on restoration actions in the Snohomish estuary outside of Everett. It also shows how potential restoration actions in Everett fit within the priorities for tidal restoration in the estuary established in the Salmon Overlay. This landscape context is important to understand the City's overall restoration strategy; however, this element's focus is on land in the City's boundaries that are subject to the City's shoreline jurisdiction.

**How to Use This Information.** This element describes to the general public the City's restoration strategy for shoreline areas. An important component is to present information regarding public sector activities, primarily City and Port projects. Because of public planning and budgeting, there is an opportunity to provide information regarding timing and status. Private property is governed by distinct legal principles. In addition, the City has limited information regarding plans for private property. Nevertheless, property owners planning for the future can use this information to determine how to use their property. Where a site is identified as a potential tidal restoration site, they may decide to sell their property for restoration, restore part of their property, or develop the property. Project proponents can use the information to determine what types of restoration are possible on their site, and what types of mitigation may be required in the permitting process. Project proponents seeking mitigation sites can find potential opportunities here. Conservation groups or agencies with restoration funding can use this information to purchase restoration sites from willing sellers that will result in the highest gains in habitat.

**Organization.** Section II of this element provides an overview of high priority tidal restoration opportunities based upon the Salmon Overlay. The information ranks the various opportunities based on the restoration potential and degree of technical difficulty. Section III describes the City's approach for restoration on private properties. The

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<sup>1</sup> Snohomish Basin Salmon Recovery Forum. 2004. Draft Snohomish River Basin Salmon Conservation Plan, July 2004. Snohomish County Surface Water Management Division. Everett, WA.

remainder of this restoration element is divided into sections by shoreline area, and into subsections that address restoration for publicly and privately owned lands respectively.

Each section identifies (a) sites with potential for ecological restoration; (b) restoration goals based on SEWIP and the Salmon Overlay; and (c) mechanisms or strategies to ensure restoration projects will be implemented and review effectiveness. Restoration mechanisms or strategies are again based on SEWIP and the Salmon Overlay, policies in the SMP, and permitting practices of the City of Everett and other agencies such as the State of Washington (Washington Department of Fish and Wildlife [WDFW] in administering the State Hydraulic Code), and the federal government (Corps of Engineers and Environmental protection Agency in administering the Clean Water Act Section 404 and the Endangered Species Act).

The subsections on publicly owned lands include in addition (a) existing and ongoing projects that are being implemented or are reasonably assured of being implemented, (b) additional projects and programs needed to achieve local restoration goals and implementation strategies including potential funding sources, and (c) timelines and benchmarks for these projects. These additional sections regarding public property synthesize existing plans and provide the information in a readable document. All timelines and funding information are based on available information at this time and are subject to change based on future events.

**Measurements of Habitat Function.** SEWIP and the Salmon Overlay express goals based on the Indicator Value Assessment (IVA) rating as measured by habitat models. Restoration goals in this element are expressed in IVA units. The SEWIP IVA model is used for palustrine wetland mitigation. The Salmon Overlay IVA model is used for tidal habitat mitigation/restoration. Since the priority of the SEWIP documents is tidal mitigation/restoration, this restoration element refers to Salmon Overlay IVA habitat gains, unless otherwise stated.

## **B. Prioritization of Potential Restoration Sites/Actions**

Table 6.2 in the Salmon Overlay ranks potential restoration sites, based on total IVA acre-points per site, existing functions, landscape position, and technical difficulties anticipated. A detailed discussion of the prioritization model is included in Section 6.4 and Appendix D of the Salmon Overlay. Table 6.2 only includes sites where restoration of tidal action can occur. These sites are shown in Salmon Overlay Figure 4.16. The table does not include all sites where restoration of tidal action may be possible or other types of potential restoration actions, including log storage removal enhancement. Tidal restoration ranks higher than other types of restoration since it restores historic estuarine and freshwater tidal wetland area and creates new habitat areas for salmonids versus enhancement of existing habitat areas.

Figure 4.15 from the Salmon Overlay identified potential log storage removal enhancement areas and a fish barrier removal enhancement. Additional potential

enhancement/restoration actions are identified in this element. Other actions may be added over time, as new information is available.

Part of Salmon Overlay Table 6.2 is reproduced below, along with the current status of each property, when known. The model used two different ranking scenarios. In the first, sites near the top generally had a combination of high salmon habitat restoration potential, moderate to low existing values for wildlife and water quality functions, and low technical difficulty. The second scenario (right-hand column scores) used the subtotal ranking score before inclusion of the technical difficulty factor. The sites are ordered in the Table based upon the first scenario, that considered technical difficulty.

The timing of restoration on specific sites is not dependent upon the priority identified below. Factors that will affect timing include existing land uses, property owner willingness to participate in restoration or sell their properties, property acquisition and restoration costs, and funding opportunities.

SEWIP and the Salmon Overlay used a landscape approach to the estuary. This approach evaluates the estuary as a whole, without regard to jurisdictional boundaries. Therefore, the table identifies opportunities within city and county jurisdiction. The landscape context is important to understand the City's overall restoration strategy; however, the rest of this element primarily focuses on land in the City's boundaries that are subject to the City's shoreline jurisdiction.

**EVERETT SHORELINE MASTER PROGRAM**

**Restoration Priorities**

Restoration Sites	Site No. <sup>1</sup>	New Tidal Habitat (acres)	Salmon Score Acre-Points <sup>2</sup>	Total Score	Total Score <sup>3</sup>	Subtotal without Technical Difficulty	In City of Everett	Current Status If Known <sup>4</sup>
<b>North Tip, South Ebey Island</b>	1	418	36,926	22.06	100	96		Snohomish County owns several hundred acres. Feasibility and design work have not been started..
<b>Biringer Farm</b>	2	340	20,613	21.39	97	92		Owned by Port of Everett. The Port's proposed 2005 - 2009 CIP calls for planning and permitting to begin in 2005, with construction in 2007.
<b>Mid-Smith Island</b>	3	484	26,217	20.56	93	88		Snohomish County has acquired 280 acres. A restoration plan is being developed. An application has been submitted for SRF Board funding for additional property acquisition.
<b>South Spencer Island WDFW</b>	4	297	30,288	20.28	92	81		Dikes are failing. Application submitted for SRF Board funding for restoration.
<b>Poortinga Property, now Qwuloolt Estuary Project</b>	5	355	16,750	19.83	90	84		Currently called the Qwuloolt Estuary project. Tulalip Tribes have acquired 334 acres of property. Additional acquisition and funding are needed prior to construction. Planning is underway, and construction could begin in 2006, if additional funds are obtained. Application submitted for SRF Board funding for design.
<b>SW tip South Ebey Island</b>	6	44	1,293	17.93	81	68		
<b>Marshlands 1</b>	7	354	20,804	17.87	81	89	X	Subarea Plan to address restoration feasibility.
<b>Swan Slough</b>	8	62	4,315	17.58	80	72		
<b>Ferry Baker Island</b>	9	6	714	17.19	78	80	X	
<b>Deadwater Slough</b>	10	621	27,259	17.13	78	75		
<b>Simpson Lee Cat. I</b>	11	35	2,591	16.96	77	69	X	
<b>Smith Island Delta Front</b>	12	143	8,178	16.16	73	75	X	The western portion of this site was purchased by Cedar Grove and a composting facility is under construction. Cedar Grove has established a 200 foot buffer that it is enhancing to improve buffer functions. Potential restoration actions still include reconnection of tidal action to the slough and construction of a setback dike.
<b>Sunnyside North</b>	13	182	10,774	15.56	71	66		
<b>Marshlands 2</b>	14	476	20,884	15.45	70	76	X	Subarea Plan to address restoration feasibility.
<b>Sunnyside South</b>	15	321	19,407	15.41	70	76		
<b>Nyman Farm</b>	16	50	6,670	15.18	69	64		
<b>So. Ebey Island, NW Corner</b>	17	147	4,973	15.08	68	69		
<b>Langus Park #50</b>	18	26	1,201	14.86	67	73	X	
<b>So. Ebey Island, NE Corner</b>	19	182	8,708	14.42	65	71		
<b>Diking District 6</b>	20	225	11,804	14.29	65	60		Snohomish County owns this property and has developed a restoration plan..
<b>N. Smith Is, Union Slough</b>	21	13	761	14.15	64	70	X	
<b>SR 529 Spencer</b>	22	4	385	14.07	64	69	X	
<b>Smith Slough, Smith Island</b>	23	7	400	14.06	64	69	X	
<b>Upper Union Slough</b>	24	82	3,287	13.89	63	58	X	City of Everett and US Army Corps of Engineers. Dike breach project is currently under construction. Breach expected in 2005
<b>South Ebey Island WDFW</b>	25	517	32,801	12.88	58	52		
<b>Totals</b>		5,391	318,003					

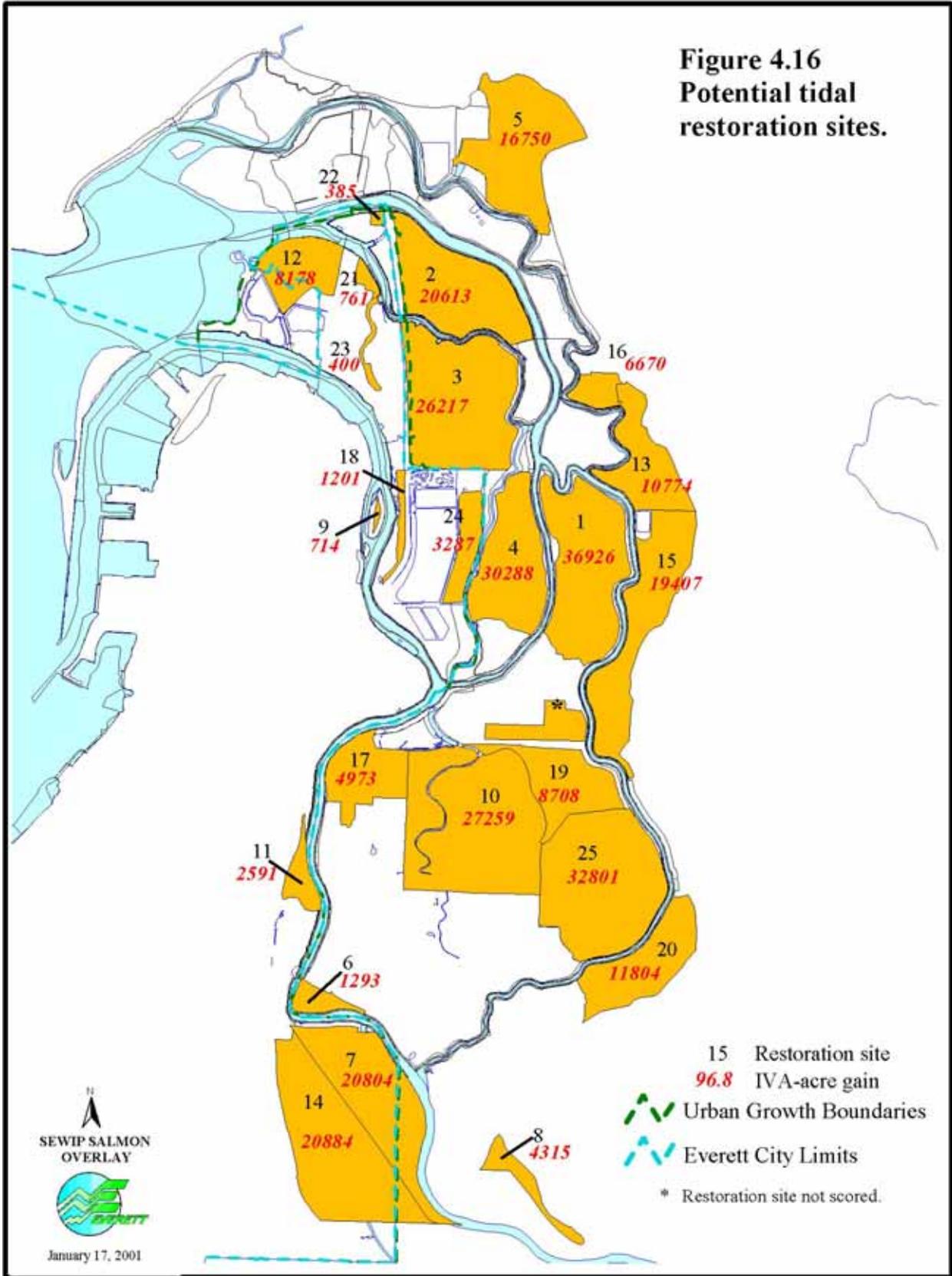
1 See Salmon Overlay Figure 4.16

2 Mean of maximum and minimum restoration potential (IVA points per acre x salmon overlay acres)

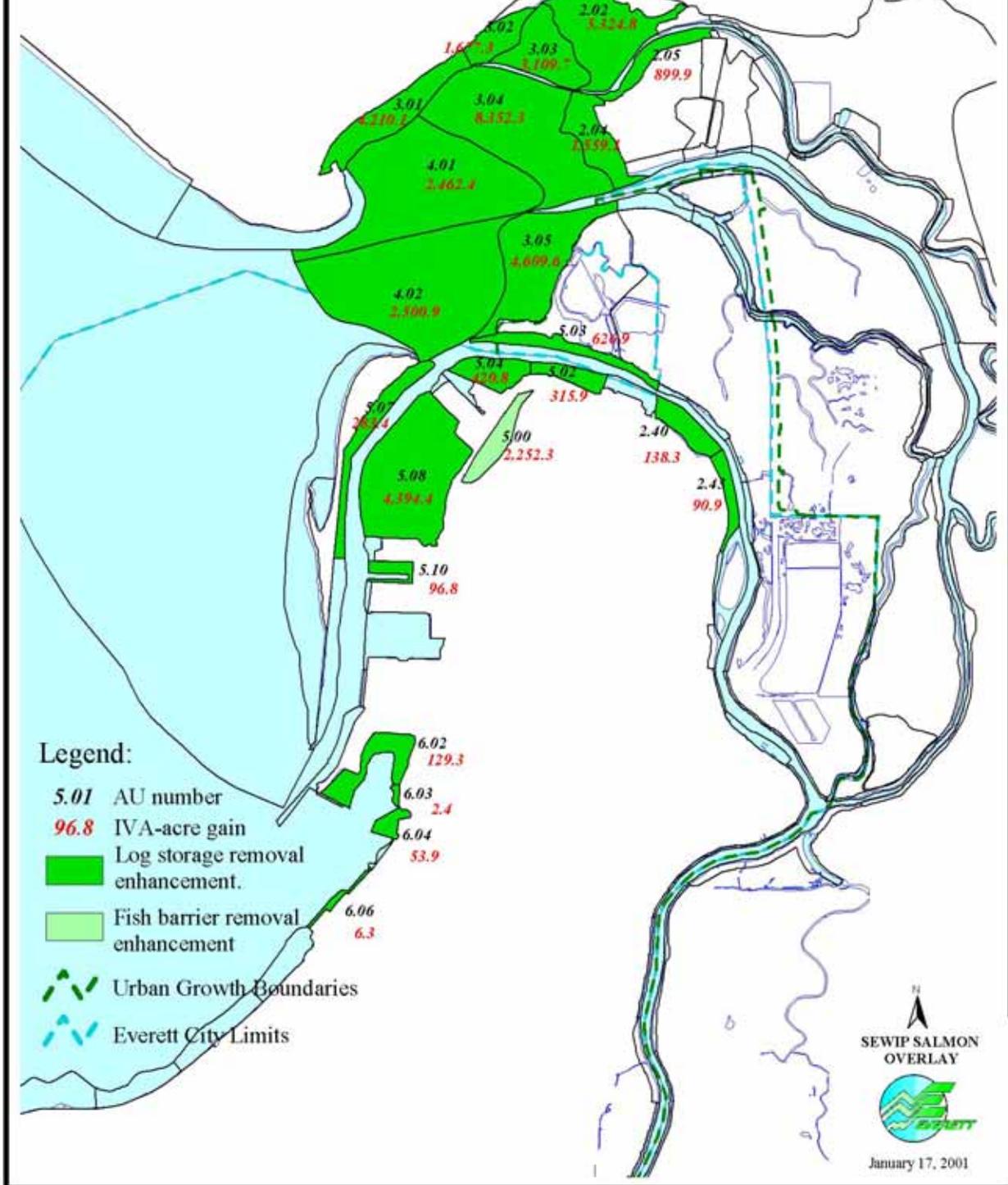
3 This is a normalized score, where the highest score = 100.

