



NAS Whidbey Island Natural Resources Program

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Natural Resources Program Components



- **Compliance**
 - Review projects and local military training activities
 - Conducting consultations and acquiring required permits

- **Conservation**
 - Conservation of habitats and ecosystem integrity
 - Multiple use of resources
 - Preparation of the installation Integrated Natural Resources Management Plan



Resource Management Mandates



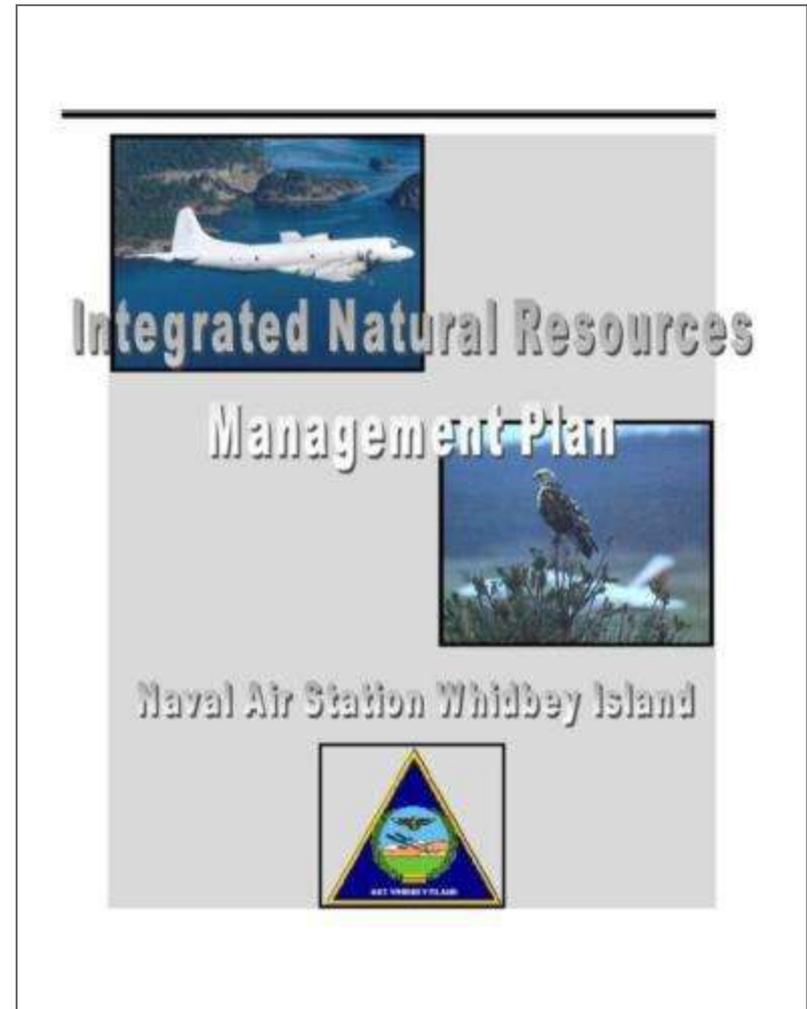
- Sikes Act
- Endangered Species Act/Magnusson Stevens Fisheries Conservation and Management Act
- Migratory Bird Treaty Act
- Marine Mammal Protection Act
- Clean Water Act
- Coastal Zone Management Act



Integrated Natural Resources Management Plan



- 5-year strategic management plan
- Current update was recently reviewed by Tribes and resources agencies
 - Tribal review requested from:
 - Swinomish
 - Upper Skagit
 - Samish
 - Lummi
 - Suquamish
 - Skagit River System Cooperative





Resource Management Plan Components



- Scope of the Integrated Natural Resources Management Plan
 - Covers Navy owned and controlled properties and waters
 - NAS Whidbey Island Integrated Natural Resources Management Plan includes owned land and tidelands down to extreme low tide line

- The plan includes:
 - sustaining the installation's habitats and ecosystems
 - managing the consumptive use of natural resources



Forbes Point Shellfish Bed





Tribal Partnership Projects



- Major natural resources projects developed or implemented in partnership with tribes
 - Skagit River System Cooperative
 - Maylor Point beach restoration
 - Crescent Harbor marsh restoration

- Partnerships are most successful when we can jointly identify shared natural resource needs and goals



