2011 SRFB/PSAR Project Pre-Proposal

for

Willow Creek daylighting (M233)

Primary Project Sponsor: People For Puget Sound

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**Overall Project Summary**:

The goal of the overall project is to attain full tidal restoration of the Edmonds Marsh barrier estuary. This action will facilitate juvenile salmon access to rearing habitat and improve access to spawning habitat for adult coho. The current outlet of this 24 acre remnant barrier estuary complex is a 1,400 foot long subtidal pipe that significantly limits fish access. The full project scope proposes construction of a new ‘daylighted’ tidal channel connection from Edmonds Marsh to Puget Sound and improvement of fish passage barrier issues upstream of the marsh complex. Secondarily, the project will address the importance and the role of the marsh complex to surface water management. We intend the project to address social interests, such as access and recreation opportunities, economic and social value of a restored system in terms of climate change and sea-level rise preparedness, carbon sequestration capacity, and economic value of ecosystem services. This project will engage the community through education and action opportunities in every phase, when possible, from feasibility through stewardship. In addition, the input from the stakeholders in the vicinity of the Marsh, Port of Edmonds, Washington Department of Transportation, and BNSF Railway Company and from the property owner, the City of Edmonds, will be incorporated into the feasibility study.

**Current Phase Scope of Work:**

The project is currently in the feasibility stage, yet some elements have already been determined, such as description of the problem, identification of specific objectives for addressing the problem and identification of various alternatives for achieving the objectives. These identified alternatives, however, require further study to complete the feasibility stage that results in scaled view drawings and cost estimates of each alternative.

Requested funding will be used to finalize the feasibility assessment and to attain preliminary project design elements and cost estimates for Edmonds Marsh restoration measures. The alternatives considered will enhance the tidal prism in the marsh complex through channel modification to daylight the connection of Willow and Shellabarger Creeks. Currently, the only connection of Willow and Shellbarger Creeks and Edmonds Marsh to Puget Sound is via a large diameter pipe. Day lighting this connection would enhance the connection between the Creeks/Marsh to Puget Sound and would involve hydraulic modifications by removing or modifying the existing tide gate. Sound Transit recently completed trestle bridges under the railroad tracks for a future daylighted creek channel as a mitigation action with the City of Edmonds. This action represents over$1 million project cost to use as leverage for the project.

The feasibility study will also identify and assess fish passage barriers upstream of the marsh, surface water management and flooding, invasive species control, real estate considerations to expanding the potential project area therefore enhancing the complexity of the daylighted tidal channel, and social and economic values to be gained. We plan to engage the public through a robust process to identify the most appropriate restoration management measures.

The marsh complex serves an important role in stormwater management of the surrounding urban area. The wetlands provide important filtering processes that reduce the pollutant loading into Puget Sound as well as providing storage that can reduce flooding in neighboring parcels. The restoration of the marsh complex will include renewing these essential functions by re-vegetating with the appropriate wetland species and reclaiming the storage volume lost by excessive sedimentation that has partially resulted in large areas of cattails overtaking a large area of the marsh.

**Goals and Objectives of Current Phase:**

**Goal 1.** Fill data gaps and finalize the feasibility study that will result in scaled plan view drawings

* Objective 1 – finalize a scope of work that includes all necessary research and data gathering tasks, including but not limited to full bathymetric survey of the marsh and core samples to determine historic sedimentation, topographic survey of existing berms, tidal prism analysis, freshwater hydroperiod and full survey of all outlets into marsh complex, sediment budget and transport rates along portion of drift cell, potential erosion rates of beach, and estimated flow rates of stream channel through RR bridge.
* Objective 2 – prepare RFP specifications
* Objective 3 – complete contractor bid/award process
* Objective 4 – finalize marsh feasibility study resulting in scaled plan view drawings and rough cost estimates for each design alternative