4 Much of this information comes from the Draft Snohomish River Basin Salmon Conservation Plan.

**Figure 4.16**  
Potential tidal  
restoration sites.



**Figure 4.15 Potential stressor removal (log rafting and fish access) opportunities as associated with IVA-acre enhancement.**



## C. Approach to Private Properties

Restoration is an action, or actions that reestablish or upgrade ecological shoreline functions through measures that rehabilitate or reestablish physical, chemical, or biological site characteristics. Examples include revegetation, removal of intrusive shoreline structures, and removal or treatment of toxic sediments. Restoration does not imply returning the shoreline area to aboriginal, or pre-European settlement conditions.

Consistent with WAC 173-26-186, the SMP strategy for achieving the restoration potential on private properties is to require or encourage applicants to include activities that restore shoreline functions as components of redevelopments to the extent allowed by constitutional and other legal limits. Many actions that restore shoreline functions on private property are beyond the City's regulatory powers because they are not sufficiently related to impacts caused by property development. Therefore, the schedule and extent of restoration on private properties is a function of timing and other decisions made by the private sector. In some cases private property owners may be willing to sell properties to public agencies or other groups that are pursuing restoration actions. *(Revised 3/17/2011)*

A number of the SMP regulations require actions that restore shoreline functions in conjunction with development that impacts shoreline functions. The SMP regulations that promote restoration of shoreline functions are discussed under each of the shoreline areas in Sections D - J<sup>2</sup>. The SMP regulations include requirements such as

- restoration of the shoreline where nonwater-dependent uses are proposed;
- provision of buffers and buffer enhancement;
- incentives for gaining restoration of tidally influenced salmonid habitat by allowing reduced buffers on Smith Island and North Spencer Islands;
- reviewing nontidal mitigation to ensure that opportunities to recover tidal function are not foreclosed;
- requiring that unnecessary impervious surfaces be removed and buffers be enhanced/restored as properties redevelop, and.
- provisions for mitigation to occur at or before the time of project construction, bonding, monitoring and adaptive management.

In order to increase awareness of potential restoration opportunities, the City will provide this restoration element to property owners owning properties that have been identified as presenting restoration opportunities. It will also be included in pre-application materials provided to potential applicants for shoreline permits.

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<sup>2</sup> These regulations have been set forth in other parts of the SMP, but are summarized in this Element to provide a complete picture of actions that will restore shoreline functions. The specified regulations, rather than the generalized discussion of restoration in this Section 3.11, apply to projects that are being reviewed by the City. Any changes to shoreline regulations, including those that promote restoration of shoreline functions, would be subject to public review, adoption by the City council and approval of the Department of Ecology.

The City also participates in the open space tax program pursuant to Chapter 84.43 RCW. This program provides the benefits to owners that keep their property undeveloped or in certain less intensive uses. The City will also work with Snohomish County to develop a “public benefit rating system” that can be used as a strategic shoreline protection tool by assigning relative benefit to open space properties based on the link between natural resource features on the property and their ecological function within the City’s shoreline jurisdiction.

## **D. Smith Island, North Spencer Island, and Ferry Baker Island**

The overall goal for restoration in the Smith/North Spencer/Ferry Baker Islands area is restoration of historic tidally influenced estuarine wetland and to increase the IVA rating by at least 7,500 IVA acre-points. Additional restoration opportunities include buffer restoration and log storage removal enhancement.

### **1. Public Property**

#### **Summary of Restoration Opportunities/Goal**

- a. City of Everett and Corps of Engineers - Dike Breach East of Sewer Lagoons (Site 24 in Salmon Overlay Figures 4.14, 4.16) - Goal: 4,292 IVA acre-points of tidal habitat gained from mitigation 2,590 IVA acre-points of tidal habitat gained from restoration.
- b. Slough Reconnection in Langus Park (Site 18 in Salmon Overlay Figures 4.14, 4.16). Goal: 1,370 IVA acre-points.
- c. Port of Everett Expansion of Union Slough dike breach. Goal: 248 IVA acre-points of habitat for Chinook, 215 IVA acre-points of habitat for bull trout.
- d. Port of Everett - Removal of Dredge Materials on Ferry Baker Island (Site 9 in Salmon Overlay Figures 4.14 - Approximately 714 IVA acre-points could be gained from removal of the fill on the site.

#### **Description of Individual Restoration/Goals**

- a. Existing Project: Dike Breach East of Sewer Lagoon (Site 24 in Salmon Overlay)
  - (1) Project Description: This Dike Breach Project is projected to restore approximately 93 acres of tidal habitat along Union Slough. The southern 35 acres is restoration that is not tied to any redevelopment project. The northern 58 acres is compensatory mitigation for dike enhancements and future wetland impacts.

The approximately 58 acres of compensatory mitigation provides

- 0.41 acres of compensatory mitigation credit for past dike maintenance projects
- 36.59 acres of advanced compensatory mitigation credit for future City of Everett dike improvements and wastewater treatment plant projects
- approximately 7.8 acres is considered compensation for the conversion of freshwater wetlands to tidal wetlands, and

- approximately 13.1 acres is considered compensatory mitigation for the 8.23 acres of wetlands impacted by the project. (Advanced Wetland Mitigation Agreement for Smith Island Habitat Restoration Project, February 21, 2003)
- (2) **Schedule:** The project is being constructed by the US Army Corps of Engineers. Construction started in August 2003. The restoration project construction will occur over 3 construction seasons (years), with the dike breach scheduled to occur in 2005.
  - (3) **Costs/Funding Sources:**  
Project total - \$5 million.  
City of Everett - \$2.54 million  
SRF Board - \$ 0.16 million (used as part of City's matching funds)  
US Army Corps - \$2.4 million
  - (4). **Habitat Function Benchmark Gain:**  
8.23 acres of diked freshwater wetlands filled for dike improvements to protect the treatment plant and construction of dikes around the mitigation site.  
55.86 acres of diked freshwater wetlands converted to intertidal wetlands.

Approximately 4,292 IVA acre-points of tidal habitat gained from mitigation.  
Approximately 2,590 IVA acre-points of tidal habitat gained from restoration.

Note - the IVA-acre gain is more than shown in Table 4.5 because the City/Corps are restoring 93 acres instead of the 82 acres assumed in Salmon Overlay Table 4.5. In addition, based upon the detailed plans, the City expects that the site will develop marsh vegetation over 25% of the site. This amount of vegetation results in a higher IVA score.

- (5) **Mechanisms to insure implementation and to measure effectiveness:** The project is being constructed/managed by the US Army Corps. The advanced mitigation agreement helped assure that the full opportunity to restore this area would occur. The Project includes a monitoring and management program that addresses vegetation, fish, wildlife, soils, hydrology, water quality, and benthic invertebrates.
- b. **Slough Reconnection in Langus Park (Restoration Site 18 in Salmon Overlay)**
- (1) **Project Description:** The site consists of a narrow complex of isolated freshwater wetlands and riparian scrub shrub vegetation. The proposed project would reconnect these wetlands to the river creating excellent lower river off-channel habitat. Lack of this habitat on the lower mainstem of the

Snohomish River has been identified in the Salmon Overlay as a significant potential limiting factor for juvenile salmonid function in the estuary.

To ensure the protection of I-5, the project would likely require internal diking on City property along I-5; this diking may make restoration of the southernmost portion of the site impractical. Also, a bridge or large culvert would be needed under Smith Ave. Road and measures would be required to protect Smith Ave. Road and other features of Langus Riverfront Park. Within the site, new channeling would be designed to provide circulation and fish access to all portions of the site. To the south, an existing channel would serve this purpose, to the north, existing connections would be enhanced and channels would be excavated to provide access through generally higher elevation wetlands. Existing trees and shrubs would be left in place as riparian vegetation. Following site construction, the dike would be breached downstream of existing Langus Park facilities, restoring tidal connection to the river.

- (2) **Schedule:** This project could be constructed in conjunction with park improvements to Langus Park. It is anticipated that the park improvements will require some fill or other impact to low quality palustrine wetlands. As was the case with the Sewer Treatment facility, the reconnection of the restoration site with the river would result in an overall increase in shoreline function. Therefore, the most likely scenario for restoring this area is at the time of park improvements. For planning purposes, it is assumed that this project will occur after 2014.

If funding were available prior to park improvements, Parks would be willing to have the connection made sooner, assuming that an agreement regarding advanced mitigation could be reached with regulatory agencies. It may also be possible to structure an approach that would allow the Parks Department to sell mitigation credits to private developers.

- (3) **Costs/Funding Sources:** Unknown. Funding has not been identified for the park improvements or the restoration.

Potential Funding Sources - grants, development mitigation. The ability to implement this project and the actual timing of any restoration is contingent on securing funding for park improvements and/or funds for restoration.

- (4) **Habitat Function Benchmark Gain:** The model indicates that a high level of function would be provided. A major factor that contributes to this function is the large and deep tidal slough that would be wetted at all tide stages, thus providing fish with refuge from river flows and allowing them to remain in the site over multiple tidal cycles.

A gain of approximately 1,201 IVA acre-points was projected in the Salmon Overlay for a moderately conservative restoration scenario (mean of minimum and maximum effort). Additional value could be added by increasing channelization and connectivity, maintaining and enhancing riparian vegetation. If only 24 acres of the 26-acre site were restored and the calculated score of 57 IVA points per acre achieved, the restoration would yield approximately 1,370 IVA acre-points.

- (5). Mechanisms to insure implementation and to measure effectiveness: If the project is constructed, it will include a monitoring and management program similar to those described above.

c. Port of Everett - Union Slough Dike Breach Expansion North Spencer Island

- (1). Project Description: In February 2001, the Port of Everett breached a dike along Union Slough on North Spencer Island to create an approximately 24-acre tidal area. The objective was to create mudflat and saltmarsh estuarine habitat to replace the habitat and ecological functions lost as part of Port improvements at the South Terminal. The South Terminal properties that were impacted scored approximately 2.7 to 4.7 IVA points per acre. By November 2002, monitoring showed that the Union Slough site was providing approximately 58.5 IVA points per acre, a large gain compared to the impacted areas. The score could increase in the future if marsh develops over more than 25% of the site, if riparian buffer is established, and as the site accumulates more large woody debris along its shoreline.

The Port of Everett is planning a 4.6 acre expansion of their Union Slough mitigation site. 3.49 acres of the expansion will be mitigation for dredging and improvements at the 12<sup>th</sup> Street Marina. Expansion will be accomplished by building an internal dike north along the existing site public access area, east along the existing Biringer Farm access road, and south along the site property line to join into the existing dike. Material within this diked perimeter will be excavated and contoured to form a channel system. The northern dike of the existing site will then be breached and the existing northeast channel connected into the new portion of the site. To resist erosion forces during sustained south winds during high tides, south-facing portions of the new dike will be faced with rounded river gravel/cobble. Over time, marsh vegetation is expected to colonize these areas to provide dike face stability.

- (2) Schedule: Construction is expected to occur in the fall/winter of 2004/2005, subject to obtaining the necessary permits.
- (3) Costs/Funding Sources: This project is funded by the Port of Everett as mitigation for other projects, including the 12<sup>th</sup> St. Marina project.

- (4) Habitat Function Benchmark Gain: The expansion is projected to result in approximately 248 IVA-acre-points of functional area for Chinook salmon and 215 for bull trout. Mitigation at the 12<sup>th</sup> St. Marina site almost makes up for the IVA - acre losses at that site. However, the Salmon Overlay requires a minimum of 1 acre of mitigation area for each acre of littoral habitat area lost in the tidal range from -10 feet MLLW to ordinary high water, regardless of whether the loss results from filling to uplands or dredging to create deeper water, as proposed at the 12<sup>th</sup> St. Marina (SMP Regulation 35.A.3. on page 3-35 of the SMP). The overall mitigation ratios for ecological functions, therefore, will be 11.1 and 10 for Chinook and bull trout, respectively.
  - (5) Mechanisms to insure implementation and to measure effectiveness: A monitoring and contingency plan has been prepared. Performance guarantees are required per the SMP. In addition, the project must comply with federal and state agency requirements.
- d. Dredge Material Removal on Ferry Baker Island (Salmon Overlay Restoration Site 9)
- (1) Project Description: Ferry Baker Island is currently owned by the Port of Everett; however, the Port currently has no plans for the property. The Salmon Overlay estimated that approximately 6 acres of intertidal area could be created by removing dredged material/fill that was previously placed on the site. The fill may include wood waste.
  - (2) Schedule: This restoration is not currently planned by the Port of Everett. The Port may be willing to sell or donate the property to developers for a mitigation site or to other parties who may have funding for restoration.
  - (3) Costs/Funding Sources: The cost of removal is uncertain, but could be high. Funding has not been identified for restoration.  
  
Prospective Funding Sources: Grants and development mitigation are possibilities for funding sources. The ability to implement this project and the actual timing of any restoration is contingent on securing funding for this restoration and/or mitigation.
  - (4) Habitat Function Benchmark Gain: Approximately 714 IVA acre-points could be gained from removal of the fill on the site.
  - (5) Mechanisms to insure implementation and to measure effectiveness: If the project is constructed it will include a monitoring and management program similar to that described for the Sewer Lagoon Dike breach.

## 2. Private Property

### Summary of Restoration Opportunities

- a. North Spencer: Tidal restoration on Moser property on Steamboat Slough west of I-5. (Salmon Overlay Site 22 on Figures 4.15 and 4.16) Potential gain of 385 IVA acre-points.
- b. Smith Island: Tidal restoration of Cedar Grove/SI Investments/Kimberly Clark/Weyerhaeuser properties along Union Slough (Salmon Overlay Site 12 on Figures 4.15 and 4.16). Potential gain of 8,178 IVA acre-points identified in Salmon Overlay. Current potential gain is significantly lower due to development on a portion of the site. Restoration opportunities still include dike setbacks and restoration of tidal action to the slough.
- c. Smith Island: BMC West Property Tidal Restoration (Salmon Overlay Site 21 on Figures 4.14 and 4.16). Potential gain of 761 IVA acre-points.
- d. Smith Slough tide gate removal. (Salmon Overlay Site 23 on Figures 4.14 and 4.16). Potential gain of 400 IVA acre-points.
- e. Potential log storage removal enhancement on south side of Smith Island. Potential gain of 627 IVA acre-points points.

### Description of Individual Restoration Opportunities

- a. North Spencer: Tidal restoration on Moser property on Steamboat Slough west of I-5 (Salmon Overlay Site 22 on Figures 4.14 and 4.16). This site is adjacent to I-5 and SR 529, which are both on bridges next to the dike. Dikes could be breached to restore tidal action to this area. Internal dikes would be required to protect adjacent areas from flooding. Over half of the site has been filled with considerable amounts of concrete. Testing for contamination would be required. Potential gain of 385 IVA acre-points.
- b. Smith Island: Tidal restoration on Cedar Grove/SI Investments/Kimberly Clark/Weyerhaeuser properties along Union Slough (Salmon Overlay Site 12 on Figures 4.14 and 4.16). The Salmon Overlay identified a large potential dike breach restoration in this area. That action would have required internal dikes adjacent to the Weyerhaeuser Lagoon and the BNSF rail line. The project had a potential gain of 8,178 IVA acre-points.

After publication of the Salmon Overlay, Cedar Grove obtained a permit for a composting operation on the western portion of this property. The composting project, which is currently being developed, includes restoration of a 200-foot

buffer along Union Slough and creation of a 4-acre wetland along the interior slough.

Tidal restoration of the part of the site where the compost facility is located is no longer feasible during the lifetime of that operation. Potential restoration actions still include:

- Restoration of tidal action to the interior slough, with plantings of additional riparian vegetation along the slough. This will require dikes along both sides of the slough.
  - Construction of a setback dike along Steamboat / Union Sloughs. This would allow the area waterward of the new dike to revert to tidal action. The dikes would have to protect adjacent properties. Technical difficulties include removal of wood waste in the buffer along the western part of the site.
- c. Smith Island: BMC West Property and (Salmon Overlay Site 21 on Figure 4.16). Potential gain of 761 IVA acre-points. Technical difficulties on this site include potential conflicts with power lines, relatively long dike needed for area restored, and protection of the highway. This could result in a high cost for dikes relative to the area restored.
- d. Smith Slough tide gate removal. (Salmon Overlay Site 23 on Figure 4.16). This tributary slough once connected the Snohomish River mainstem and Steamboat Slough. This project would require an approximately 9,200 foot dike on the outer edge of this slough, and removal of the tide gate on Union Slough. Potential gain of 400 IVA acre-points.
- e. Potential log storage removal enhancement on northwest and south sides of Smith Island. Potential gain of 627 IVA acre-points on south side of Smith Island. Only a part of assessment unit 3.05 on the northwest side of Smith Island is in the City limits. The potential gain has not been assessed separately for the portion in the City limits. A gain of 4,609 IVA acre-points could be gained if log storage was removed from all of AU 3.05.

