Washington Department of Fish and Wildlife

# Puget Sound Nearshore Project Priorities

## Addendum #1
## Issued: November 30, 2007

The following consists of Addendum #1 to the above-referenced document issued by the Washington Department of Fish and Wildlife. The items below clarify or modify the original document as follows and in the sections noted:

### Basis for Comparison

- Delete in its entirety: Table 4
- Replace with modified: Table 4

**A. Protection of key habitats and freshwater and saltwater processes from physical or biological disruptions**

A1. Improve existing protection programs and continue implementation through local, state, tribal and federal governments.
A2. Evaluate the effects of existing protection programs and their contribution to salmon recovery.
A3. Coordinate protection actions at the subbasin or appropriate scale to ensure levels of protection needed for salmon recovery are met.
A4. Implement, evaluate and change strategies and actions where necessary.

**B. Creation of additional estuarine habitat and processes in the major river deltas**

B1. Add significant new estuarine habitat and restore processes in and near estuarine deltas where salmon populations first encounter tides and saltwater
B2. Conduct further technical assessments and/or build public support where local communities are not ready for restoration
B3. In highly urbanized deltas, target short-term investments in actions that support ESU recovery by providing migratory corridors. Determine long-term restoration goal and subsequent strategies
B4 Define the potential of the Puyallup/White delta and nearby shorelines to support a low risk White River and an improving Puyallup population. Preserve future opportunities.
B5. Preserve future opportunities in all major river deltas
B6. Use new scientific information to improve restoration strategies in the deltas and adjacent shorelines

**C. Restoration of marine shorelines (including freshwater inputs) outside of major deltas where there is a significant benefit for population/ ESU viability**

C1. Improve our understanding of what are 'enough' places and the 'right' places to restore outside of major deltas in order to support ESU viability
C2. Restore habitats (where processes are intact) or key processes where such restoration is linked to a likely population response

**D. Protection and restoration of fresh- and saltwater quality**

D1. Implement protection and restoration strategies in areas prone to low dissolved oxygen levels
D2. Implement protection and restoration strategies in areas prone to high temperatures
D3. Implement strategies that prevent toxic chemicals, including those borne in stormwater, from entering Puget Sound, and restore contaminated areas

**E. Protection and restoration of freshwater quantity**

E1. Use Department of Ecology's Instream Flow program and other processes to protect and restore freshwater quantity

**F. Reduction of the risk and damage from catastrophic events**

F1. Prevent Oil Spills
F2. Prepare for Oil Spills
F3. Response to Oil Spills
F4. Determine expected results from existing efforts for hazardous waste and nonhuman catastrophic event response

**G. Reduction of the risk and damage from non-indigenous species and other alterations to food webs**

Below is a list of issues that should be studied scientifically over time to determine their impact on recovery. With that information, appropriate management strategies can then be developed and implemented. In the long-term we will need to better understand ecological functions to integrate recovery for the Puget Sound Chinook ESU and salmon recovery with other Puget Sound ecosystem restoration efforts.

G1. Non-native species impact on habitats and food webs used by salmon
G2. Hatchery fish inputs that impact salmon through competition, predation and alterations in community structures
G3. Relationship between key food web species and salmon
G4. Fish and shellfish harvest effects on community structures that affect salmon

*Changes from the first publishing of this table include: strategy B4 became B5, strategy B5 became B6 and a new strategy B4 was inserted into the table. This table now corresponds correctly with the tables in Appendix A and Appendix B and the crosswalk tables in Appendix C. However, it should be noted that in Chapter 6 of Shared Strategy's Draft Puget Sound Salmon Recovery Plan, the strategy we are identifying here as B4 is in fact a more specific objective of strategy B5. In the Recovery Plan, both of these strategies are identified as B4.*

**APPENDIX A**

- Delete in their entirety: tables related to Snohomish (pages 55 and 56)
- Replace with modified: Snohomish tables (2 pages)

**APPENDIX B**

- Delete in its entirety
- Replace with modified

**APPENDIX C**

- Delete in their entirety: tables related to Snohomish (page 94, 95 and 96)
- Replace with modified: Snohomish tables (5 pages)