Maylor Beach Restoration

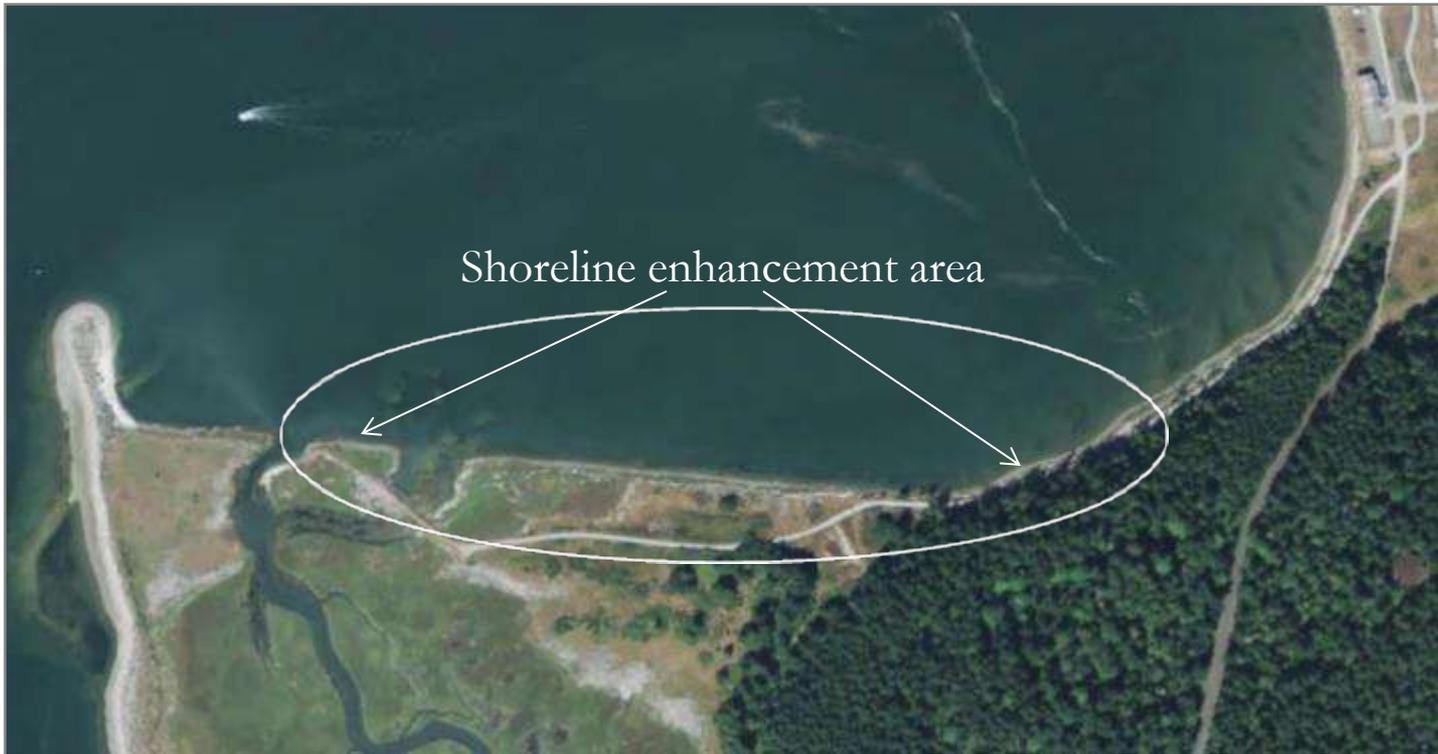


- Project purpose:
 - Enhance shoreline with fish mix (sand/gravel) in spawning zone
 - Sand lance and surf smelt

- Followed Skagit River System Cooperative's March Point beach restoration project
 - Collaborated with SRSC by using their design expertise, fish mix specifications and permitting experience