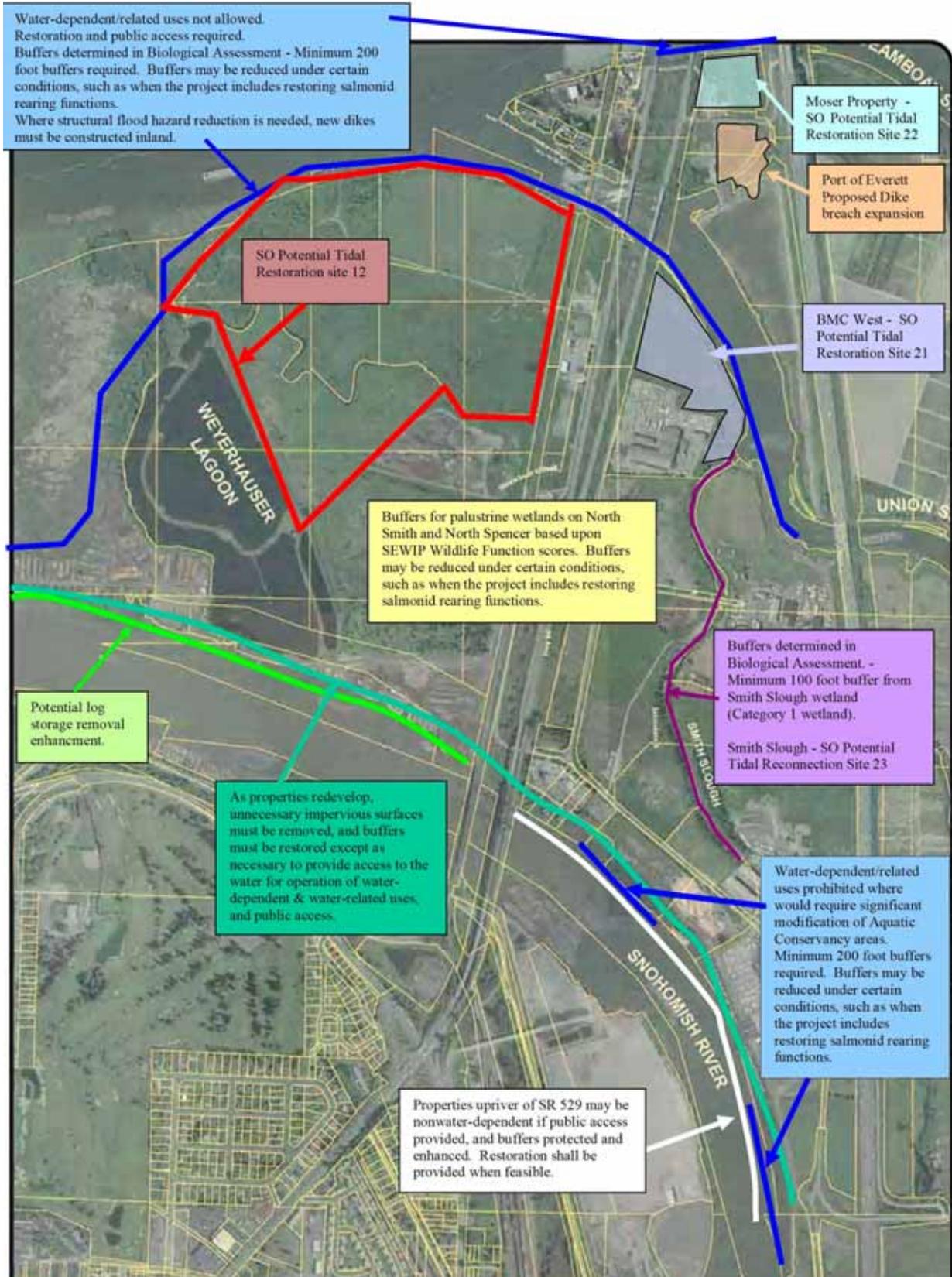
### **3. Regulations in the SMP that Promote Restoration of Shoreline Functions (apply to public and private property)**

- Water-dependent and water-related development is not allowed adjacent to AUs designated Aquatic Conservancy and AU 3.05 on West side of Smith Island. (SMP Regulation 2 on page 5-26; Regulation 1.c. on page 5-33; Regulation 4 on page 6-3)
- Where nonwater-dependent/related uses are proposed, restoration of the shoreline and public access are required (essentially as the water-oriented component of the proposal). (SMP Regulation 2 on page 5-26, Regulation 1.c on page 5-32)

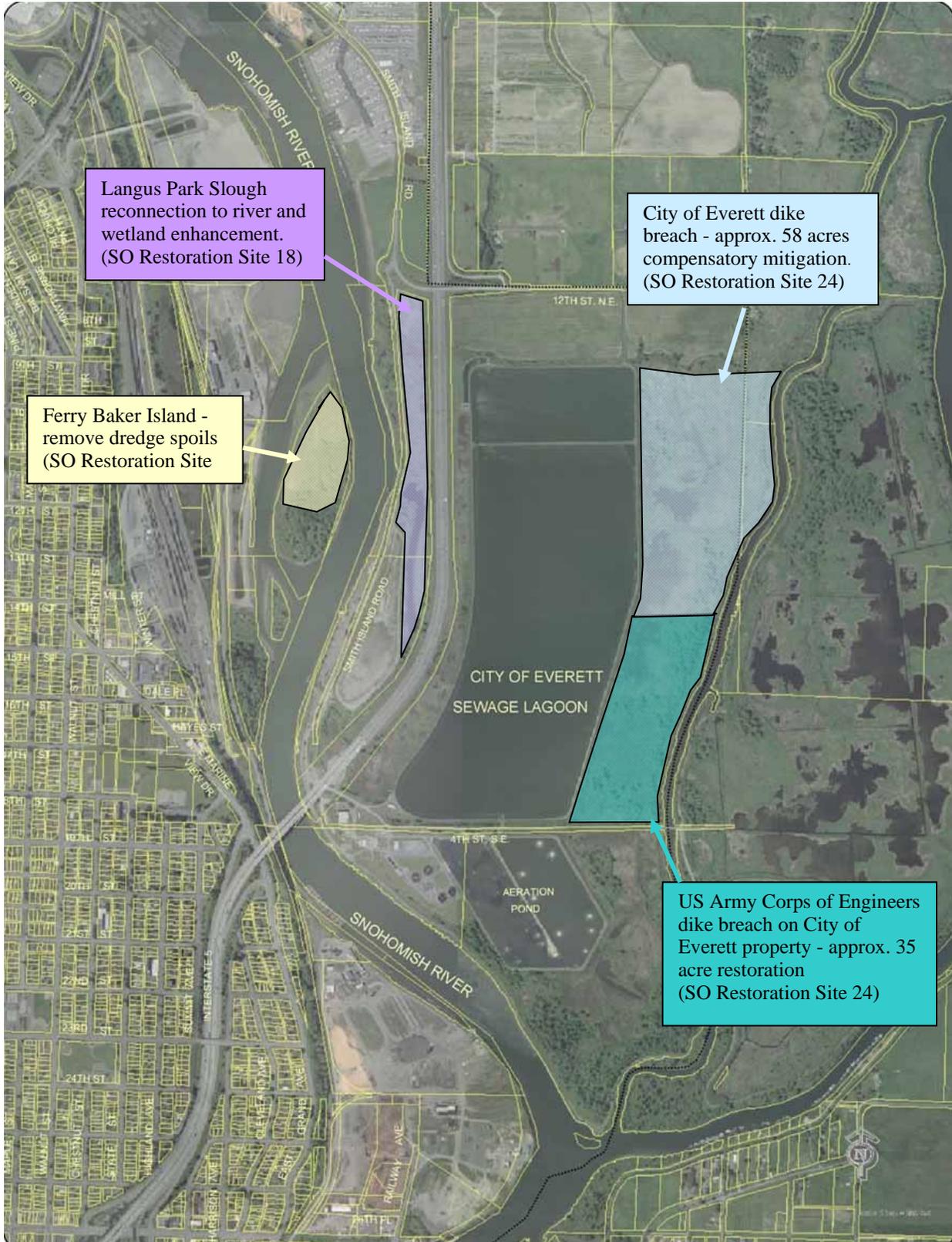
- Where structural flood hazard reduction measures are needed to protect development inland from Aquatic Conservancy areas and AU 3.05, when feasible, new dikes or other stabilization structures shall be constructed inland of the existing dikes. (SMP Regulation 13 on page 6-9)
- As properties redevelop, buffers must be enhanced/restored. Buffers are based on a biological evaluation to assure no net loss of function and must be a minimum of 200 feet on or adjacent to areas designated Aquatic Conservancy and AU 3.05. (SMP Regulation 11 on page 3-31, Revised Regulation 22 on page 3-32)
- Interior wetlands on Smith Island north of 12<sup>th</sup> Street, on North Spencer Island, and the city-owned property southwest of Weyco Island are categorized based on SEWIP Wildlife Function. Buffers are based on a biological evaluation to assure no net loss of function. Minimum buffer widths range from 200 to 50 feet.
- Buffers are based on a biological evaluation to assure no net loss of function and a 100 foot buffer is required from Smith's Slough. (Buffer requirements in EMC 19.37.100.A.1, Category 1 Wetland, Appendix A, page 704-278)
- If nontidal mitigation is proposed for loss of nontidal palustrine wetlands, it should be reviewed to ensure that opportunities to recover tidal function would not be foreclosed. (SMP Regulation 35A.4. on page 3-36)
- As redevelopment occurs, unnecessary impervious surfaces shall be removed and shoreline buffers enhanced/restored, except as necessary for access to the water. The Planning Director can require redesign to minimize impacts to existing vegetation and to provide for buffer enhancement. (SMP Regulation 11 on page 3-31)

Other mechanisms. Permits for properties adjacent to Smith Slough will include provisions that preserve the opportunity to reconnect the slough consistent with SMP Regulation 35.A.4.

North Smith Island and North Spencer Island



South Smith and Ferry Baker Islands



## **E. Nearshore / Port Area**

The Salmon Overlay did not focus on potential enhancement/restoration actions in this area, since the area is highly developed and opportunities are limited. Recent proposals by the Port of Everett and PSNERP to do beach enhancements along the BNSF line and ongoing consideration of replacing culverts under the BNSF rail line have focused more attention on this area. Enhancement/restoration actions in this area are likely to be very expensive, and are not likely to result in significant new habitat area, but have the potential to enhance the existing habitat.

Because of the uncertainty related to the long-term success of potential nearshore beach enhancements along the BNSF rail line, and the high costs associated with these projects, the gains in IVA acre-points over the next 20 years are expected to be modest. Approximately 300 IVA acre-points could be reasonably anticipated.

Although this area is highly developed, there are small enhancement / restoration actions that can be completed as properties redevelop. Examples include enhancing buffers, improving connections from the shoreline to streams, log storage removal, recontouring riprapped slopes to create intertidal benches at elevations that would support saltmarsh vegetation, and creating small pocket beaches by placing fine-grained sediments in front of existing riprap at low angle slopes to create low gradient beaches. The Draft Snohomish River Basin Salmon Conservation Plan recommends that a habitat restoration strategy be developed for nearshore urban shorelines in Everett and Mukilteo. The Plan states, "Although habitat gains in the nearshore are limited by shoreline development, the location of these urban areas increases their importance for maintaining and enhancing shorelines where possible." The examples of opportunities discussed below could provide information to help agencies and stakeholders formulate an appropriate strategy.

### **1. Public Property**

#### **Examples of Restoration Opportunities**

As noted above, restoration opportunities in this area have not been studied or evaluated to the extent of other areas of the shoreline because of constraints in this area. The following projects provide examples of the types of restoration activities that might be feasible and beneficial for the shoreline between the Mukilteo Tank Farm Property and Port of Everett South Terminal (EMU 7). Further analysis and review will be necessary to determine if this type of work should be more widely considered for the nearshore and Port areas.

- a. Mukilteo Tank Farm and WSDOT Properties (EMU 7). 2.3 acres of degraded beach could be restored to natural profile. 0.4 acres of the project area will be planted with riparian vegetation to create a new 15- to 30-foot wide riparian buffer between the railroad and the intertidal zone. The habitat gained from restoration:

6.0 IVA acre-points. This is not identified in the SEWIP or Salmon Overlay, but is an on-going proposal by the Port of Everett.

- b. Public lands between the Mukilteo Tank Farm Property and Port of Everett South Terminal (EMU 7) - Replace existing culverts under the BNSF railroad that limit transport of sediment and woody debris from the small coastal streams to the beach. While BNSF owns the right-of-way, access from and/or improvements to adjacent properties would likely be required.
- c. Port of Everett, Kimberly-Clark, and Naval Station Everett: Log raft restrictions in this area could result in an additional 191.9 IVA-acre gain. (Salmon Overlay Figure 4.15)
- d. Port of Everett Properties on Snohomish River Channel: Naval Station Everett to 10th Street Boat Launch (EMU 5 partial). Cutting back steep riprapped slopes to a slope of flatter than 5H:1V and planting of a saltmarsh bench near the MHHW line could increase the function by approximately 25 percent, however, the areas where such changes can be implemented are limited by adjacent land uses.
- e. Jetty Island. Creating a full beach profile along the exposed riprap in the southern portion of the AU could result in an increase of over 2400 IVA acre-points. The gain in function for salmonids from construction of a second berm is unknown, but monitoring of the existing berm demonstrated that the gain more than offset the loss of intertidal beach to the berm.

### **Description of Individual Restoration/Goals**

- a. Mukilteo Tank Farm and WSDOT Properties (EMU 7)
  - (1) Project Description: This shoreline reach includes a part of the former Mukilteo Tank Farm and tidelands to the east which have been conveyed from the US Government to WSDOT and is part of EMU 7. This property is the site of a proposed new Rail/Barge Transfer Facility for which permits are being sought by the Port of Everett. As part of the planned project, the Port will conduct an experimental beach restoration project. The restoration will use in-water fill to restore a more natural beach profile and backshore along 1,000 feet of shoreline that is currently degraded by riprap at the tank farm, fill in an existing parking area, and the BNSF railroad fill. A 15- to 30-foot wide riparian buffer will be planted between the railroad and the intertidal zone. This project will be closely monitored and will serve as a pilot study for possible future similar project, along the shoreline from Seattle to Everett.

This restoration action was not identified in the SEWIP documents.

- (2) Schedule: The project is planned for construction by the Port beginning in mid 2005 and is scheduled for completion in early 2006.
- (3) Costs/Funding Sources: A detailed cost estimate is being developed for the restoration and monitoring related to the rail barge facility. Initial estimates are in the range of \$800,000 - \$1,000,000. The project will be funded by Washington State and the Port of Everett.
- (4) Habitat Function Benchmark Gain: The project area analyzed is a part of assessment unit (AU) 7.10 in the Salmon Overlay which was scored at 13.0 points per acre.<sup>3</sup> The rating of this AU was reduced by the presence of riprap over 50 percent of the shoreline, and extending below MSL over the majority of the area. The portion of AU 7.10 that represents the project area (called AU 7.10A), when evaluated independently of the larger AU, was rated somewhat higher (16.8 points per acre), due primarily to the lesser extent of riprap (not extending below MSL) and the presence of forage fish spawning habitat in AU 7.10A that was unknown at the time of the Salmon Overlay field work.