*Several projects in the nearshore of the Snohomish lead entity's area were omitted from the original analysis. These projects have now been included into Appendix A, B, and C.*

END OF ADDENDUM – revised Appendix pages to follow

# NEARSHORE STRATEGY SUMMARIES

## SNOHOMISH

| Strategy | Description | # of items identified in work plan | Notes |
|---|---|---|---|
| | **Chapter 15 (Regional Nearshore Chapter)** | | |
| 7.1.1 | Implement existing voluntary and regulatory protection programs to maintain functions and water quality for salmon and bull trout | 6 | |
| 7.1.2 | Evaluate effectiveness of existing programs | 4 | |
| 7.1.3 | As needed, design and implement refinements (including voluntary and regulatory innovations) to achieve protection of functions and water quality | 1 | |
| 7.1.4 | Regionally-focused organizations and local communities should collaborate to prevent catastrophic events and/or protect nearshore habitat features from catastrophic events | 0 | |
| 7.2.1 | Pursue and implement locally acceptable projects to improve tidal exchange processes in river mouth estuaries | 1 | |
| 7.2.2 | Analyze water and sediment quality issues in impaired areas and implement sediment and water quality cleanup activities – focused on control or elimination of sources or restoration of natural hydrology – to achieve water quality standards and ensure conditions support viable salmon and bull trout populations | 1 | |
| 7.2.3 | Pursue and implement locally acceptable projects to improve the function of marine shorelines, particularly pocket estuaries, eelgrass beds, and other shallow, low velocity, fine substrate habitats adjacent to major estuaries | 5 | |
| 7.2.4 | Pursue and implement locally acceptable projects to improve sediment delivery from sources such as feeder bluffs, river and creek discharges, and sediment transport processes to support habitat formation and function | 3 | |
| 7.2.5 | Pursue and implement locally acceptable projects to improve marine riparian functions related to water quality, food production, and refuge | 7 | |
| 7.2.6 | Facilitate the development and implementation of restoration programs and projects to support improvements in all subbasins of Puget Sound | | |
| 7.3.1 | Conduct studies and collect information to test hypotheses about nearshore and marine ecosystem processes and to evaluate the effects of strategies and management actions on nearshore and marine ecosystems | 3 | |
| 7.3.2 | Designate and initiate studies of an intensively monitored shoreline to focus and organize efforts to test hypotheses about effects of shoreline ecosystems (and shoreline restoration) on salmon viability | 1 | |
| 7.3.3 | Use the intensively monitored Skagit Delta to organize studies to test hypotheses about effects of estuaries (and estuary restoration) on salmon viability | | |
| 7.3.4 | Conduct studies to test hypotheses about the effects of stressors/threats on salmon individuals, life history types, and populations | 1 | |
| 7.3.5 | Convene management conference to refine hypotheses and adapt strategies and actions | 0 | |

| Strategy | Description | # of items identified in work plan | Notes |
|---|---|---|---|
| | **Chapter 6 (Regional Habitat Strategies Chapter)** | | |
| A.1 | Improve existing protection programs and continue implementation through local, state, tribal and federal governments. | 3 | |
| A.2 | Evaluate the effects of existing protection programs and their contribution to salmon recovery. | 0 | |
| A.3 | Coordinate protection actions at the sub-basin or appropriate scale to ensure levels of protection needed for salmon recovery are met. | 0 | |
| A.4 | Implement, evaluate and change strategies and actions where necessary. | 0 | |
| B.1 | Add significant new estuarine habitat and restore processes in and near estuarine deltas where salmon populations first encounter tides and saltwater. | 21 | |
| B.2 | Conduct further technical assessments and/or build public support where local communities are not ready for restoration. | 3 | |
| B.3 | In highly urbanized deltas, target short-term investments in actions that support ESU recovery by providing migratory corridors. Determine long-term restoration goal and subsequent strategies. | 0 | |
| B.4 | Define the potential of the Puyallup/White delta and nearby shorelines to support a low risk White River and an improving Puyallup population. Preserve future opportunities. | 0 | |
| B.5 | Preserve future opportunities in all major river deltas. | 0 | |
| B.6 | Use new scientific information to improve restoration strategies in the deltas and adjacent shorelines. | 2 | |
| C.1 | Improve our understanding of what are ‘enough’ places and the ‘right’ places to restore outside of major deltas in order to support ESU viability. | 2 | |
| C.2 | Restore habitats (where processes are intact) or key processes (where habitats are intact) where benefits to salmon are expected. | 4 | |
| D.1 | Implement protection and restoration strategies in areas prone to low dissolved oxygen levels. | 0 | |
| D.2 | Implement protection and restoration strategies in areas prone to high temperatures. | 0 | |
| D.3 | Implement strategies that prevent toxic chemicals, including those borne in stormwater, from entering Puget Sound, and restore contaminated areas. | 3 | |
| E.1 | Use Department of Ecology’s Instream Flow program and other processes to protect and restore freshwater quantity | 0 | |
| F.1 | Prevent Oil Spills | 0 | |
| F.2 | Prepare for Oil Spills | 0 | |
| F.3 | Response to Oil Spills | 0 | |
| F.4 | Determine expected results from existing efforts for hazardous waste and nonhuman catastrophic event response. | 0 | |
| G.1 | Non-native species impact on habitats and food webs used by salmon. | 0 | |
| G.2 | Hatchery fish inputs that impact salmon through competition, predation, and alterations in community structures | 0 | |
| G.3 | Relationship between key food web species and salmon | 0 | |
| G.4 | Fish and shellfish harvest effects on community structures that affect salmon. | 0 | |