**Goal 2**. Conduct a public engagement process

* Objective 1- conduct up to 3 streamside landowner workshops that include a combination of lectures, site tours, and stewardship training. Expected engagement= 20 streamside households
* Objective 2- engage volunteers in invasive control and native planting restoration actions in the marsh. Expected engagement= 60 volunteers
* Objective 3- plan and execute a public education and comment process upon finalization of feasibility study. Expected engagement= 100 citizens

**Goal 3.** Select a preferred alternative design and cost estimate

* Objective 1- evaluate the pros and cons of each design alternative using input from public process
* Objective 2- work with property owner (City of Edmonds) and other stakeholders to select a preferred alternative design following the public engagement and comment process
* Objective 3- finalize cost estimate for selected preferred design alternative

**Future identified phases of project, preliminary project schedule and deliverables:**

Following the finalization of the preliminary project design phase, this project would move to finalize project design, permitting, construction, and into monitoring and stewardship.

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| **Task** | **Phase** | **Status** | **Target Date** | **Deliverable(s)** |
| Feasibility Study | Feasibility | Proposed | 3/2013 | Alt. scaled plan view drawings and cost estimates; results of public engagement process; selection of preferred design alternative |
| Final Design | Design | Future | 10/2013 | Design Report |
| Permits | Design | Future | 5/2014 | Acquired permits |
| Monitoring/Stew-ardship Plan | Design | Future | 10/2013 | Monitoring and stewardship plans |
| Contractor selection/bid award | Implement | Future | 8/2014 | Bid selection process outline and const. contract |
| Construction | Implement | Future | 8/2015 | As-builts |
| Monitoring | Evaluate | Future | 11/2018 | Monitoring report |
| Reporting | Admin | Future | 12/2018 | All project info submitted into PRISM and HWS |

**Evidence that the project is a high priority in a salmon recovery plan or lead entity strategy (Project Letter and number from the WRIA 8 3-Year Work Plan):**

The Willow Creek daylighting project is on the WRIA 8 three-year plan. Project number and name = M233 Willow Creek daylighting. Project subarea is WRIA 8 nearshore.

The extensive loss in both size and quantity of coastal embayments in the Central basin of Puget Sound (includes WRIA 8 nearshore subarea) has been highlighted in historic change analysis studies (Collins and Sheikh, 2005). The Puget Sound shoreline from Everett to Seattle affords magnificent views that belay a natural system constrained by over a century of human development and associated habitat loss. This section of shoreline is dominated by loss of freely available sediment sources, restricted fish access to small watersheds, and significant loss of historical backshore estuary, marsh and lagoon complexes. In the middle of this urban environment is Edmonds Marsh, a 24-acre remnant of a historical 53-acre barrier estuary and marsh complex, one of the few remaining such ecological features in the Central basin. Edmonds Marsh represents a rare habitat resource in the WRIA 8 nearshore sub-area for juvenile salmonid rearing and refuge and is currently inaccessible. In particular, this non-natal habitat type has been found to be very important to Chinook salmon ocean-type life history strategies (Beamer et al. 2003, 2005, 2006). Preliminary studies suggest a restored marsh and access could support coho spawning, as well (Pentec, 1998).

At-risk species that will benefit from Edmonds Marsh restoration:

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| **Species** | **At-risk status** | **Projected benefit** |
| Chinook salmon | Federal Threatened, State candidate | Increased foraging and refuge habitat for outmigrating juveniles |
| Coho salmon | Federal Species of Concern | Increased foraging and refuge, increased spawning habitat |
| Sea run cutthroat trout | State Concern | Increased, year-round foraging and refuge habitat, increased spawning habitat |
| Federally managed fish species (salmon, demersal fish) | Magnuson-Stevens FCMA | Marsh restoration will provide Essential Fish Habitat for federally managed fish species |
| Land based piscivorous birds- Bald Eagle (but also benefits Osprey, Great Blue Heron, Little Green Heron) | State Sensitive spp., Federal Species of Concern | Short term increases in foraging opportunities by  improving salmonid habitat, long term perching, roosting and nesting habitats |

**No part of this project been previously reviewed or funded by SRFB.**

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