The same AU 7.10A was also scored as it would appear following pier construction and beach restoration. In this condition, the adverse effect of the riprapped shoreline would be removed, raising the score, but a different stressor, overwater coverage would be added, reducing the score. The restoration would include additional forage fish spawning habitat (not reflected in the model sensitivity) and a buffer of riparian vegetation, assumed to be about 25 feet wide and extending over more than 25 percent of the shoreline. This positive indicator, and the lesser influence of overwater structures (added) compared to riprap (eliminated) results in the relative post construction function being a bit higher than that calculated for the present condition (19.2 points per acre vs. 16.8 points per acre). Under the Salmon Overlay assumptions regarding habitat area for use in calculating impacts and gains as change in functional score times change in area, the area of the project site would not be substantively reduced by the in-water fill that creates the 25 to 30-foot wide backshore. This is because a vegetated riparian zone of up to 25 feet in width is considered to be habitat, in that it provides ecological functions (shade, leaf litter, insect fall) to adjacent areas below ordinary high water.

Components of the project could be revised during the permitting process.

- 2.3 acres of degraded beach will be restored to natural profile.
- 0.4 acres of the project area will be planted with riparian vegetation to create a new 15- to 30-foot wide riparian buffer between the railroad and the intertidal zone.

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<sup>3</sup> Forage fish spawning habitat was not known to be in this area when the SO was completed. Adding that into the model, AU 7.10 should have been scored at 14.0- IVA points per acre.

Habitat gained from restoration: 6.0 IVA acre-points.

- (5) Mechanisms to insure implementation and to measure effectiveness: The project will be a condition of permits issued for the rail/barge transfer facility by the US Army Corps and WDFW. The Project includes a 20-year monitoring and adaptive management program that addresses vegetation, fish, wildlife, benthic invertebrates, beach stability, and requirements for renourishing to offset sediment losses from the restored beach.
- b. Public lands between the Mukilteo Tank Farm Property and the Port of Everett's South Terminal (EMU 7) - Culvert Replacement
- (1) Project Description: At least nine streams discharge to Port Gardner Bay through culverts under the BNSF railroad in this area. These streams include Edgewater Creek, Powder Mill Gulch Creek, Narbeck Creek, Merrill and Ring Creek, Phillips Creek, Glenwood Creek, Seahurst/Glenhaven Creek, Pigeon Creek No. 2, and Pigeon Creek No. 1. Potential restoration opportunities include replacing the existing culverts under the BNSF railroad that limit transport of sediment and woody debris from these small coastal streams to the beach. In some cases, these culverts also restrict access by anadromous salmonids to those streams. Culvert replacement would be in the form of either a bridge, or a larger, less restrictive culvert designed to allow both upstream and downstream passage of salmonids as well as free delivery of stream-born sediments and wood to the nearshore.
  - (2) Schedule: No culvert replacement is currently scheduled. It is most likely that this activity would occur in conjunction with a large scale public project.
  - (3) Costs/Funding Sources: Cost of culvert replacement is unknown but expected to be high. A primary factor in construction costs is the affect it could have on operating the BNSF rail line during certain portions of the work. Culvert replacement in this area has been deemed to provide only minimal habitat benefits for the cost incurred; however, in certain circumstances this action may make sense.  
  
Prospective Funding Sources: Grants and development mitigation are possibilities for funding sources. The ability to implement this project and the actual timing of any restoration is contingent on a significant public works project, securing funding for this restoration and feasibility challenges.
  - (4) Habitat Function Benchmark Gain: A culvert replacement would theoretically improve access by anadromous fish to one of the small freshwater streams entering the sound along this beach reach. Unless the stream mouth upstream

of the railroad tracks has tidal habitat, the potential improvement in habitat conditions could not be calculated using the City's model.

- (5) Mechanisms to insure implementation and to measure effectiveness: Because of the costs involved culvert replacement is most likely to occur in conjunction with significant public works projects.

c. Port of Everett, Kimberly Clark, and Naval Station Everett

- (1) Salmon Overlay Figure 4.15 shows areas where log rafting could be eliminated to reduce stressors.
- (2) Schedule: Log storage removal is most likely to occur in conjunction with redevelopment proposals for these properties.
- (3) Costs/Funding Sources: Unknown.

Prospective Funding Sources: Grants and development mitigation are possibilities for funding sources. The ability to implement this project and the actual timing of any restoration is contingent on securing funding for this enhancement and/or redevelopment proposals.

- (4) Habitat Function Benchmark Gain: 191.9 IVA acre-points
- (5) Mechanisms to insure implementation and to measure effectiveness: log storage in these areas is currently a legally nonconforming use. When the owner abandons this use under the City code, the SMP would prohibit future log storage. If log storage removal is offered as mitigation for another project, then the City would require covenants to protect the area.

d. Port of Everett Snohomish River Channel: Naval Station Everett to 10th Street Boat Launch (EMU 5 partial)

- (1) Project Description: The shoreline of the lower Snohomish River upstream from Naval Station Everett is owned by the Port of Everett up to the Maulsby Mudflat (AU 5.08). The shoreline is fully armored and has significant moorage for smaller vessels in and downstream of the existing Everett Marina.

Shorelines along the east side of the Snohomish River channel are fully developed and have little opportunity for restoration or enhancement. In a few localized areas, redevelopment can achieve some habitat gains. As part of the planned North Marina redevelopment project, the Port will remove overwater, creosote-treated structures and clean up industrial debris from shorelines. New structures will be of non-toxic concrete or steel.

Within the Everett Marina, limited opportunities exist to enhance the eastern and southern shorelines by resloping existing riprap to create benches upon which salt marsh vegetation may be encouraged.

- (2) **Schedule:** The Port's North Marina Redevelopment and 12th Street Marina projects are in the permitting process. No schedule exists for other projects in this area.
- (3) **Costs/Funding Sources:** The costs of individual projects will be born by the Port as part of the cost of redevelopment of adjacent properties.
- (4) **Habitat Function Benchmark Gain:** Potential habitat gains in this area are small. For a typical reach of shoreline along the lower Snohomish Channel that is riprapped at approximately 2H:1V slope, cutting back to a slope of flatter than 5H:1V and planting of a saltmarsh bench near the MHHW line could increase the function by approximately 25 percent, however, the areas where such changes can be implemented are limited by adjacent land uses.
- (5) **Mechanisms to insure implementation and to measure effectiveness:** Monitoring, and adaptive management would be required as part of any permit requirement.

e. Jetty Island

- (1) **Project Description:** Jetty Island was formed between 1900 and 1970 by the disposal of dredged sands from the Snohomish navigation channel. The Port owns the island. The shoreline of the lower Snohomish River along Jetty Island, because it is sheltered by the island, is a fine silty sand at mid to upper intertidal elevations and mud at lower elevations. Areas along the inside of Jetty Island (EMU 5) have historically been used for log raft storage, with rafts grounding on the sand and mudflats and low tides. The west side of the island (EMU 4) is exposed to considerable wave action from Port Susan and Saratoga Passage and thus is medium to fine sand; the north end of the island appears to be accreting sands from the Snohomish River while the middle and south end appear to be losing sediment.

In 1990, as a demonstration of a beneficial use of dredged materials, the Port and the Corps of Engineers constructed a berm on the west side of the island across the intertidal to shelter an embayment of about 19 acres from wave action. A 5-year monitoring program conducted by the Port showed that this project met all of its ecological goals and resulting in a substantial net increase in salmon habitat function. The project has since been renourished on three occasions to maintain habitat benefits created.

Two types of new projects are possible on the west side of Jetty Island. Either could be accomplished with hydraulic placement of clean dredged materials from routine navigation channel maintenance dredging.

- The first type of project would be to expand the existing dune and marsh habitat southward by placing new dredged sand along the southern portion of the rock jetty. At present the beach in this area intersects the jetty at approximately +4 to +6 feet MLLW such that no beach exists at tides above that level. The benefits of having a complete beach profile, as occurs along the northern two thirds of the west side of the island could be gained by this project.
  - The second type of project would be to construct a second berm, to create a second protected embayment on the west side of the island.
- (2) Schedule: No schedule exists for either of these projects. Ideally, the beach construction would occur before the second berm construction so that the berm could shelter a portion of the new beach.
- (3) Costs/Funding Sources: The cost of either of these projects would likely be borne by the Port and the Corps as cooperating agencies that maintain the federal navigation channel.

Prospective Funding Sources: Grants and development mitigation are possibilities for funding sources. The ability to implement this project and the actual timing of any restoration is contingent on securing funding for this restoration and/or mitigation.

- (4) Habitat Function Benchmark Gain: In the Salmon Overlay, the habitat function of the west side of Jetty Island (AU 4.03) was relatively low (20.5 IVA points per acre) because of the exposed riprap in the southern portion of the AU. Creating a full beach profile in this region would remove this stressor and is projected to result in a score of 32.0 IVA points per acre. Given the substantial size of this AU, this change is projected to produce an increase of over 2400 IVA acre-points, by far the largest potential functional gain in the nearshore waters in the City.

Constructing a second berm would increase habitat benefits in part of the area benefited by new beach construction described above. While the function of the area sheltered by the berm would be increased because of its change to a depositional environment and because of the probable development of a saltmarsh fringe within the sheltered embayment, some function would be lost in the area of present intertidal sand beach that would be converted to uplands in the berm. Monitoring of the existing berm demonstrated that the loss of

area to uplands in the berm is more than offset by the increased productivity within the mudflat created inside the berm.

- (5) Mechanisms to insure implementation and to measure effectiveness: Monitoring and adaptive management would be required by permits for shoreline restoration and/or berm construction.

## **2. Private Property**

- a. Mukilteo Tank Farm to Pigeon Creek No. 1 (EMU 7)

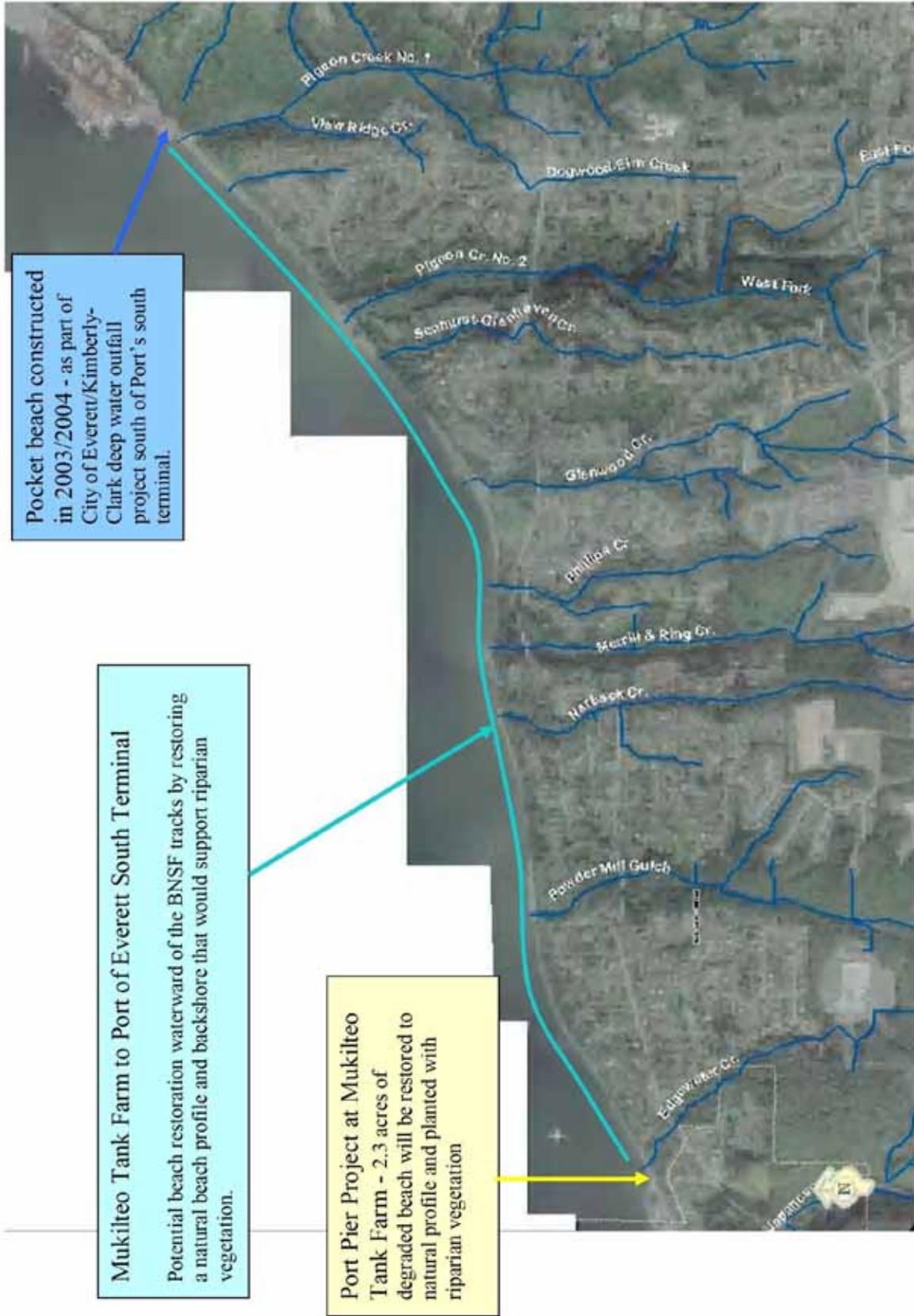
The shoreline reach between the western City limit and the Pigeon Creek No. 1 delta includes a mix of public and private ownership. BNSF is by far the largest private landowner and any project in this reach of shoreline would require at least access through their right-of-way. Numerous private waterfront lots also extend onto tidelands. The nature of projects that could occur here is fully described under the Public Property section. Further information based on the Port's project is necessary to determine whether this approach has broader applicability.

- b. East Waterway - Kimberly-Clark. Potential log raft restrictions on Kimberly - Clark property were discussed in Section E.1.c above.

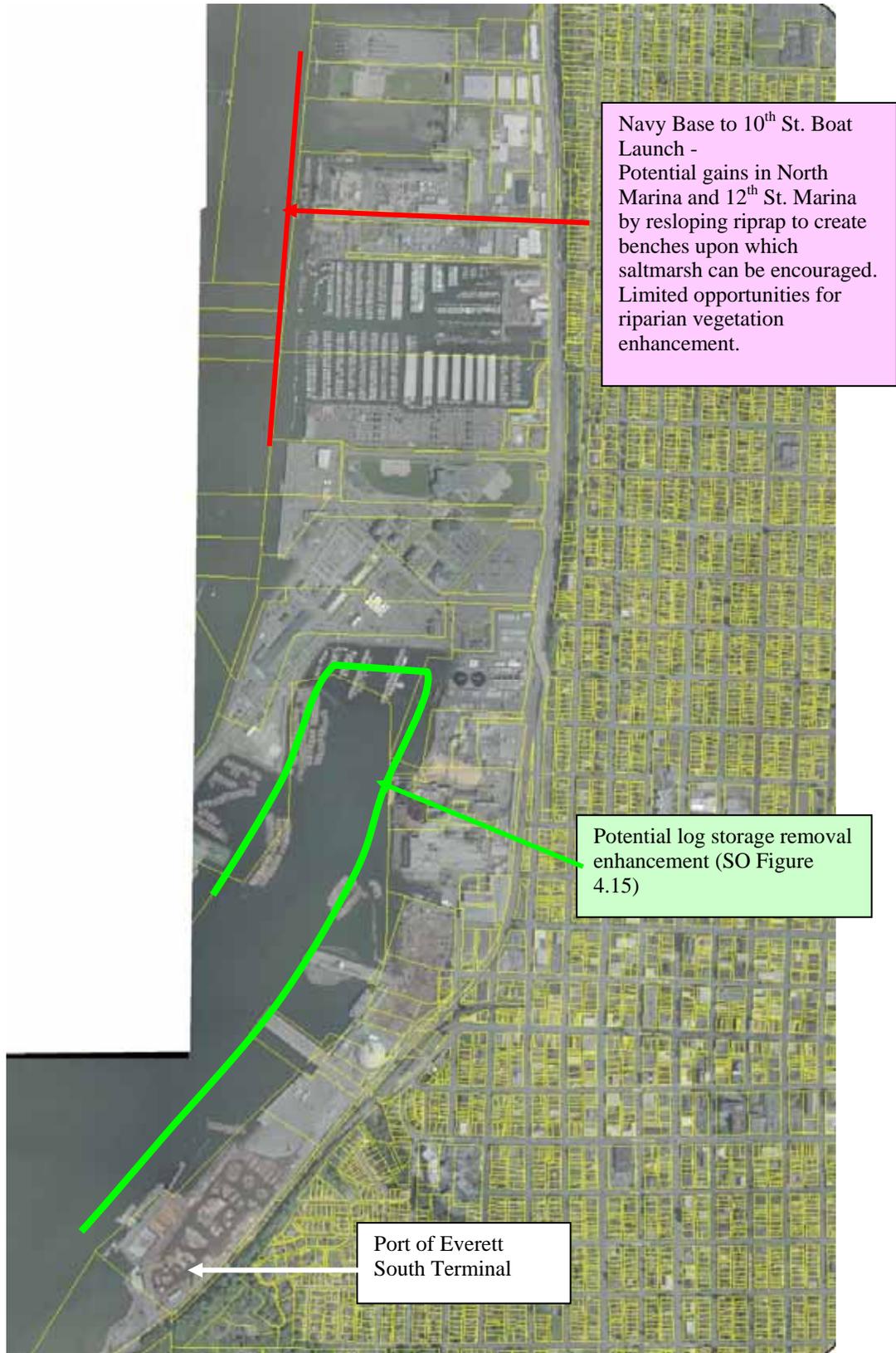
## **3. Regulations in the SMP that Promote Restoration of Shoreline Function.**