## SOUND-WIDE NEARSHORE STRATEGY SUMMARIES

| | Whatcom | San Juan | Skagit | Stilla-guamish | Island | Sno-homish | King WRIA 8 | King WRIA 9 | Puyallup / White | South Sound | West Sound | Hood Canal | N. Olympic Peninsula | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Strategy** | **# of items identified in work plan** | **# of items identified in work plan** | **# of items identified in work plan** | **# of items identified in work plan** | **# of items identified in work plan** | **# of items identified in work plan** | **# of items identified in work plan** | **# of items identified in work plan** | **# of items identified in work plan** | **# of items identified in work plan** | **# of items identified in work plan** | **# of items identified in work plan** | **# of items identified in work plan** | **# of items identified in work plan** |
| **Chapter 15 (Regional Nearshore Chapter)** | | | | | | | | | | | | | | |
| 7.1.1 | 3 | 16 | 3 | 2 | 15 | 6 | 1 | 12 | 0 | 2 | 2 | 0 | 9 | 71 |
| 7.1.2 | 1 | 2 | 0 | 4 | 4 | 4 | 1 | 5 | 0 | 0 | 0 | 1 | 3 | 25 |
| 7.1.3 | 3 | 12 | 2 | 2 | 5 | 1 | 4 | 6 | 1 | 1 | 0 | 0 | 5 | 42 |
| 7.1.4 | 0 | 5 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 0 | 10 |
| 7.2.1 | 3 | 0 | 9 | 3 | 0 | 1 | 0 | 4 | 0 | 3 | 2 | 12 | 2 | 39 |
| 7.2.2 | 0 | 6 | 1 | 6 | 4 | 1 | 0 | 6 | 3 | 1 | 3 | 1 | 7 | 39 |
| 7.2.3 | 1 | 6 | 5 | 7 | 11 | 5 | 2 | 12 | 2 | 15 | 4 | 11 | 14 | 95 |
| 7.2.4 | 0 | 2 | 2 | 8 | 3 | 3 | 1 | 10 | 0 | 1 | 3 | 0 | 5 | 38 |
| 7.2.5 | 1 | 3 | 1 | 9 | 2 | 7 | 1 | 13 | 2 | 1 | 5 | 5 | 1 | 51 |
| 7.2.6 | 0 | 0 | 0 | | 0 | | | | 0 | 0 | 0 | 3 | 0 | 3 |
| 7.3.1 | 3 | 14 | 5 | 2 | 5 | 3 | 1 | 2 | 1 | 3 | 5 | 1 | 2 | 47 |
| 7.3.2 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 |
| 7.3.3 | 0 | 0 | 0 | | 0 | | | | | | | | 0 | 0 |
| 7.3.4 | 0 | 2 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 5 |
| 7.3.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