Maylor Beach Restoration Site Location





Maylor Beach Restoration Completed Section



Beach Profile View Looking East



Original Substrate

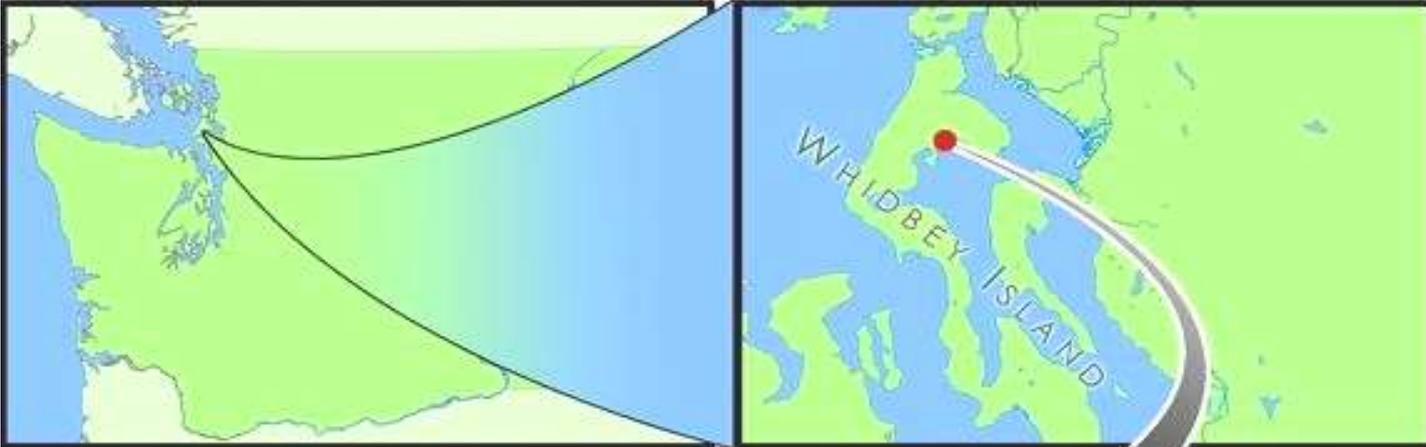


New Fish Mix





Crescent Harbor Marsh Restoration





History of Crescent Harbor Site



- Wetland system diked, isolated by tide gate, drained and used for seasonal livestock grazing in the 1910s.
- Navy acquired the site in 1942 as part of the Seaplane Base.
- The 300 ft. long tide gate pipe inhibited full tidal exchange or fish passage into the marsh.