- Buffers will be restored along the Snohomish River as properties redevelop. The extent of buffer restoration will depend upon whether uses are water-dependent or nonwater-dependent. (EMC 19.37)
- Where nonwater-dependent/related commercial and industrial uses are proposed, environmental restoration is required, when feasible. Existing native shoreline vegetation must be preserved and enhanced per the requirements of the SMP. (SMP Regulation 2 on page 5-26, Regulation 1.a. on page 5-31, 32)
- As redevelopment occurs, unnecessary impervious surfaces shall be removed and shoreline buffers enhanced/restored, except as necessary for access to the water. The Planning Director can require redesign to minimize impacts to existing vegetation and to provide for buffer enhancement. (SMP Regulation 11 on page 3-31)

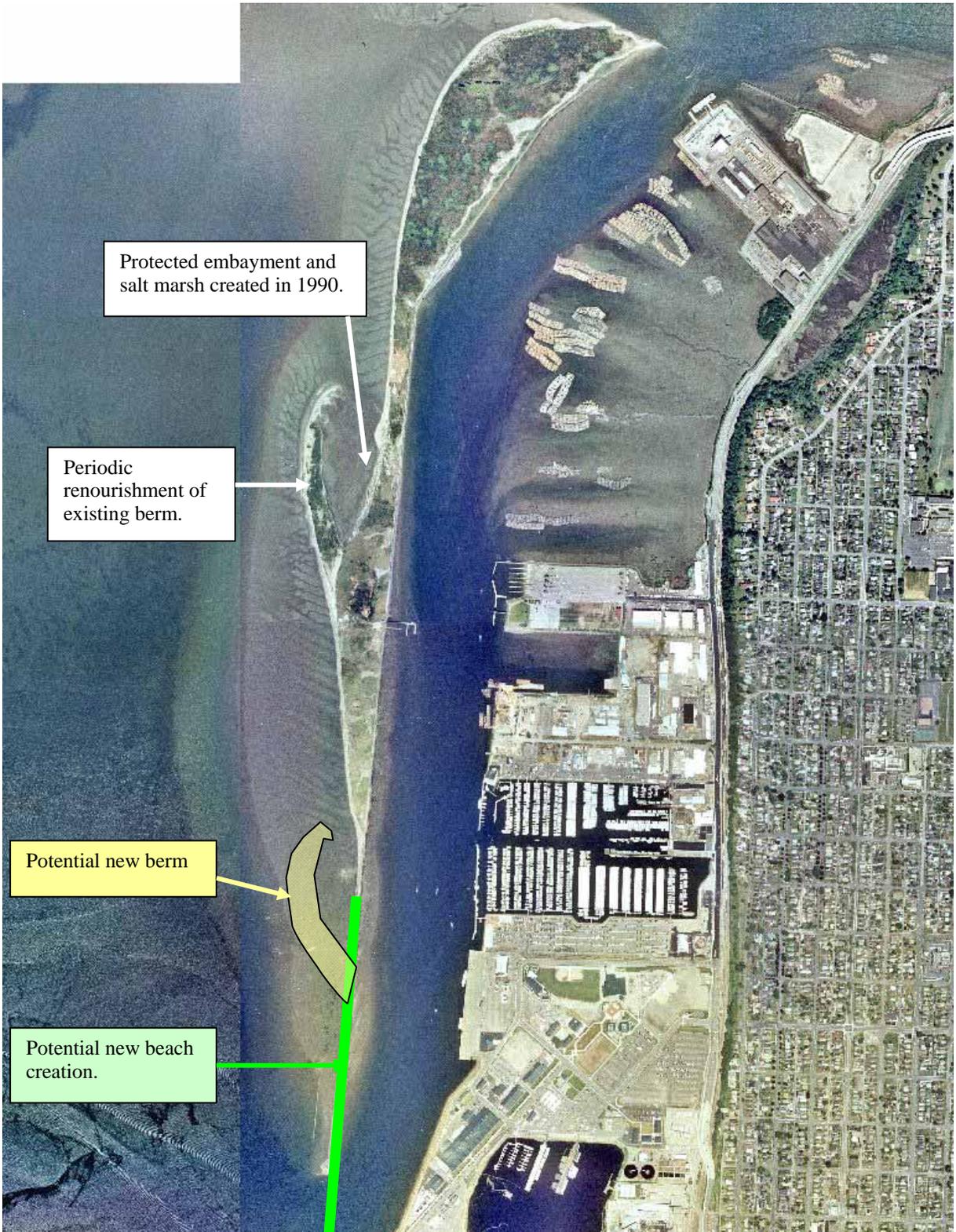
Nearshore



Port Area



Jetty Island



## **F. Maulsby Mudflats**

Potential restoration opportunities in Maulsby Mudflats will be addressed in the Subarea Plan required by the SMP. The Salmon Overlay identifies log storage removal as an enhancement activity in this area (Salmon Overlay Figures 4.14 and 4.15). This could result in a gain of 4,394.4 IVA acre-points.

## **G. Maulsby Marsh**

1. Maulsby Marsh fish barrier removal enhancement.
  - a. Description of proposal: Maulsby Marsh is a tidal marsh located east of West Marine View Drive. It is separated from the Maulsby Mudflats by the road and BNSF rail line. A culvert at the south end of the marsh extends under the BNSF rail line and West Marine View Drive to connect the marsh to the mudflats. The 36” concrete culvert is approximately 200 foot long. Removal of fish barriers is identified as a potential enhancement in Salmon Overlay Figures 4.14 and 4.15. The project design could include additional connections, and/or retrofit of the existing culvert. This action could result in a gain of 2,252.3 IVA acre-points.

The vast majority of Maulsby Marsh is owned by BNSF and one other private owner. In addition, the residential lots and City park property on the bluff may extend into the marsh. Therefore, opportunities to restore the area are subject to the caveats regarding private property presented in Section C,

## **H. Everett Mainland - Jeld-Wen to South Side of Highway 2**

Potential restoration activities in this area include log storage removal and enhancing buffers along the Snohomish River. Ecological restoration, including removal of intrusive shoreline structures and removal of contaminants could also occur as properties redevelop. This area is primarily in private ownership, though the Port of Everett owns property at Preston Point (Baywood) and the Port and City of Everett own properties upriver of SR 529.

### **1. Public and Private Properties**

#### **Summary of Restoration Opportunities/Goal**

- a. Log storage removal enhancement. Salmon Overlay Assessment Units 2.43, 2.40, 5.04, and 5.02 (See Salmon Overlay Figure 4.15 for location). Goal - Potential gain of 965.9 IVA acre-points. These properties are owned by Kimberly-Clark and the Port of Everett.

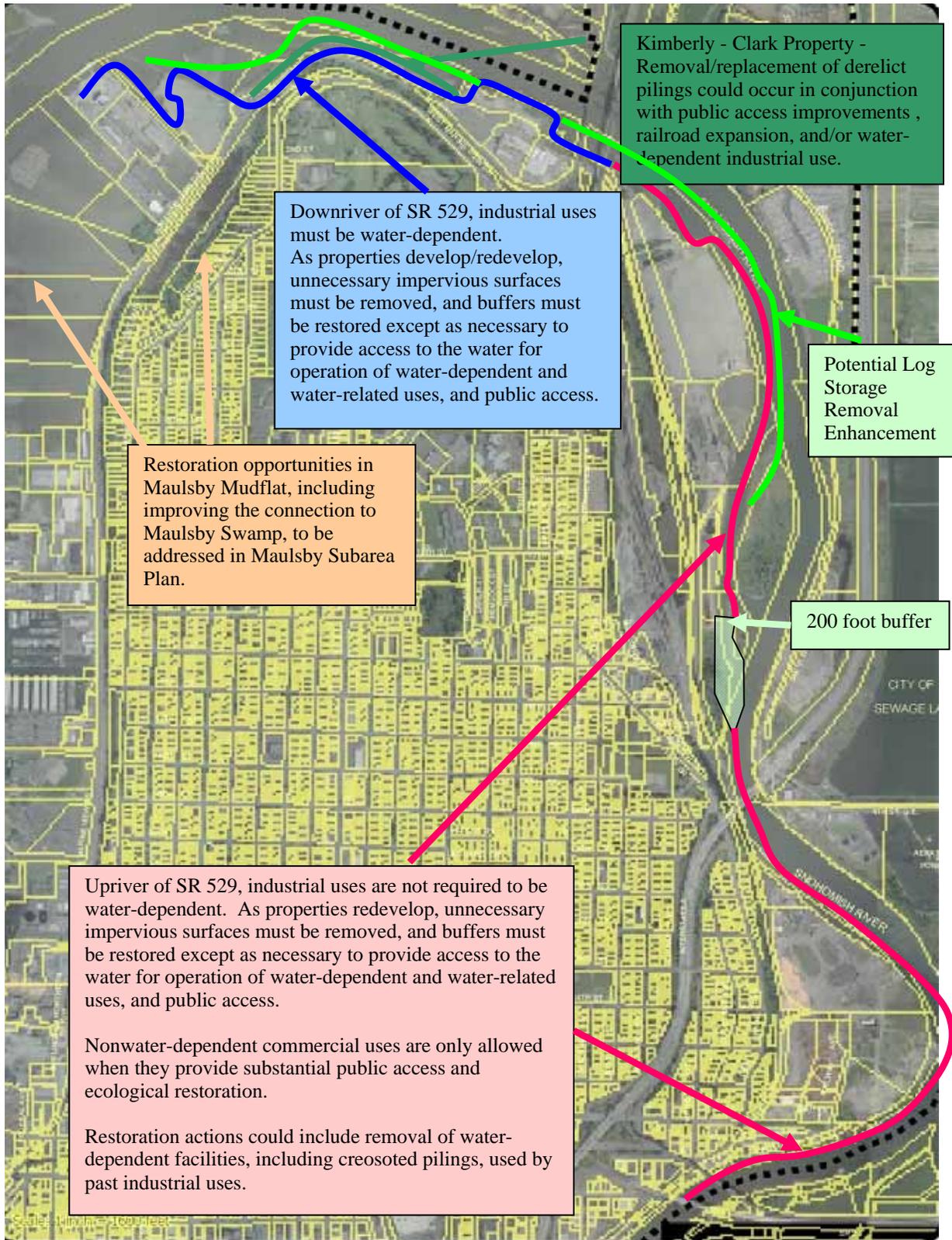
- b. Other Potential Restoration Actions. Other potential restoration actions in this area include removal of derelict shoreline structures constructed for historic water-dependent uses and removal of contaminants, similar to the cleanup on the Port of Everett's Riverside Industrial Park. For example, the City's Shoreline Public Access Plan includes a potential over-water trail connection around the north end of the peninsula on Kimberly-Clark property. The project could include removal of existing creosoted piles and other enhancements.

**2. Regulations in the SMP that Promote Restoration of Shoreline Functions.**

- Buffers will be restored along the Snohomish River as properties redevelop. The extent of buffer restoration will depend upon whether uses are water-dependent or nonwater-dependent. Restoration is required for nonwater-dependent uses:
- Water-dependent and water-related commercial and industrial developments are not allowed adjacent to AUs designated Aquatic Conservancy if they would require new dredging, fill, piers, or other significant modifications (SMP Regulation 2 on page 5-26 and Regulation 1a on page 5-32)
- Where nonwater-dependent/related commercial and industrial uses are proposed, environmental restoration is required, when feasible. Existing native shoreline vegetation must be preserved and enhanced per the requirements of the SMP. (SMP Regulation 2 on page 5-26, Regulation 1.a. on page 5-31, 32)
- As redevelopment occurs, unnecessary impervious surfaces shall be removed and shoreline buffers enhanced/restored, except as necessary for access to the water. The Planning Director can require redesign to minimize impacts to existing vegetation and to provide for buffer enhancement. (SMP Regulation 11 on page 3-31)
- Nonwater-dependent uses are allowed upriver of SR 529 if buffers are protected and enhanced. Restoration is required when feasible. Restoration is defined as significantly reestablishing or upgrading shoreline ecological functions through measures such as revegetation, removal of intrusive shoreline structures, and removal or treatment of toxic sediments.

The City's Shoreline Public Access Plan contains an example of a project that falls in this category. The Plan includes a potential over-water trail connection around the north end of the Everett peninsula on Kimberly-Clark property. The project would include removal of existing creosoted piling and other enhancements, including buffer enhancement. The project is contingent upon the property owner's willingness to participate or sell the property, as well as the results of additional design and environmental analysis. Alternatively, the property owner could undertake a proposal to remove the pilings as an enhancement or restoration project.

Everett Mainland - Jeld-Wen to South Side of Highway 2  
Urban Industrial Environment



## **I. Highway 2 to South End of Simpson Site**

### **1. Public Property**

#### **Summary of Restoration Opportunities/Goal**

- a. Simpson site - Tidal Restoration (Salmon Overlay Restoration Site 11). Restoration action would be to maximize tidal range in the Category 1 wetland, with a potential increase of 2,591 IVA acre-points.
- b. Simpson Site - Stream, Wetland, and Buffer Enhancement. Bigelow Creek, riparian wetlands, and other wetlands occur on this site. A Habitat Enhancement Plan will be completed to determine the feasibility of restoration opportunities on the site, and the increase in functions that can be obtained.

#### **Description of Individual Restoration/Goals**

- a. Simpson Site - (Salmon Overlay Restoration Site 11).
  - (1) Description of Proposal, Schedule, and Costs/Funding Sources: The City has Settlement Agreements with the Tulalip Tribes (dated February 19, 2004) and Pilchuck Audubon Society and Public Employees for Environmental Responsibility (dated April 21, 2004). These agreements provide the strategy, timing and approach to funding restoration activities in this area. Copies of these documents are available from the Planning and Community Development Department upon request.
  - (2) Mechanisms to Insure Implementation and to Measure Effectiveness: See the Final Agreement between the Tulalip Tribes of Washington and the City of Everett, February 19, 2004, and the Final Agreement with Pilchuck Audubon Society and Public Employees for Environmental Responsibility dated April 21, 2004.