## SOUND-WIDE NEARSHORE STRATEGY SUMMARIES

| | Whatcom | San Juan | Skagit | Stilly | Island | Snoho | WRIA8 | WRIA9 | Puyallup | S.Sound | W.Sound | Hood | NOPLE | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Strategy** | **# of items identified in work plan** | **# of items identified in work plan** | **# of items identified in work plan** | **# of items identified in work plan** | **# of items identified in work plan** | **# of items identified in work plan** | **# of items identified in work plan** | **# of items identified in work plan** | **# of items identified in work plan** | **# of items identified in work plan** | **# of items identified in work plan** | **# of items identified in work plan** | **# of items identified in work plan** | **# of items identified in work plan** |
| **Chapter 6 (Regional Habitat Strategies Chapter)** | | | | | | | | | | | | | | |
| A.1 | 3 | 11 | 2 | 2 | 10 | 3 | 7 | 14 | 0 | 2 | 2 | 1 | 8 | 65 |
| A.2 | 1 | 1 | 0 | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 2 | 8 |
| A.3 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 6 |
| A.4 | 3 | 2 | 2 | 1 | 5 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 5 | 20 |
| B.1 | 3 | 0 | 10 | 11 | 0 | 21 | 0 | 4 | 4 | 2 | 0 | 10 | 2 | 67 |
| B.2 | 0 | 1 | 0 | 1 | 7 | 3 | 0 | 0 | 0 | 1 | 0 | 1 | 2 | 16 |
| B.3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 1 | | | | 0 | 5 |
| B.4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | | | | 0 | 5 |
| B.5 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 5 | 0 | 10 |
| B.6 | 2 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 9 |
| C.1 | 0 | 15 | 3 | 1 | 6 | 2 | 0 | 0 | 0 | 3 | 2 | 3 | 2 | 37 |
| C.2 | 3 | 9 | 14 | 1 | 8 | 4 | 2 | 14 | 4 | 16 | 12 | 17 | 14 | 118 |
| D.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 2 |
| D.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| D.3 | 0 | 7 | 0 | 1 | 0 | 3 | 0 | 3 | 1 | 0 | 2 | 0 | 5 | 22 |
| E.1 | 4 | 4 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 12 |
| F.1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| F.2 | 0 | 3 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| F.3 | 0 | 3 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | | | 4 |
| F.4 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| G.1 | 0 | 3 | 1 | 5 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 3 | 12 |
| G.2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| G.3 | 0 | 2 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 7 |
| G.4 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 1 | 0 | 2 |