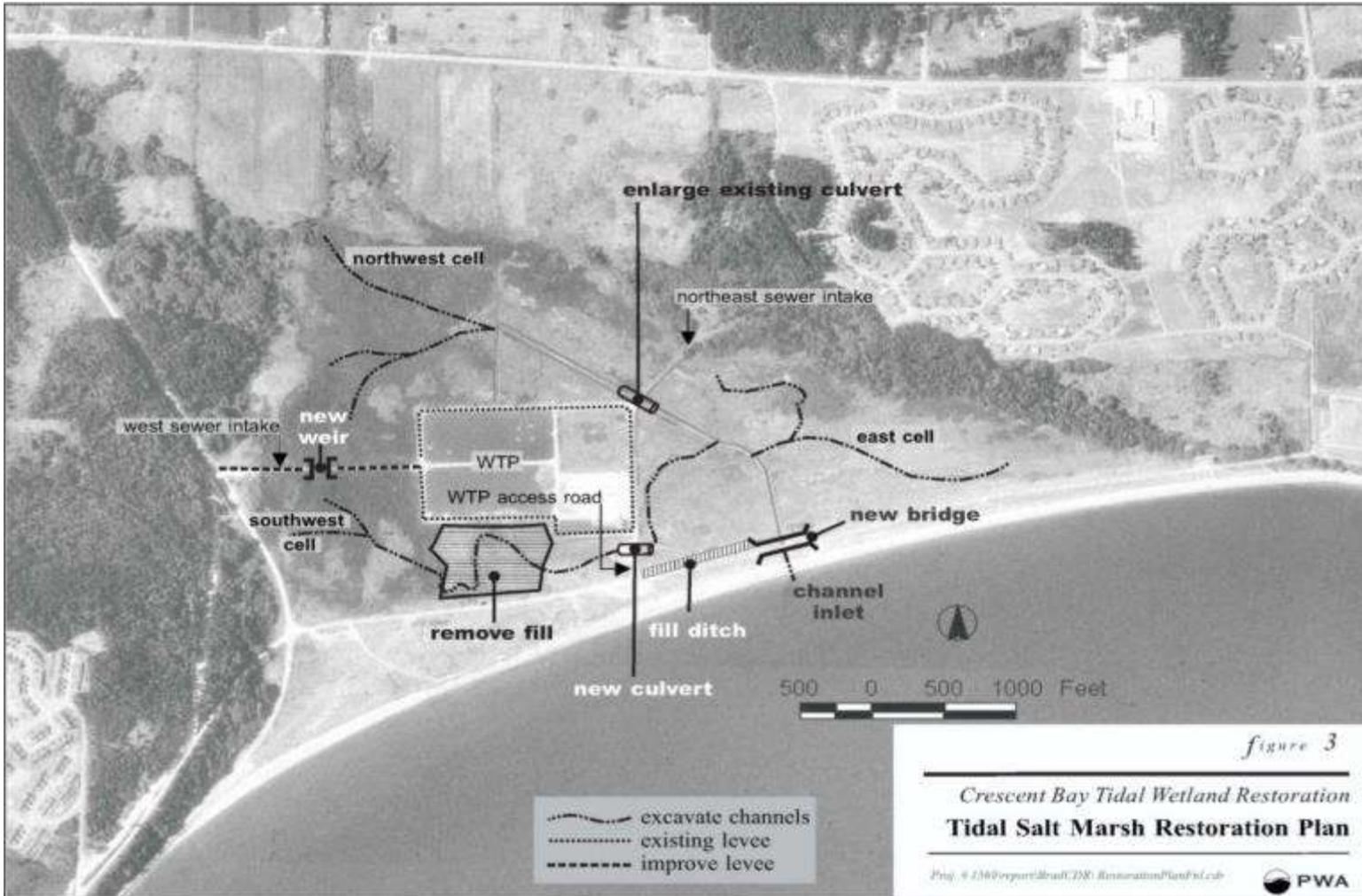
Restoration Design History



- Navy began to restore saltwater marsh and in 1994, tide gate system was permanently winched open to restore a saltwater connection and creating a small saltwater marsh near the tide gate
- The completed 2003 feasibility study, recommended full tidal restoration of the system to benefit Chinook salmon with suitable design so as not jeopardize the wastewater treatment plant or other infrastructure



Initial (2003) Restoration Design





Tribal Involvement History



- 2005: Project did not have enough funding to be constructed and was at risk of not being implemented
- 2007: Navy partnered with the Skagit River System Cooperative to support completing restoration work
- 2007: Skagit River System Cooperative acquired grant funding and used existing SRF Board funding to finish design and construct the project



Tribal Involvement History



- Summer 2009, berm cuts, tidal channels and culvert replacements completed and on 19 Aug. 2009, final berm cut made under the East Pioneer Way bridge

Final excavation of new inlet channel





Restoration Site Aerial Photo (June 2003 Before Tidal Inundation)





Restoration Site Aerial Photo (2009 After Tidal Inundation)





Restoration Site Aerial Photo (2011 After 2-years of Tidal Inundation)





Restoration Project Benefits



- Opening this 300 acre tidal flood plain to tidal flow restored the historically largest open barrier island salt marsh on Whidbey Island, including 200 acres of pocket estuary to full tidal flow and salmonid access for the first time in almost 100 years
- National Marine Fisheries Service estimates that the restoration project will increase the survivorship of Chinook salmon smolts in the Skagit River delta by more than 15,000 or about 230 additional adults returning to the Skagit River annually



