Weaverling Spit Restoration Projects
Living Shorelines at work

Samish Indian Nation-Department of Natural Resources

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Samish Indian Nation
Traditional Territory
Samish Tradition

- S7a’mesh – “The Giving People”
- A people with hundreds of generations of history
- A deep connection to the Salish Sea and its abundant natural resources
- Rich in chela’ngen (culture) with traditions that continue to this day
- “When the Tide is Out, the Table is Set”
Beach types of the Salish Sea

- Gravel rather than sand
- Fed by erosion of feeder bluffs
- "Armored" with driftwood

Tides in our area range from -3 to +9
- Mixed semi-diurnal tide cycle-HH, HL, LH, LL
- Critical forage fish habitat for surf smelt spawning
Weaverling Spit Restoration Projects

“You are here.”
• 2001-2002 condos were built, shoreline vegetation removed to open viewscape.
• 2003 – Storm event causes significant erosion into culturally sensitive site.
  • Human ancestral remains discovered eroding out of cut bank
  • Some of the artifacts suggest that the site dates to the Locarno Beach period, ca. 3,400-2,400 years ago, older than most shell middens in the Puget Sound-Straits region
• Condo Developer installs “Softshore Armoring”
• 2006 – soft shore armoring fails in less than 6 months.
• 2008 – Cove at Fidalgo LLC applies for Phase II of the Condo Project
  • 18 additional condos
  • Tribe comments on permit
    • Phase I not complete due to failure of shoreline stabilization.
    • Tribe insists that bank stabilization be completed prior to Phase II
Phase 1 - Project Need

- January 2009 – 5 Feet of Shoreline Lost in 4 Years
February 2009: Developer, refuses required shoreline stabilization due to economic downturn. No condos, no project;

Samish requests to fulfill project requirements with existing engineered plans and permits;
- Permits included: USACE Nationwide, City of Anacortes Shoreline Exemption, Wa DFW HPA,
- Also needed SEPA and BA/BE

Samish also needed to find funding
- Washington State Department of Archeology and Historic Preservation-first living shoreline project ever funded by this agency.
- Northwest Straits Commission Tribal Fund
- Samish Indian Nation Tribal Council
- Shell Puget Sound Refinery/NWSC Foundation
- Port of Anacortes
- City of Anacortes
- Washington State Department of Natural Resources
Phase 1 - Construction

- September 3, 2009
Phase 1 - Complete

- 1475 tons of 3-3.75” rock
- 375 tons of pea gravel
- Final layer of 132 tons of washed sand.

Challenges for Phase 1
- Soft beach
- Lag time between original survey and work/ greater beach loss/more material
- Large voids that were unmapped
- Tides
- Off load areas
- Landowner’s perception of landscaping

Phase 1-Costs
$109,278.00  Total
$95,938.00  Construction
$13,340  Archaeologist
Oversight of project 6 weeks by Samish DNR
Phase 2-Project Need

- November 15, 2010 storm event.
  - Continued erosion on Tribally owned property just east and adjacent to Phase 1
  - Continued risk to culturally sensitive area
  - Failure of hard armored bank
  - Desire to continue to enhance forage fish habitat
  - Phase 1 weathered storm just fine
    - Desire to show community success of living shoreline and softshore techniques.
Phase 2 – Project Design

Timing was such that this work fell under the same permits as Phase 1

• Simple amendments and extensions done
Phase 2 Construction
Phase 2-Complete

- Additional 500 feet of shoreline restored
- Approximately 2300 cy of beach nourishment material installed
- Additional 2 drift sills installed
- 7 planting beds installed

Phase II costs
$123,838.75 Total
$12,000.00 Reserve

Oversight of project by Samish including archaeologist
Phase 3 - Project Need

- November 29, 2014 storm event.
  - Continued erosion on Tribally owned property just east and adjacent to Phase 2
  - Failure of hard armored bank resulting in extensive flooding of Tribally owned RV park
  - Desire to continue to enhance forage fish habitat
  - Phase 1 and 2 weathered storm just fine
    - Desire to show community success of living shoreline and softshore techniques.
Phase 3 – Project Design

- Coastal Geologic Services contracted again for design
- All new permits needed
  - USACE-Nationwide
  - WaECY-HPA Permit
  - City of Anacortes Shoreline development waiver
- New SEPA and BA/BE
Phase 3 Construction---Or Not Yet

Project was scheduled to begin on Monday, September 12, 2016. Us Army Corps of Engineers permit was the last one issued on Friday, September 9, 2016. We could not find any contractors willing to bid on the project or commit to the construction window without all permits in hand. Construction has been delayed until September of 2017. Initial permit application materials were submitted to the Corps on 3/7/2016.

• Stay Tuned!!
Project Success Stories

Living Shorelines are more resilient and able to handle the increases storm events we are seeing along Weaverling Spit.

Surf Smelt were spawning on Phase 1 literally the day after we finished the project and continue to heavily utilize both Phase 1 and Phase 2.

Provides an excellent accessible outreach site for shoreline landowners and the greater community regarding the success of living shorelines as a better option than hard armoring.
Questions?

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