## 3-YEAR PROJECT LIST

## CROSSWALK WITH NEARSHORE STRATEGIES

SNOHOMISH

| Ch 15 | Ch 6 | Goal<br>Objective<br>Action | C/ NC | Activity | Project Name | Results | Potential Sponsor (lead) | Primary Habitat | Approx. total cost 2007-09 |
|---|---|---|---|---|---|---|---|---|---|
| 7.2.5 | C.2 | Restore salmon habitat | C | Conduct daylighting of the gulch | Daylighting of Japanese Gulch (Map 16) | 1 barrier removed, some % mitigation | Port of Everett and/or WSU | marine shoreline | $3,300,000 |
| 7.2.3 | | Restore salmon habitat | C | Continue restoration | Shoreline restoration at riprapped south end of Jetty island (Map 5) | 3,000 feet backshore restored | Port of Everett, USACE | marine shoreline | $780,000 |
| | B.1 | Restore salmon habitat | C | removal of derelict fishing gear | Remove derelict fishing gear (Map 2) | not quantified | SCMRC | marine shoreline | $50,000 |
| 7.2.4 | B.6 | Restore salmon habitat | C | Conduct demonstration project | Shoreline bioengineering demonstration project (Map 3) | not quantified | Snohomish County, Tulalip Tribes, People for Puget Sound | marine shoreline | $120,000 |
| 7.2.1 | C.2 | Restore salmon habitat | C | Conduct feasibility study and design for restoration | Quilceda Creek Estuary Restoration (Map 303) | feasibility study and design complete | Tulalip Tribes | estuaries, marine shoreline | $250,000 |
| 7.2.5 | | Restore salmon habitat | C | Conduct feasibility study and design for restoration | Tulalip Bay nearshore restoration (Map 301) | feasibility study and design complete | Tulalip Tribes | marine shoreline | $200,000 |
| | | Restore salmon habitat | C | Conduct feasibility study and design for restoration | Priest Point Tidal Lagoon (Map 302) | feasibility study and design complete | Tulalip Tribes, Snohomish County | marine shoreline | $250,000 |
| 7.2.1, 7.2.4 | | Restore salmon habitat | C | Monitor physical and biological performance on beach | Beach restoration demonstration at Mukilteo Tank Farm (Map 6) | 1,100 feet beach/backshore restoration | Port of Everett | marine shoreline | $330,000 |
| 7.2.1 | C.2 | Restore salmon habitat | C | Monitor success of 2007 renourishment, conduct new renourishment of needed | Renourish Existing Jetty Island Berm (Map NEW 738) | Some % mitigation, 19 acres marsh/mudflat created | Port of Everett, USACE | marine shoreline | $250,000 |
| 7.2.3 | | Restore salmon habitat | C | Feasibility study | Sand Berm at Jetty Island South (Map 4) | 2,200 feet beach nourishment, some percent mitigation | Port of Everett, USACE | marine shoreline | $50,000 |
| 7.2.5 | B.1, D.3 | protect functioning habitat | C | Removal of the tank farm pier | Partial Removal of the Creosote-treated and shadowing Tank Farm Pier (Map 14) | 98,000/143,000 sq. ft. to be removed as mitigation | Washington State Ferries | marine shoreline | $9,690,000 |
| 7.2.5 | B.1, D.3 | protect functioning habitat | C | Removal of the tank farm pier | Full Removal of the Creosote-treated and shadowing Tank Farm Pier (Map 15) | remove remaining 45,00 sq. ft of tank farm pier | Washington State Ferries and/or others | marine shoreline | $5,000,000 |

## SNOHOMISH

| Ch 15 | Ch 6 | Goal Objective Action | C/ NC | Activity | Project Name | Results | Potential Sponsor (lead) | Primary Habitat | Approx. total cost 2007-09 |
|---|---|---|---|---|---|---|---|---|---|
| 7.2.4 | | protect functioning habitat | C | Monitor physical and biological performance | Railroad shoreline improvements (Map 7) | 5,000 ft beach nourishment | BNSF or Sound Transit | marine shoreline | $150,000 |
| 7.2.3 | C.2 | protect functioning habitat | C | Conduct feasibility study, design and construction | Maulsby Swamp Mudflats/Enhanced Connection (Map 1) | not quantified | City of Everett | marine shoreline | 41,210,000 |
| 7.1.1 | B.2 | education and outreach | NC | Build landowner capacity for nearshore protection and restoration | Beach Watchers Program | increased landowner capacity for nearshore protection and restoration | Snohomish County, Tulalip Tribes | marine shoreline | $150,000 |
| 7.1.2 | B.2 | strategic planning | NC | Build capacity for nearshore protection and restoration | Watershed Recovery Plan Implementation | increased capacity for nearshore protection and restoration | Tulalip Tribes | marine shoreline | $96,123 |
| 7.1.2 | D.3 | protect functioning habitat | C | Remove creosote logs | Creosote log removal | Remove 120 tons of logs | DNR, NWSC, SCMRC | nearshore | $120,000 |
| 7.1.1 | | education and outreach | C | Conduct feasibility studies, pilots, and workshops | Training workshops for engineers and contractors to build nearshore capacity | Increased capacity among contractors and engineers to conduct projects safe for the nearshore | Puget Sound Partnership | nearshore | $40,000 |
| 7.1.1, 7.2.2 | A.1 | monitoring and outreach | NC | Train volunteers, volunteers conduct mussel surveys | Volunteer Mussel Survey/Analysis Program to identify pollutant concentration in marine waters | # of volunteers mussels surveyed | SCMRC, NOAA | nearshore | $47,000 |
| 7.1.1, 7.2.2, 7.2.4 | A.1, B.2 | education and outreach | NC | Continue staffing for program | Sound Stewards Program | program continued | People for Puget Sound, Snohomish County marine Resources Committee | nearshore | $37, 500 |
| 7.1.2 | B.6 | test hypotheses | C | Conduct scan | Sidescan bathymetric scan of marine shoreline from Mukilteo to Port Susan | Scan completed, data incorporated into hydrodynamic model | Snohomish County, Tulalip Tribes | marine shoreline | $250,000 |
| 7.1.2 | | test hypotheses | C | Conduct study | Fish Utilization study in Northern Puget Sound | not quantified | WDFW, San Juan County | nearshore | $2,000,000 |
| 7.1.2 | C.1 | restore pocket estuaries | C | Conduct mapping | Pocket Estuary Mapping | Prioritized List of restoration/protection sites | SCMRC | marine shorelines, estuaries | $80,000 |
| | C.1 | Restore salmon habitat | NC | Fill data gaps for feasibility of nearshore projects | Future habitat project development | not quantified | Snohomish County, Tulalip Tribes | marine shoreline | $150,000 |