### **2. Private Property**

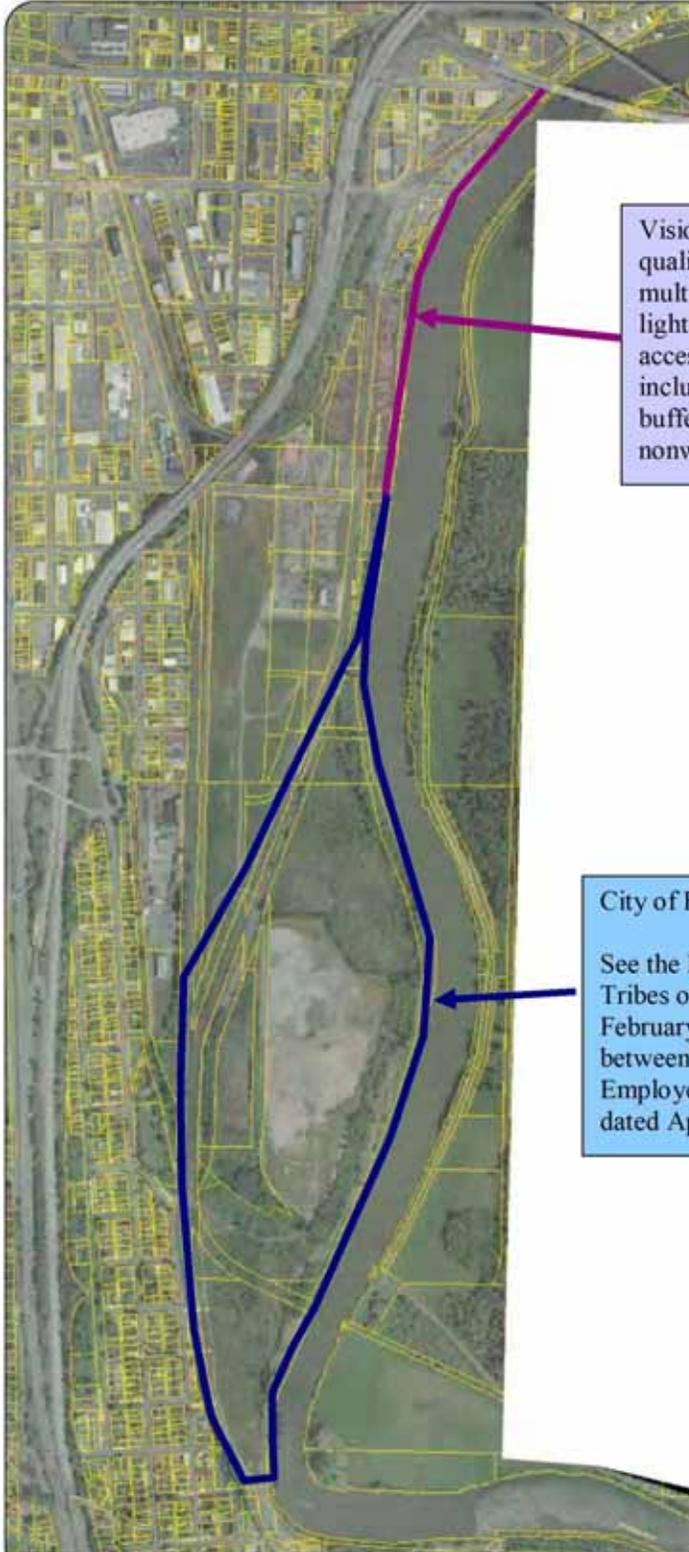
#### **Summary of Restoration Opportunities:**

- a. Buffer restoration. This area has historically been used for heavy industry, and little buffer exists along the river. As properties redevelop, buffers will be enhanced consistent with SMP requirements summarized in **Section C**. This should result in a net increase in a number of functions.

### **3. Regulations in the SMP that Promote Restoration of Shoreline Function**

- Where nonwater-dependent/related commercial uses are proposed, restoration of the shoreline and public access are required (essentially as the water oriented component of the proposal). (SMP Regulation 2 on page 5-26, EMC 19.37)
- For nonwater-dependent residential, recreational, and industrial uses, the biological assessment and buffer width/enhancement requirements of EMC 19.37 apply to the river and any associated wetlands. Buffers can be no less than 50 feet when enhanced. Public access may be located in buffers (SMP Regulation 18 on page 3-32).
- As redevelopment occurs, unnecessary impervious surfaces shall be removed and shoreline buffers enhanced/restored, except as necessary for access to the water. The Planning Director can require redesign to minimize impacts to existing vegetation and to provide for buffer enhancement. (SMP Regulation 11 on page 3-31)
- When restoring and enhancing buffers along the Snohomish River, overhanging vegetation shall be provided when feasible. (SMP Regulation 20 on page 3-32)
- Stormwater facilities such as wetponds are prohibited in buffers for the Snohomish River (Category 1 streams and wetlands). (SMP Regulation 26 on page 3-33)

Highway 2 to Simpson - Urban Multi-Use Shoreline Environment



Vision statement provides for high quality mixed-use development including multiple family residential, office park, light commercial and high quality public access on the site. Shoreline restoration, including minimum 50-foot enhanced buffers, and public access required for nonwater-dependent uses.

City of Everett - Simpson Site

See the Final Agreement between the Tulalip Tribes of Washington and the City of Everett, February 19, 2004, and the Final Agreement between Pilchuck Audubon and Public Employees for Environmental Responsibility dated April 21, 2004.

## **J. Marshlands** *(Revised 3/17/2011)*

The overall goal for restoration in the Marshland area is restoration of historic tidally influenced estuary wetland to increase the IVA rating by at least 30,800 IVA acre-points. Additional restoration opportunities include non-tidal wetland enhancement, connecting hillside tributaries and Wood Creek into tidally restored areas, and riparian buffer enhancement.

### **1. Public and Private Properties**

#### **Summary of Restoration Opportunities**

- a. The Salmon Overlay identifies 2 potential tidal restoration sites in this area (Restoration Sites 7 and 14), with a potential gain of approximately 41,600 IVA acre-points. Both sites are a mix of private and public properties. Public property owners include the City of Everett, Snohomish County, and the Marshland Flood Control District.

Site 7 is located east of the BNSF rail line, and site 14 is located west of the rail line. The Salmon Overlay estimated that tidal restoration could result in a gain of over 20,800 IVA-acre-points on each site.

The Salmon Overlay documents that there are technical difficulties on both sites. The Marshland Subarea Plan was prepared to address the feasibility of restoration considering factors such as protection of power lines and other utilities, the BNSF line, the Lowell Snohomish River Road, the Marshland pump station and associated drainage, and the desires of multiple private and public property owners. While the Subarea Plan addresses the protection or modification of these features, a significant number of engineering, hydraulic, and hydrologic studies are required to determine if the conceptual plan is feasible.

The Subarea Plan is incorporated by reference in this SMP. The Subarea Plan includes proposed restoration outside the Everett City limits within Snohomish County jurisdiction. The policies and regulations in this SMP are not applicable to that area.

Potential restoration areas are shown on the Marshland Subarea Conceptual Land Use Plan and the Conceptual Post-Restoration Tidally Influenced Wetland Zones Figures. Restoration opportunities include tidal restoration, non-tidal wetland enhancement, connecting hillside tributaries and Wood Creek into tidally restored areas, and riparian buffer enhancement.

#### **Description of Restoration Goals and Example Phasing Plan**

- a. Marshland Subarea Plan. Implementation of the Subarea Plan could result in an increase in 30,800 IVA-acre points at a cost of over \$60,000,000.00, including the cost of required studies.

The Subarea Plan includes a potential phasing strategy that is summarized below. Note that this is only an example and phasing may occur differently than shown. The sequence of phasing could be based on a number of factors including, but not limited to: property

ownership, degree/complexity of infrastructure change, ecological benefit, proximity to the river edge, the results of technical studies, design and implementation cost, and grant funding sources.

The results of technical studies, property owner willingness to participate, and the restoration design process may result in changes to the proposed restoration boundaries and phasing.

The Habitat Restoration / Recreation Phasing Figure 21 shows 4 phases of implementation, with the lowest cost and least complex portions of the restoration occurring soonest. For examples, Phases 1 - 3 can be implemented without relocating the Marshland Flood Control District pump station.

**Phase 1:** The Phase 1 area is close to the river, on existing public land, and requires no changes to the flood control infrastructure (Marshland Canal and pump station). It would require a new connection to the river that would include a new bridge through the existing river levee on Lowell Snohomish Road. It would also require two new dikes, one paralleling the Marshland Canal on the east side and one bordering private property on the south side. The dike on the east side of the Marshland Canal would be temporary until Phase 4 is implemented; however, all of the material to build the dike could be reused in Phase 4. Phase 1 also includes low cost riparian habitat enhancement along the river shoreline. This phase's habitat improvements would provide high ecological benefit to fish and wildlife including substantial tidal marsh restoration. Phase 1 should include development of an unsteady hydraulic model for the entire subarea to understand how water flow will occur with the subarea.

The portion of Phase 1 located outside the City limits would be implemented by Snohomish County as mitigation for County Public Works projects.

**Phase 2:** The second phase is shown on private land that provides another substantial tidal marsh restoration opportunity without changes to the Marshland Canal and pump station. It requires acquisition of private agricultural land by a public agency prior to implementation. The current owner of this property is supportive of the restoration plan and is willing to sell. A new permanent dike would be required around the perimeter of the Phase 2 property; a portion of this dike adjacent to the existing Marshland Canal would be temporary. This tidal restoration would require a new connection to the river that would include a new bridge through the existing river levee on Lowell Snohomish Road and a channel under an existing BNSF Railway trestle. A connection to Wood Creek would occur in Phase 4. Excavation for the relocated Marshland Canal (implemented with the Flood Control Structure Relocation in Phase 4) could occur during Phase 2. Material excavated for the future canal could be used as material for the temporary dike. This material could again be reused for the permanent dike along the western edge of the restoration proposed in Phase 4. Phase 2 would nearly double the ecological benefit from restoring high value tidal marsh habitat included in Phase 1.

**Phase 3:** This phase occurs on mostly private land and is one of largest phases in terms of acreage. This phase would require acquisition of private agricultural land by a public agency prior to implementation, except for lands owned by Puget Sound Energy. No

changes to the Marshland Canal or pump station are required for Phase 3 to be implemented. The scope of this phase entails mostly restoring non-tidal freshwater marsh to areas that are currently agriculture. In cases where existing wetlands occur they would be preserved and enhanced. These restoration actions are low cost and mainly involve decommissioning of drain tile systems and protecting adjacent lands from hydrologic changes. Phase 3 also includes recreation amenities, such as trails, small parking areas, and passive open space, along Lowell Larimer Road.

**Phase 4:** The greatest changes to infrastructure are included in this phase. It also covers the largest area; however, it mostly occurs on publicly owned land. The major infrastructure changes include relocation of the pump station to the southern boundary of the site and relocation of the Marshland Canal through the southern tidal wetland area implemented during Phase 2. Other elements of this phase include a hydraulically controlled culvert connection to the land in the northwest portion of the site, two water channels below existing BNSF Railway trestles, improvements to the lower Wood Creek channel, and a flume connection conveying Wood Creek to the an expanded tidal marsh. Phase 4 involves extensive dike construction to protect adjacent private lands, and relatively limited private property acquisition. Phase 4 has high ecological benefit, but requires significant costs to implement major infrastructure changes.

- b. Schedule:** Implementation of the project will occur as funding allows. The subarea plan could be implemented in phases as described above. Phase 1 would occur as funding is received and the appropriate environmental investigations and technical issues are resolved. Phase 2 requires acquisition of private agricultural land and is part of another restoration opportunity. Phase 3 involves the most land of all the phases and also requires the acquisition of private agricultural land for restoration and/or voluntary property owner restoration/mitigation. Phase 4, the final phase, includes recreation and changes to the infrastructure in the project vicinity. Due to the changes in infrastructure, this phase involves substantial costs and would therefore be dependent on funding opportunities.

It is understood that private landowner willingness may change over time. It is the intent of the City to be opportunistic about landowners shifting their decisions as the project moves forward. Such changes may provide more land for restoration and aid various project objectives.

- c. Costs/Funding Sources:** The scope of the habitat restoration proposed in the subarea plan is sufficiently large to necessitate phasing. For planning purposes, a feasibility planning level cost opinion estimate for the phased implementation of the Preferred Plan was developed. Table 5-4 summarizes the expected magnitude of project costs associated with general requirements, earthwork, structures, restoration and enhancement, recreation, and land acquisition for each proposed phase of implementation. These are planning level opinions of probable cost developed for comparative assessment of alternatives. These cost opinions should be re-evaluated and updated once funding is secured, previously described studies are completed, and detailed engineering designs are developed.

**EVERETT SHORELINE MASTER PROGRAM**

Summary of Subarea Plan Costs by Phase [1]

<b>Cost Summary</b>	<b>Phase 1</b>	<b>Phase 2</b>	<b>Phase 3</b>	<b>Phase 4</b>	<b>Total</b>
<i>General Requirements</i>	\$900,000	\$1,113,000	\$573,000	\$4,717,000	\$7,303,000
<i>Earthwork</i>	\$2,361,366	\$4,080,872	\$212,650	\$9,947,580	\$16,602,468
<i>Structures</i>	\$1,235,000	\$1,397,500	\$0	\$13,229,500	\$15,862,000
<i>Restoration/Enhancement/Preservation</i>	\$908,600	\$94,600	\$0	\$410,800	\$1,414,000
<i>Recreation</i>	\$0	\$351,019	\$777,300	\$215,141	\$1,343,460
Subtotal	\$5,404,966	\$7,036,991	\$1,562,950	\$28,520,021	\$42,524,928
Sales Tax	\$0	\$0	\$0	\$0	
Estimated Construction Subtotal	\$5,404,966	\$7,036,991	\$1,562,950	\$28,520,021	\$42,524,928
Undefined Items at Planning-Level Estimate	\$540,497	\$703,699	\$156,295	\$2,852,002	\$4,252,493
Construction Contingency at Planning-Level Estimate (10.0%)	\$1,621,490	\$2,111,097	\$468,885	\$8,556,006	\$12,757,478
Estimated Construction Total (30.0%)	\$7,566,952	\$9,851,788	\$2,188,130	\$39,928,029	\$59,534,899
<i>Land Acquisition</i>	\$0	\$351,019	\$777,300	\$215,141	\$1,343,460
Engineering, Design, Permitting, Construction Management Costs (25.0%)	\$1,891,738	\$2,462,947	\$547,033	\$9,982,007	\$14,883,725
<b>Total Estimated Implementation Cost</b>	<b>\$9,458,691</b>	<b>\$12,665,754</b>	<b>\$3,512,463</b>	<b>\$50,125,177</b>	<b>\$75,762,084</b>

[1] Notes:

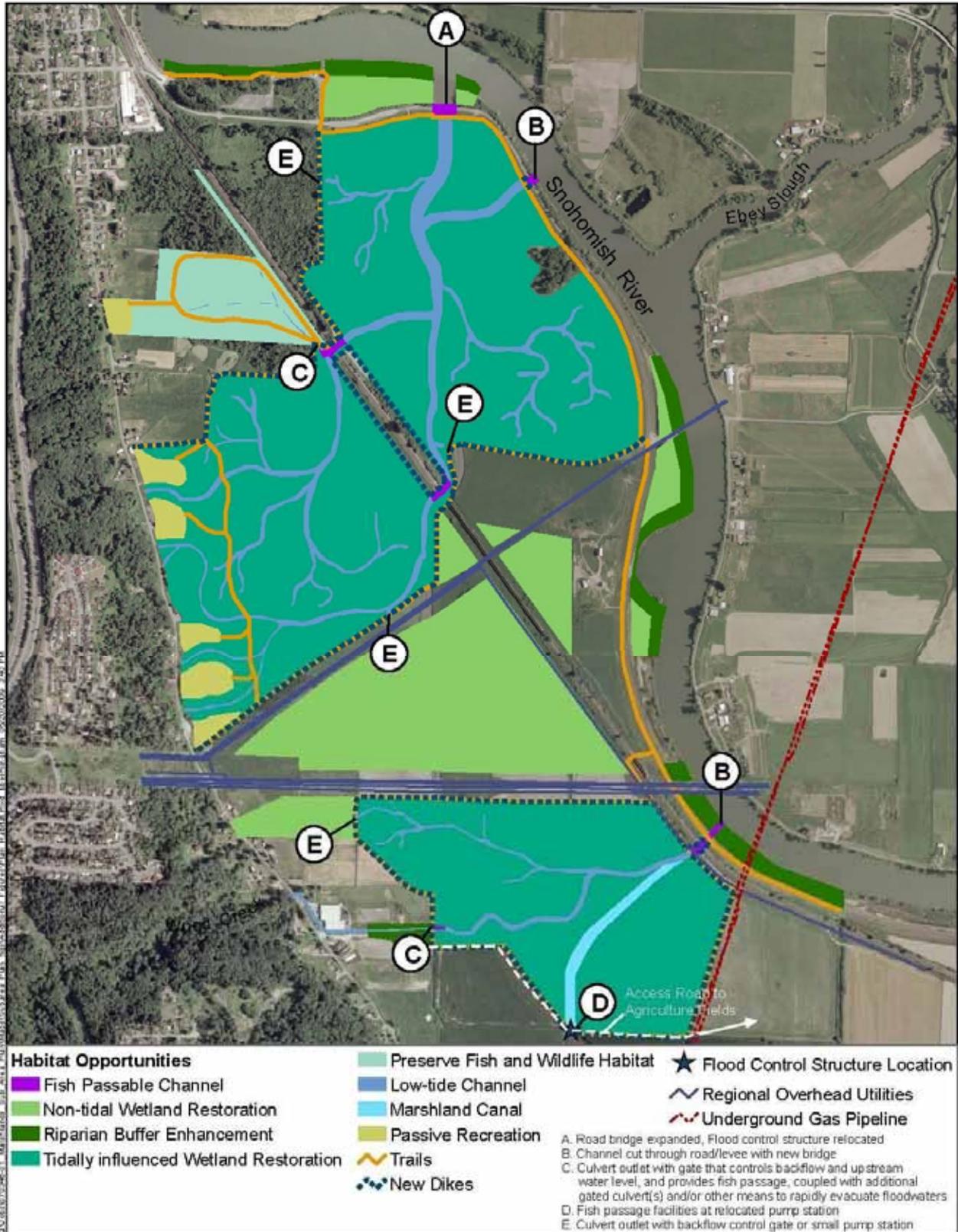
- (a) Estimated construction costs are in May 2009 dollars
- (b) Costs provided are planning level opinions of probable cost
- (d) Sales Tax not included for improvements constructed on City-owned properties

No committed funding sources to implement the subarea plan currently exist; however, there are many potential sources from which funding may be derived. The majority of funding for the subarea plan will likely originate from private and public grant funds. Additional funding for elements of the subarea plan may also come from special levees or bonds, from tax incentives for landowners, or through the establishment of public or private mitigation banks. Where possible, federal, state, and local funding sources or land resources will be used to match grant funds and maximize funding opportunities throughout all phases of the project.