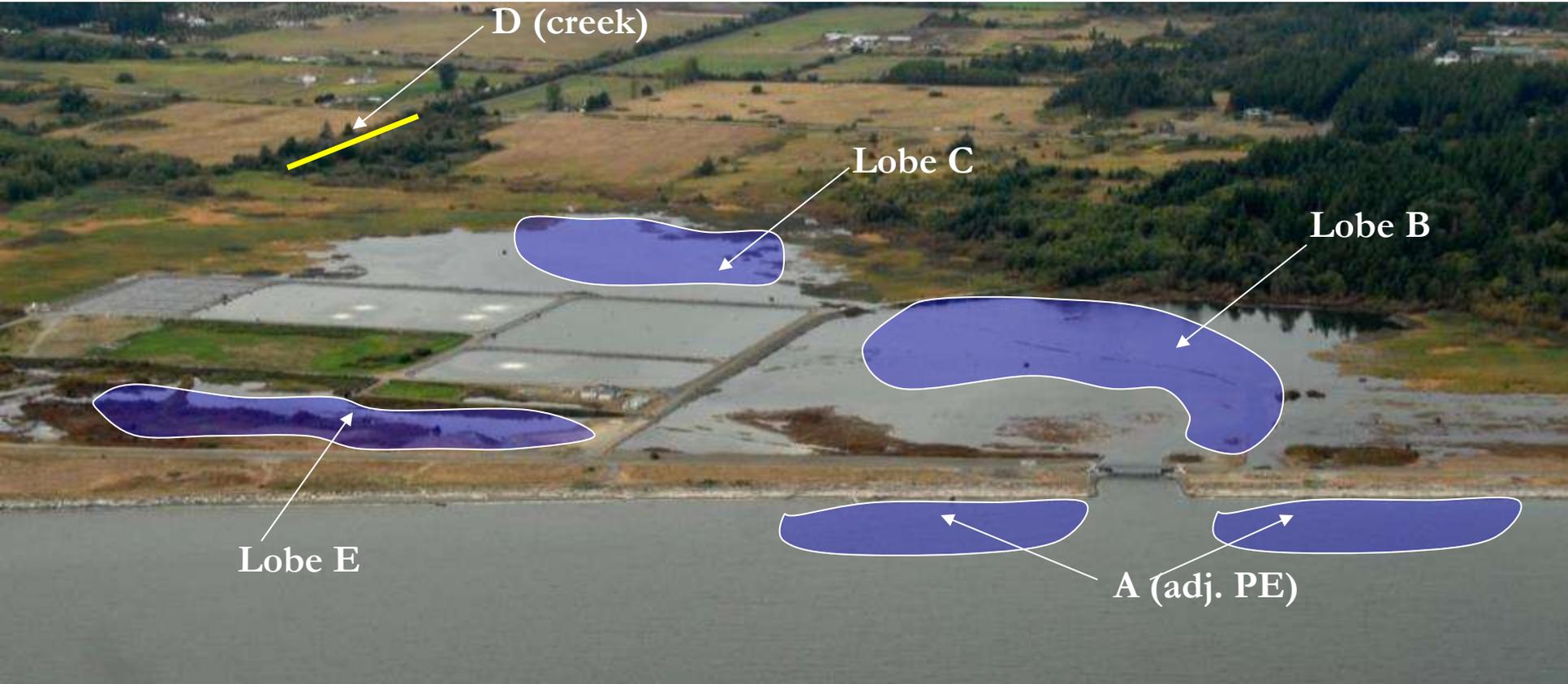
Fish Monitoring of Restoration Site



- 2010 Cooperative Agreement
 - Conduct monitoring of fish recolonizing the restoration site
- Skagit River System Cooperative sampling
 - 2011/2012
 - Seining and electrofishing using backpack equipment



Crescent Harbor Sampling Site Design



- 5 spatial strata, 2 gear types, 4 beach seine sets per strata (except creek – which is electrofished)



Fish Monitoring Preliminary Results



- **2011:** Beach seining from Feb - May caught 18,959 fish (most were sticklebacks, followed by shiners and staghorn sculpins; 487 were juvenile Chinook salmon). Electrofishing in the lower creek from Jan - May caught 236 fish (both Chinook and coho salmon).
- **2012:** Beach seining from Jan - June caught 8,623 fish (nearly $\frac{1}{2}$ were juvenile pink salmon followed by sticklebacks, shiners, staghorn sculpins and Chinook salmon). Electrofishing in the lower creek from Jan – May caught 68 fish (both Chinook and coho salmon)



Future Potential Project Additions



- Fish sampling has identified fish trying to access remnant creek that flows into the restoration project and restoring the creek back to an original channel grade would benefit that fish access.
- The Navy may have a future need for wetland mitigation of future airfield projects. A restored Crescent Creek channel would facilitate creating wetlands adjacent to the restored floodplain.



Crescent Creek Restoration Project





Maylor Point Shore Protection Removal Project



Figure 2. Geomorphic shoretypes of the Maylor Point to Forbes Point area. Note the deteriorated status of some armor resulted in mapping of feeder bluffs where portions of armor remained. (MacLennan et al. 2013)



Maylor Point Shore Protection Removal Project





Maylor Point Shore Protection Removal Project





Questions?