SNOHOMISH

| Ch 15 | Ch 6 | Goal Objective Action | C/ NC | Activity | Project Name | Results | Potential Sponsor (lead) | Primary Habitat | Approx. total cost 2007-09 |
|---|---|---|---|---|---|---|---|---|---|
| | B.1 | Add and restore estuarine habitat | C | Conduct mitigation, restore edge habitat and tidal marsh | Bigelow Creek/Simpson Lee (Map 28) | 35 acres tidal marsh, 5,428 edge habitat | City of Everett | estuaries | $2,200,000 |
| | B.1 | Add and restore estuarine habitat | C | Restore tidal marsh | DD6 Cross Dike and Habitat Restoration (Map NEW 739) | 40 acres tidal marsh | City of Everett, Snohomish County | estuaries | $2,900,000 |
| 7.1.1 | A.1 | Protect estuarine habitat | C | Protect riparian area | DD13 & Riparian Restoration Acquisition/Conservation Easement (Map NEW 740) | 90 acres protected | Cascade Land Conservancy, DD13, Snohomish County | estuaries | $500,000 |
| 7.2.5 | B.1 | Add and restore estuarine habitat | C | Install fish-friendly tidegate and pump | Infrastructure upgrade for flood control/drainage and water quality/fish access (Map 36) | 15 acres tidal marsh restored | DD13, Snohomish Conservation District | estuaries | $125,800 |
| | B.1 | Add and restore estuarine habitat | C | Restore edge habitat | Edge habitat restoration on earthen dike (Van der Vieren & Roetcisoender property) (Map 37) | 3,000 feet edge habitat restored | DD13, Snohomish Conservation District | estuaries | $40,000 |
| | B.1 | Add and restore estuarine habitat | C | Conduct riparian restoration and tidegate improvements | Swan Trail Slough (Map 38) | 8 acres riparian habitat restored | DD13, Snohomish Conservation District, Snohomish County | estuaries | $72,000 |
| 7.2.5 | B.1 | Add and restore estuarine habitat | C | Install fish-friendly tidegates | Install at least two fish-friendly tidegates (Map 775) | Fish friendly tidegates, associated water quality improvements | Diking and drainage districts, Snohomish CD, Snohomish County, others | estuaries | $150,000 |
| 7.2.5 | B.1 | Add and restore estuarine habitat | C | Conduct fish passage improvements | DD13 fish passage improvements, Phase II (Map NEW 741) | Fish passage improvements, associated water quality improvements | DD13, Snohomish Conservation District | estuaries | $100,000 |
| | B.1 | Add and restore estuarine habitat | C | Restore edge habitat and tidal marsh | Smith Island restoration (Map 27) | 475 acres tidal marsh, 10,500 feet edge habitat restored | Snohomish County | estuaries | $5,500,000 |