A portion of the Phase 3 non-tidal restoration in the center of the subarea is on property owned by Puget Sound Energy (PSE). PSE will give priority to using this property for its own restoration and mitigation activities, and retains the right to operate existing transmission lines and perform any necessary upgrades and maintenance activities.

- d. Habitat Function Benchmark Gain:** Potential habitat gains in this area include 30,800 IVA-acre points in tidally restored areas.
- e. Mechanisms to Ensure Implementation and Measure Effectiveness:** Monitoring and adaptive management would be required as part of any permit requirement. See the Marshland Subarea Plan for monitoring mechanisms to review implementation and effectiveness described in the Snohomish River Basin Salmon Conservation Plan (2005) and the SEWIP SO. Projects should incorporate monitoring elements as they are developed by the Snohomish Basin Technical Committee and Estuary Working Group.

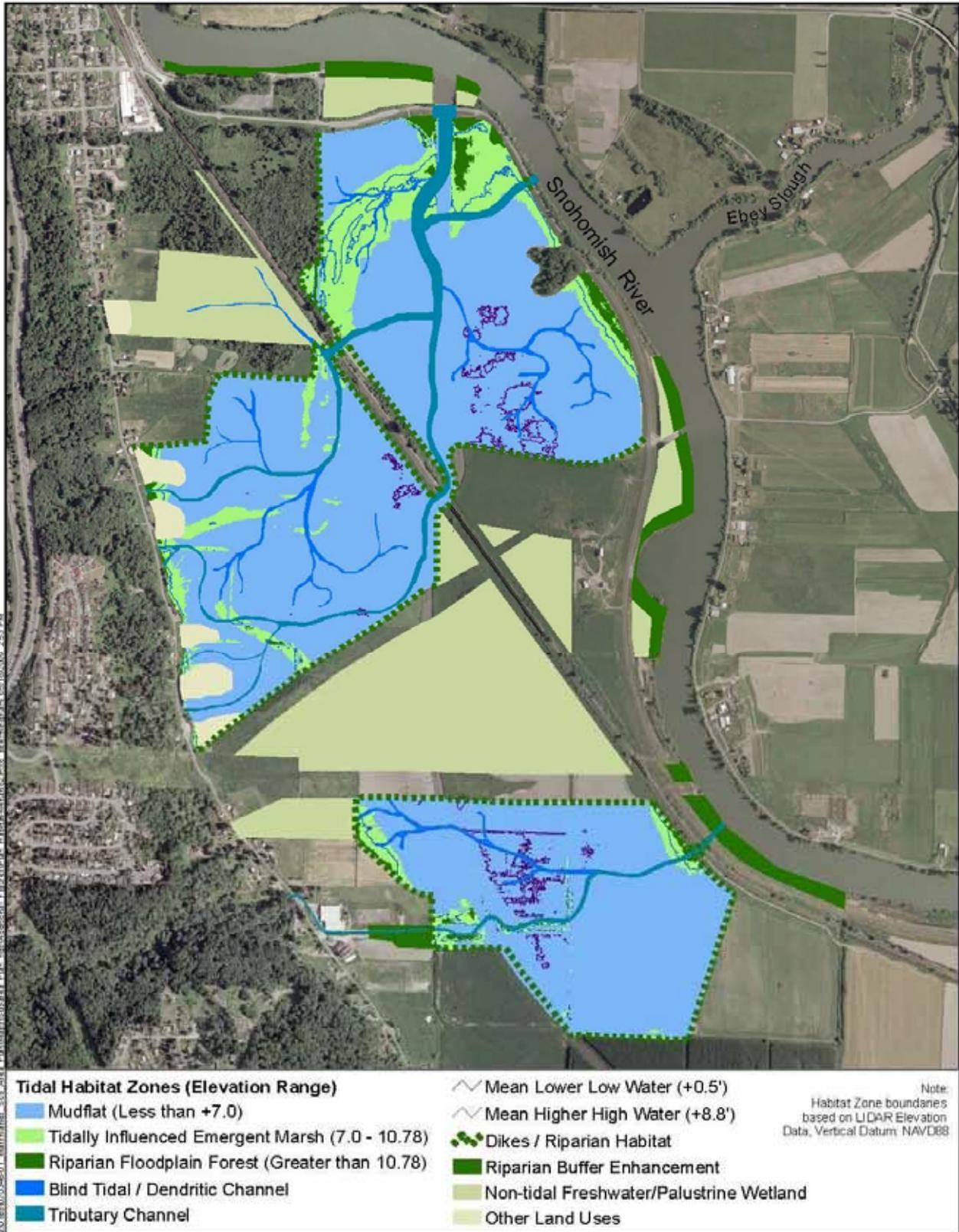
EVERETT SHORELINE MASTER PROGRAM



This is a conceptual figure meant to represent the plan. Additional studies are necessary to determine technical feasibility and locations for dike breaches, dikes, and other structures.

Marshland Subarea Habitat Plan

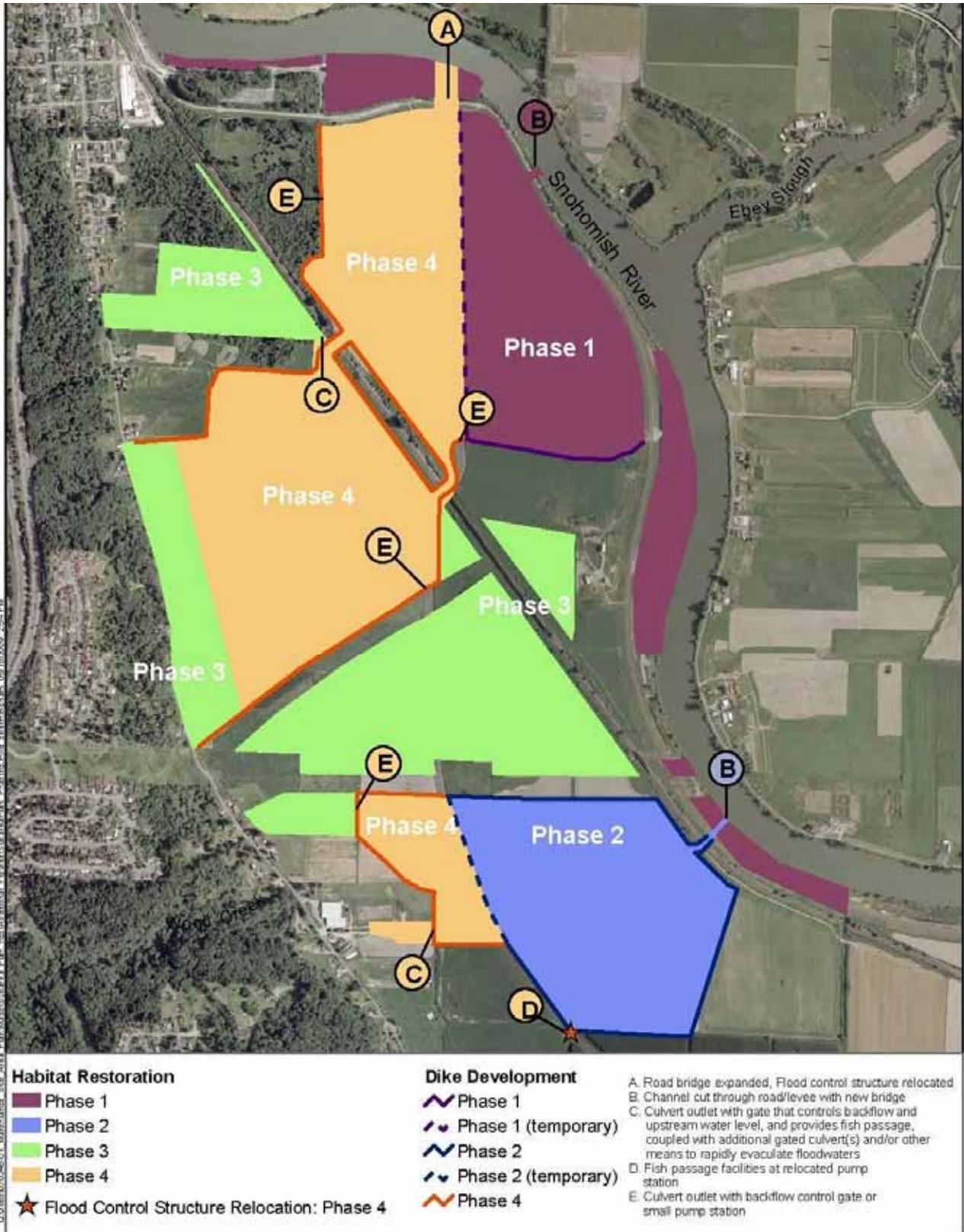
EVERETT SHORELINE MASTER PROGRAM



This is a conceptual figure meant to represent the plan. Additional studies are necessary to determine technical feasibility and locations for dike breaches, dikes, and other structures.

Subarea Plan - Tidally Influenced Wetland Zones based on Existing Topography

EVERETT SHORELINE MASTER PROGRAM



This is a conceptual figure meant to represent the plan. Additional studies are necessary to determine technical feasibility and locations for dike breaches, dikes, and other structures.

Habitat Restoration / Recreation Phasing

## **K. Other On-Going Restoration Projects in the Snohomish Estuary**

Snohomish County, the City of Marysville, and the Tulalip Tribes are currently planning and/or implementing significant restoration projects in the estuary. As discussed in Section B, information regarding other jurisdictions is presented to provide the landscape perspective regarding the estuary.

**1. The City of Marysville** is completing a wetland mitigation project at their Ebey Slough Waterfront Park. The project includes removal of a creosote timber bulkhead regrading and cutting back the vertical bank to expand tidal habitat and wetland area; installation of a boat ramp, floating docks, restrooms, picnic areas, and parking, and construction of a stormwater management system. The project was designed to maximize the gain in habitat as measured by the THM. Prior to construction, the site scored 9.1 IVA points per acre for Chinook salmon and 13.3 IVA points per acre for coho and bull trout. One year after construction, the site is expected to score 27.9 IVA points per acre for both species; and 10 years after construction, the site is expected to score 57.6 IVA points per acre for both species. The current 0.32 acres of littoral habitat is being expanded to 0.47 acres, so after 10 years, the total function is expected to be 27.1 IVA acre-points.

(Pentec Environmental, Wetland Mitigation Plan Ebey Slough Waterfront Park City of Marysville, Washington. August 23, 2002.)

**2. The Tulalip Tribes** is planning the Qwuloolt Estuary project, a proposed dike breach along Ebey Slough at the mouth of Allen Creek (Salmon Overlay Restoration site 5 on Figure 4.16). The Tribes has been purchasing property up to the 500-year flood elevation (10 feet NGVD), and has currently acquired about 334 acres. Additional acquisition and funding are needed prior to construction. Planning is underway, and construction could begin in 2006 if additional funds are obtained. An application was recently submitted for SRF Board funding for design work.

The Salmon Overlay assumed the area restored to tidal action would be approximately 354.5 acres after removing the estimated setback levee footprint. The design being pursued would limit levee construction, so restored acreage may be higher. The Salmon Overlay estimated a gain of 8,811 to 22,876 IVA acre-points would result from this project.

Funding for the restoration started with about \$2.5 million that businesses contributed for wastes that had been placed in the Tulalip landfill, a past federal Environmental Protection Agency Superfund site. Approximately \$3 million in grants was leveraged with those funds. The final cost of the project is not currently known.

(Salmon Recovery Funding Board Fifth Round 2004 Grant Cycle, Snohomish River Basin (WRIA 7) Snohomish Lead Entity, Scored Project List, May 10, 2004. Snohomish

Basin Salmon Recovery Forum. 2004. Draft Snohomish River Basin Salmon Recovery Plan. July 2004. Snohomish County Surface Water Management Division. Everett, WA. Emails from Mac McKinsey, Tulalip Tribes, 2/11/2004 and 2/12/2004. Email from Stephanie Kaknes 2/6/2004.)

**3. Snohomish County** has purchased a large portion of central Smith Island for tidal restoration (Salmon Overlay site 3 on Figure 4.16). The County currently owns about 280 acres east of I-5 along Union Slough. A large area of the site fronts on Union Slough, and the site contains several large isolated channels.

The Salmon Overlay assumed that dikes would be required along I-5 and along the southern boundary, and that approximately 484 acres of new tidal habitat would be created. The project was estimated to result in a gain of approximately 26,217 IVA acre-points.

The County recently submitted an application for SRF Board funding for additional property acquisition. A restoration plan is being developed.

(Salmon Recovery Funding Board Fifth Round 2004 Grant Cycle, Snohomish River Basin (WRIA 7) Snohomish Lead Entity, Scored Project List, May 10, 2004. Snohomish Basin Salmon Recovery Forum. 2004. Draft Snohomish River Basin Salmon Recovery Plan. July 2004. Snohomish County Surface Water Management Division. Everett, WA.)

**4. Washington Department of Fish and Wildlife (WDFW)** owns the northern portion of South Spencer Island (Salmon Overlay Restoration Site 4). The area is currently being managed as a non-tidal wetland for waterfowl. However, the dikes are failing so WDFW and Snohomish County are considering adding two large dike breaches at the northern end of the island. The project has a very low estimated cost (\$100,000) compared to other projects in the estuary. Snohomish County previously breached dikes just south of this site.

The Salmon Overlay estimated the project would include 297 new acres of tidal habitat and a gain of approximately 30,288 IVA acre-points.

(Salmon Recovery Funding Board Fifth Round 2004 Grant Cycle, Snohomish River Basin (WRIA 7) Snohomish Lead Entity, Scored Project List, May 10, 2004. Snohomish Basin Salmon Recovery Forum. 2004. Draft Snohomish River Basin Salmon Recovery Plan. July 2004. Snohomish County Surface Water Management Division. Everett, WA.)

**5. The Port of Everett** purchased the Biringer Farm property on North Spencer Island as a potential mitigation site (Salmon Overlay site 2). This site is currently farmed. A conceptual restoration plan has been developed that takes advantage of remnants of natural sloughs on the property and leaves a small piece of the property in its existing

state as a forested wetland. The project will require dikes along I-5. The project is in the Port's draft 2005 - 2009 Capital Improvement Program (CIP), which is expected to be adopted in October 2004. The draft CIP calls for planning and permitting to begin in 2005, with construction to occur in 2007.

(Telephone conversations with Graham Anderson, Port of Everett and Jon Houghton, Pentec Environmental.)

The Salmon Overlay estimated that approximately 340 acres of new tidal habitat would be created, resulting in a gain of approximately 20,613 IVA acre-points.

