Project Location

Nooksack River Delta
Little Squalicum Park, WA
History

- Wh-mahl-ut-choo
  (place of many springs)

- Use by Central Salish for hunting, fishing
• Gravel pit 1912 – 1967
• Purchased as a park in 1976
Historical Wetlands

- Historical: 2.5 acres tidally-connected wetland
- Current: fragmented 0.75 acres wetland
The Estuary

The Estuary is envisioned to be the premier habitat enhancement feature in Little Squalicum Park. Special attention should be given to buffering and protecting this feature from human and pet encroachment. The estuary provides not only critical fish habitat, but an excellent interpretive opportunity.
Project Elements

- Estuary excavation
- Fish passage improvement
- Native plantings
- Beach nourishment
- Protective fencing
- Trails
Elevated RR trestle
• Restore tidal and sedimentary processes
• Improve fish passage
• Return saltmarsh, mudflat and estuary habitats
• Enhance a forage fish spawning beach
• “First stop” for juvenile salmon departing the Nooksack River
• Rearing, refuge, foraging & osmoregulatory habitat
1. Elevated Railroad Trestle (Easement Acquisition Area)
2. Culvert to be decommissioned
3. New footbridge, 100% fish passable
4. Elevated Railroad Trestle (Easement Acquisition Area)
Trails & Access

- Improved trail
- Improved access to waterfront
- New pedestrian bridge over estuary inlet
- Prime estuary viewpoints
Forage Fish
Beach Nourishment for Forage Fish

Beach Nourishment - 0.8 acres

Estuary Excavation - 2.4 acres
Similar approach nearby…

Post Point Lagoon: Before (2005)

Post Point Lagoon: After (2010)

Post Point Lagoon: After (2013)
<table>
<thead>
<tr>
<th>Treatment/Activity</th>
<th>Restored Process/Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estuary Restoration- 2.4 acres</td>
<td>Restores lost estuarine function, tidal connectivity, sediment &amp; nutrient exchange</td>
</tr>
<tr>
<td>Fish passage improvement – replace 36” concrete culvert replaced with 100% passable footbridge</td>
<td>Improves salmonid rearing &amp; spawning, restore tidal exchange</td>
</tr>
<tr>
<td>Riparian plantings - 0.26 acres saltmarsh &amp; 0.94 acres of riparian buffer, with 7,690 native plants</td>
<td>Restores riparian buffer functions (water quality + habitat and nutrient input)</td>
</tr>
<tr>
<td>Beach nourishment – 1.16 acres (1,300 LF) of documented forage fish spawning habitat</td>
<td>Enhanced forage fish spawning, enhance sediment supply</td>
</tr>
<tr>
<td>Protective fencing</td>
<td>Flourishing and sustainable habitat!</td>
</tr>
</tbody>
</table>
Inclusive

- Accessible for all abilities
- Increased public awareness of aquatic land

Example Interpretive Sign at Bloedel Donovan Park

Little Squalicum Beach: Gentle grades for mobility
• Only accessible public waterfront access north of Squalicum Harbor
Important Pocket Estuary

- Implements WRIA1 Salmonid Recovery Plan

- Pocket estuaries important for non-natal juvenile Chinook salmon

(Beamer et al. 2016; Beamer et al. 2003 [Skagit]; Hirschi et al. 2003 [Hood Canal])
WRIA 1 Nearshore & Estuarine Assessment & Restoration Prioritization (2013) 3-year plan
### PREVENTION PLAN

**CHAPTER 4: QUARTERLY ACTIONS FOR PUGET SOUND RECOVERY**

<table>
<thead>
<tr>
<th>YEAR</th>
<th>STA #</th>
<th>STA TITLE</th>
<th>OWNER</th>
<th>OBJECTIVES</th>
<th>TOTAL SOUNDS &amp; HABITAT IMPACTS</th>
<th>COST</th>
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</thead>
<tbody>
<tr>
<td>2018-0750</td>
<td>Assessments and</td>
<td>Department of</td>
<td>The objective is to assess the potential impacts of various connectivity,</td>
<td></td>
<td>$473,000</td>
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<td>2018-0759</td>
<td>Preparing and</td>
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<td>2018-0766</td>
<td>Restoring</td>
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<td>2018-0779</td>
<td>Increase</td>
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</tbody>
</table>

**Little Squalicum Estuary Restoration Project**

- **Owner:** City of Bellingham
- **Objective:** Improves water quality and restores juvenile salmonid habitat in the lower Nooksack Basin by creating an approx. 2-acre estuary and a fish-accessible tidal connection with Little Squalicum Creek.

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**Legend:**
- **SA3.3, CHN7.1:** Indicates specific codes or references related to the project.