# SNOHOMISH

| Ch 15 | Ch 6 | Goal<br>Objective<br>Action | C/ NC | Activity | Project Name | Results | Potential Sponsor (lead) | Primary Habitat | Approx. total cost 2007-09 |
|---|---|---|---|---|---|---|---|---|---|
| 7.1.1 | B.1 | Add and restore estuarine habitat | C | Acquire lands and design for restoration | North Tip Ebey Island (Map 30) | 250 acres acquired, 450 acres tidal marsh restored | Snohomish County | estuaries | $1,400,000 |
| | B.1 | Add and restore estuarine habitat | C | Enhance riparian habitat | North Ebey Island Enhancement (Map 31) | 3 riparian acres enhanced | Snohomish County | estuaries | $3,000 |
| | B.1 | Add and restore estuarine habitat | C | Restore riparian and tidal marsh habitat, install log jams | Snohomish Estuary Edge Enhancement Phase I (Map NEW 742) | 1 acre tidal marsh and 5 acres riparian areas restored, 20 log jams installed | Snohomish County | estuaries | $150,000 |
| | B.1 | Add and restore estuarine habitat | C | Restore tidal marsh habitat, install log jams | Snohomish Estuary Edge Enhancement Phase II (Map NEW 473) | 1 acre tidal marsh restored, 20 log jams installed | Snohomish County | estuaries | $250,000 |
| | B.1 | Add and restore estuarine habitat | C | Conduct dike breaches and improve edge habitat | Improve habitat connectivity (Map NEW 773) | 1,000 feet edge habitat improved | Snohomish County | estuaries | $450,000 |
| | B.1 | Add and restore estuarine habitat | C | Assess and improve habitat connectivity | Assess and improve mainstem channel habitat connectivity (Map NEW 774) | not quantified | Snohomish County | estuaries | $150,000 |
| | B.1 | Add and restore estuarine habitat | C | Conduct tidal marsh and edge habitat restoration | Qwuloot Estuary Restoration (Map 304) | 360 acres tidal marsh, 5,300 feet edge habitat restored | Tulalip Tribes | estuaries | $3,200,000 |
| | B.1 | Add and restore estuarine habitat | C | Conduct mitigation and restoration | Smith Island/Union Slough Marine Wetland Restoration (Map 29) | Some % mitigation, 100 acres tidal marsh | US Army Corps of Engineers, City of Everett | estuaries | $500,000 |
| | B.1 | Add and restore estuarine habitat | C | Acquire lands and conduct tidal marsh restoration | Acquire 1,600 acres of Ebey Island south of SR2 and restore tidal marsh (Map NEW 744) | not quantified | Washington Department of Fish and Wildlife | estuaries | $3,860,000 |
| | B.1 | Add and restore estuarine habitat | C | Conduct mitigation and restoration | Biringer Farm Estuarine Restoration/Mitigation Bank | Some % mitigation, at least 300 acres tidal marsh restored | Port of Everett, Wildlands of Washington, Inc. | estuaries | $0 |
| 7.1.2 | | Assurance that recovery actions are effective | NC | Develop a coordinated mitigation/restoration strategy | Salmon Recovery coordination/implementation | More effective use of different types of funding for plan implementation | City of Everett, Port of Everett, Snohomish County, Tulalip Tribes | estuaries | $5,000 |
| 7.3.1 | | Evaluate the effects of strategies and management actions on nearshore habitats | NC | Perform a feasibility study | Future habitat project development | Results of feasibility study | Snohomish County | estuaries | $150,000 |

SNOHOMISH

| Ch 15 | Ch 6 | Goal<br>Objective<br>Action | C/ NC | Activity | Project Name | Results | Potential Sponsor (lead) | Primary Habitat | Approx. total cost 2007-09 |
|---|---|---|---|---|---|---|---|---|---|
| 7.3.2 | | Test hypotheses about effects of shoreline ecosystems on salmon viability | NC | Conduct monitoring and research | Monitoring and Adaptive Management | Improved understanding of salmon use and habitat preference in estuarine habitats | Tulalip Tribes, NOAA Fisheries | estuaries | $198,000 |
| 7.3.1 | | Evaluate the effects of strategies and management actions on nearshore habitats | NC | Develop a pilot project | Salmon Recovery coordination/implementation | Pilot results on measures to improve habitat connectivity and edge habitat | Utilities, transportation agencies | estuaries | $100,000 |

KEY:

BNSF
TNC The Nature Conservancy
USFS U.S. Forest Service
WDFW Washington Department of Fish and Wildlife
SCMRC Snohomish County Marine Resources Committee
PSAT Puget Sound Action Team
WSU Washington State University
NOAA National Oceanic and Atmospheric Administration
USACE US Army Corp of Engineers
DNR Department of Natural Resources