**6. Snohomish County** developed a restoration plan for Diking District 6 property located along Ebey Slough (Salmon Overlay Restoration site 20). PSE's power lines were rebuilt in 2009 to be compatible with future restoration actions. The Salmon Overlay estimated that approximately 225 acres of new tidal habitat would be created, with a gain of approximately 11,804 IVA acre-points.

(Snohomish Basin Salmon Recovery Forum. 2004. Draft Snohomish River Basin Salmon Recovery Plan. July 2004. Snohomish County Surface Water Management Division. Everett, WA.)

**7. Snohomish County's** designated Marshland Restoration Site is owned by Snohomish County Public Works and the Marshland Flood Control District, and includes the area between the existing set-back dike and the Snohomish River, from the current Everett city limits upstream approximately two miles to the point where the set-back dike re-joins the dike on the river bank. The 34-acre site was developed in association with the Lowell-Snohomish River Road and Marshland Dike Relocation project, and provides compensatory mitigation for this project. The County has also completed compensatory mitigation for a number of other Public Works projects at the site, and will continue to use this area for compensatory mitigation projects in the future.

## L. Appendix - Complete Text of Applicable Regulations

### Regulations in SMP Section 3.9 - pages 3-31 to 3-36

11. As existing shoreline properties are redeveloped, impervious surfaces not needed for current or planned uses shall be removed and shoreline buffers shall be enhanced and/or/restored to the buffer width required by the SMP, except as necessary to accommodate access to the water necessary for the operation of water-dependent and water-related uses and/or public access. The Planning Director/Hearing Examiner shall have the authority to require redesign of the site and structures to minimize impacts to existing aquatic and buffer vegetation and to provide for buffer enhancement.
20. When restoring and enhancing buffers along the Snohomish River and its estuary, overhanging vegetation shall be provided along dikes and shoreline stabilization structures when feasible.
22. Minimum 200 foot buffers shall be required adjacent to areas designated Aquatic Conservancy (SO AUs 2.21, 2.28, 2.30, 2.31, 2.32, 2.41, 2.44) and SO AU 3.05 on Smith Island north of 12<sup>th</sup> St. NE and on North Spencer Island (see Figure 3.9-1). A function assessment must be completed for all projects to demonstrate that these buffers result in no net loss of wetland or stream function. A wider buffer will be required when necessary to protect wetland and stream ecological functions. The buffers may be reduced in accordance with PDI 01-005 where there has been prior substantial legal alteration to the buffer and when the project applicant: (1) completes an approved function assessment, and (2) prepares an approved habitat management plan that includes buffer enhancement that would improve the functional performance of the buffer and the associated critical area. In no case shall buffers be reduced below 100 feet, except:
  - When a significant action that restores salmonid rearing habitat is incorporated into the proposal, including actions such as reconnection of a blind tidal channel, a dike breach, or removal of fill to create tidal marsh area.
  - Public access improvements such as trails and interpretive facilities may be included in portions of the buffer when the biological assessment and habitat management plan (if required) demonstrate no significant adverse impacts or that significant adverse impacts are mitigated.
  - Buffers may be reduced to provide a reasonable use of a property as specified in EMC 19.37.050.D.
  - Expansion of existing facilities such as SR529 and I-5 may be allowed when mitigation is provided for buffer impacts.

The City shall ask the appropriate resource agencies to review and comment on the function assessment and management plan.

**NEW Condition**

Palustrine wetlands on Smith Island north of 12<sup>th</sup> Street, on North Spencer Island, and on the city-owned property southwest of Weyco Island shall be categorized per Figure 3.9-2 (based upon SEWIP Wildlife Function). Category 1 wetlands shall have a minimum buffer of 200 feet. Category 2 wetlands shall have a minimum buffer of 100 feet. Category 3 wetlands shall have a minimum buffer of 50 feet. A function assessment must be completed for all projects to demonstrate that these buffers result in no net loss of wetland and stream function. A wider buffer will be required when necessary to protect wetland and stream functions. The buffers may be reduced in accordance with PDI 01-005 where there has been prior substantial legal alteration to the buffer and when the project applicant: (1) completes an approved function assessment, and (2) prepares an approved habitat management plan that includes buffer enhancement that would improve the functional performance of the buffer and associated critical area. In no case shall the buffers be reduced by more than 50%, except:

- When a significant action that restores salmonid rearing habitat is incorporated into the proposal, including actions such as reconnection of a blind tidal channel, a dike breach, or removal of fill to create tidal marsh area.
- Public access improvements such as trails and interpretive facilities may be included in portions of the buffer when the biological assessment and habitat management plan (if required) demonstrate no significant adverse impacts or that significant adverse impacts are mitigated.
- Buffers may be reduced to provide a reasonable use of a property as specified in EMC 19.37.050.D.
- Expansion of existing facilities such as SR529 and I-5 may be allowed when mitigation is provided for buffer impacts.

The City shall ask the appropriate resource agencies to review and comment on the function assessment and management plan.

25. Buffers shall not be reduced below that required by EMC 19.37.100.A. for the Urban Conservancy designated wetlands in the Marshland area, except when the proposal includes significant actions that would restore salmonid rearing functions, such as removing dikes, improving channel connections, and removing fill to create tidal marsh, and except where existing improvements such as the railroad effectively limit the buffers in some areas.
26. Stormwater facilities are prohibited in Category 1 stream and wetland buffers. In lower rated wetlands and streams, stormwater management facilities, are permitted only within the outer twenty-five percent (25%) of the buffer, provided that:

- i. The buffer area has been previously substantially and legally altered and is degraded as defined by PDI 01-005;
- ii. Native vegetation and soils at the site should be protected and low impact development techniques should be used to promote infiltration of stormwater at the source. Stormwater facilities shall be integrated into the wetland buffer as a natural drainage system. The slopes and all areas that are disturbed shall be planted with native vegetation consistent with a buffer enhancement/mitigation plan. Above ground concrete walls and structures are not permitted. Below grade structures may be permitted only if it can be shown to the satisfaction of the planning director that the use of such materials fits with the natural design of the proposed facility and does not interfere with wildlife passages or adversely impact biological functions of the buffer or the adjacent critical area.
- iii. The facilities must include a buffer enhancement and management plan that would improve the functional performance of the buffer and the stream or wetland.
- iv. The location of such facilities will result in no net loss of wetland ecological functions.

For Category II, III, and IV wetlands and streams, the Planning Director may grant an exception to the outer 25% limitation when the applicant demonstrates that the project would significantly increase wetland or stream function.

33. For all mitigation proposals incorporating buffer enhancement, a 5-year Set-Aside shall be required to cover the costs of monitoring, maintenance, and contingencies, including 50 percent of the cost of the plantings. The applicant's biologist shall submit a letter to the City upon installation of the buffer enhancement. Monitoring reports shall be submitted at the end of years 1, 3, and 5 following installation, unless more frequent reports are required in the approval. Contingences must be implemented based upon the findings of the monitoring. The City may release the Set-Aside sooner than 5 years if the enhancement is determined by the City to be successful.

#### 35.A.4. Out-of-Kind Compensation.

- Development impacts to tidal or tidally influenced habitats shall not be compensated for with palustrine wetland enhancement, restoration, or creation.
- Development impacts to palustrine wetland habitats may be compensated for with tidal habitat restoration or creation on an acre-for-acre basis. If nontidal mitigation is proposed for loss of nontidal palustrine wetlands in the SEWIP planning area, it should be reviewed to ensure that opportunities to recover tidal function would not be foreclosed. To replace palustrine

wetland functions with palustrine wetland functions, the original SEWIP process and vegetated wetland model applies (City of Everett et al. 1997).

**Regulation in SMP Section 5.5 Commercial Development - page 5-26**

2. Nonwater-oriented commercial uses shall only be permitted within 200 feet of the ordinary high water mark when they provide substantial public access and they provide ecological restoration, if appropriate and feasible, and when at least one of the following criteria is met:
  - a. The site is physically separated from the shoreline by another property, public right-of-way, or significant environmentally sensitive area.
  - b. The use is part of a mixed-use project or area that includes water-dependent uses.
  - c. The site is upriver from the SR 529 bridge, or is located along Union or Steamboat Sloughs.

Water-dependent and water-related commercial uses shall be prohibited where they would require new dredging, fill, piers, or other significant modifications in areas designated Aquatic Conservancy, or in the aquatic area west of Smith Island (AU 3.05).

**Regulation in SMP Section 5.7 Industry Pages 5-32 - 33**

1. The Shoreline rules clearly provide for a priority of shoreline uses with the highest priority given to environmental restoration and water dependent and water related uses (see WAC 173.26.200 (2)(d) Preferred uses, 173.26.240 (3)(f) Shoreline Use Standards – Industry, and 173.26.250 (3)(c) Shorelines of state-wide significance - Priority uses).

.....

- b. Urban Industrial and Urban Mixed Use Industrial shoreline areas along the main channel of the Snohomish River upriver from the SR 529 bridge are also located adjacent to the federally maintained navigation channel, and may be commercially viable. However, these areas are to some degree constrained due to the restrictions of the SR 529 bridge and also the presence of significant environmental features along certain sections of the Snohomish River (see the SEWIP resources inventory and the WDFW Priority Habitats map).

In these areas, nonwater-dependent and nonwater-related uses shall be permitted within 200 feet of the ordinary high water mark provided such uses provide substantial public access and public enjoyment of the shoreline.

Water-dependent and water-related uses shall be prohibited where they would require new dredging, fill, piers, or other significant modifications in areas designated Aquatic Conservancy. All nonwater-dependent and nonwater-related uses shall preserve and enhance existing native shoreline vegetation per the requirements of EMC 19.37 and shall provide environmental restoration, when feasible.

- c. The Urban Mixed Use Industrial Properties along Union and Steamboat Sloughs are not located adjacent to a federally maintained navigation channel.

In these areas, nonwater-dependent and nonwater-related uses shall be permitted within 200 feet of the ordinary high water mark provided such uses provide substantial public access and public enjoyment of the shoreline. Water-dependent and water-related uses shall be prohibited where they would require new dredging, fill, piers, or other significant modifications in areas designated Aquatic Conservancy, or in the aquatic area west of Smith Island (AU 3.05). All nonwater-dependent and nonwater-related uses shall preserve and enhance existing native shoreline vegetation per the requirements of the SMP and shall provide environmental restoration, when feasible.

### **Regulations in SMP Section 6 Shoreline Modification Activities page 6-9**

- 13. Many of the 2001 SEWIP assessment units designated Aquatic Conservancy in Section 4 of this SMP as well as the aquatic area west of Smith Island (AU 3.05) received high rankings partially due to high quality marsh edge and/or riparian vegetation along dikes adjacent to the aquatic areas. Where structural flood hazard reduction measures are needed to protect development inland from these dikes, when feasible, new dikes or other stabilization structures shall be constructed inland of the existing dikes, and the high quality vegetation shall be preserved and enhanced along the existing dike.

### **Regulations in EMC 19.37**

#### **37.100 Standard wetland buffer width requirements (page 704-278)**

- A. Standard Buffer Width. The following minimum buffers of native vegetation shall apply to wetlands based upon the wetland category. Buffers shall be measured from the wetland boundary delineated as required by subsection 37.090A. If the designated buffer contains significant vegetation with drip lines extending beyond the edge of the buffer, the buffer shall be extended to five feet beyond the outside edge of the drip line. For purposes of this section, “significant vegetation” means a healthy evergreen tree, ten inches in diameter or greater, measured 4.5 feet above existing grade.
  - 1. Category I: one hundred feet;
  - 2. Category II: seventy-five feet;
  - 3. Category III: fifty feet;

4. Category IV: twenty-five feet.

**37.140 Standard stream buffer requirements for Category 1 streams (pages 704-282, 283)**

- A. Standard Buffer Width. It is the goal of this chapter to preserve streams and their buffers in a natural condition to the maximum extent possible. Buffers shall be measured from the top of the upper bank or, if that cannot be determined, from the ordinary high-water mark as surveyed in the field. In braided channels and alluvial fans, the top of the bank or ordinary high-water mark shall be determined so as to include the entire stream feature. Except for category IV streams, if the designated buffer contains significant vegetation with drip lines extending beyond the edge of the buffer, the buffer shall be extended to five feet beyond the outside edge of the drip line. For purposes of this section, significant vegetation means a healthy evergreen tree, ten inches in diameter or greater, measured 4.5 feet above existing grade. Except as otherwise provided by Section 37.050 of this chapter, the following minimum buffers of native vegetation shall apply to streams based upon category:
  1. Category I Streams. Category I streams shall have a minimum buffer of one hundred feet on each side of the stream, except that properties under the jurisdiction of the shoreline master program which abut category I streams may have a minimum buffer of less than one hundred feet when shoreline public access improvements may otherwise be permitted or required during the shoreline permit review process; or when a water-dependent or water-related use which requires a lesser buffer standard is approved during the shoreline permit review process.
- C. Standard Buffer Width Increase. The city shall require increased buffer widths as necessary to protect streams when the stream is particularly sensitive to disturbance, or the development poses unusual impacts and the increased buffer width is necessary to protect the environmentally sensitive areas described in this subsection. Circumstances which may require buffers beyond minimum requirements include, but are not limited to, the following:
  1. The stream reach affected by the development proposal serves as critical fish habitat for spawning or rearing as determined by the city using information from resource agencies including, but not limited to, the Washington State Departments of Fisheries or Wildlife, U.S. Fish and Wildlife Service, and native tribes;
  2. The stream or adjacent riparian corridor is used by species listed by the federal government or the state as endangered, threatened, rare, sensitive, or monitored, or provides critical or outstanding actual or potential habitat for those species, or has unusual nesting or resting sites such as heron rookeries or raptor nesting or lookout trees;
  3. The land adjacent to the stream and its associated buffer is classified as a geologically hazardous or unstable area;

4. Increased buffer width is necessary to effectively include the riparian corridor of the stream;
  5. A trail or utility corridor, as provided by Section 37.050, is proposed within the buffer;
  6. A drainage or water quality improvement, approved by the city, is proposed within the buffer;
  7. When the minimum buffer for a stream extends into an area with a slope of greater than twenty-five percent, the buffer shall be the greater of:
    - a. The minimum buffer for that particular stream; or
    - b. Twenty-five feet beyond the point where the slope becomes twenty-five percent or less.
- D. **Standard Stream Buffer Width Reduction.** The planning director may, using Review Process II.C, reduce the standard stream buffer width only when there has previously been substantial legal alteration of the stream and/or buffer on the subject lot or adjoining lots. The planning director shall require buffer width averaging rather than allowing a buffer width reduction except when the proposal includes a stream and buffer enhancement plan that improves the functional values of the buffer and the stream. An enhanced buffer shall not result in more than a fifty percent reduction in buffer width, and the reduced buffer shall not be less than the minimum dimension allowed by buffer width averaging.
- E. **Riparian Wetland.** Any stream adjoined by a riparian wetland shall have the buffer which applies to the wetland, unless the stream buffer requirement is more protective, in which case the stream buffer requirement shall apply. Riparian wetland and associated stream buffers shall not be reduced except as provided in Section 37.050 of this chapter.
- F. **Standard Buffer Width Averaging.** The city may allow buffer width averaging, provided that the total area on the lot contained within the averaged buffer is not less than that required within the standard buffer. The city may require buffer width averaging in order to provide protection to a particular portion of a stream which is especially sensitive or to incorporate existing significant vegetative or habitat features into the buffer. Averaging shall not adversely impact the functions and values of the stream system. In either case, the adjusted minimum buffer width shall not be less than fifty percent of the standard buffer width or ten feet, whichever is greater.

### **Other Agency Requirements**

All actions undertaken by public or private parties within waters of the state lying within the City of Everett that have a potential to affect fish, shellfish or their habitat require a Hydraulic Project Approval under the provisions of WAC 220-110. A requirement of this program, administered by WDFW is that there be no net loss of the productive capacity of these waters. In addition, any project in the waters of the US that would affect navigation (almost all in-water construction) or result in dredging or fill placement require permits from the Corps of Engineers under Section 10 of the Rivers and Harbors

Act or Section 404 of the Clean Water Act. Any Corps permit decision must be determined, through consultation with NOAA Fisheries and the Fish and Wildlife service, to not jeopardize the continued existence of ESA listed species. Meeting this test also requires that there be no net loss of habitat area or function and, again, in practice requires that measures be taken to enhance local habitat function as part of conservation measures to ensure a project is not likely to adversely affect listed species.