

DRAFT Sub-basin Summary
Regional Nearshore and Marine Chapter of the Puget Sound Salmon Recovery Plan

WHIDBEY BASIN

Introduction:

This document summarizes discussions between the Puget Sound Technical Recovery Team (TRT), NOAA Fisheries scientists, the Puget Sound Action Team (PSAT) and Shared Strategy staff about salmon recovery in the Whidbey Basin. People with an interest in this areas should also review the recommendations provided to watershed planning groups in the Shared Strategy Feedback for Decision Makers (October 2004) and the Technical Feedback from the TRT (November 2004). The nearshore and marine chapter of the recovery plan which is under development will expand upon the information in this summary and will provide the scientific foundation for the following recommendations. This summary is intended to help regional and watershed planning groups synthesize the technical and policy information that has been compiled to date and stimulate policy discussions on the conditions that are necessary to implement actions that will support recovery in the nearshore and marine environments.

Fish Story:

The Whidbey sub-basin provides natal habitat for 10 of the 22 independent Chinook populations. It is also probable that juveniles from other, non-natal populations use this area. Juvenile Chinook salmon of four known life history types use the area for feeding and growth, refuge, physiological transition and as a migratory corridor. Adults use the area as a migratory corridor and grazing area. Scientists consider the sub-basin a *key* nearshore area that is of significant importance to Chinook as well as bull trout.

Landscape Story:

This sub-basin has three large river deltas that are directly connected to a relatively protected section of Puget Sound; hence the functions for natal fish are very important. The entire sub-basin should be considered habitat for Chinook from these three deltas. Each of the three deltas has been substantially altered by dikes constructed to create agricultural land. The Whidbey Basin has the most nearshore area in the evolutionarily significant unit (ESU) with approximately 121 square miles. Of the 348 miles of shoreline, 44% is armored. Railroad tracks occur along the shoreline from Mukilteo to Everett. The PSAT identified and analyzed 17 pocket estuaries by examining oblique aerial photos on the DOE's Digital Coastal Atlas website. Most were considered at risk based on the criteria applied by the PSAT. A large eelgrass bed is located in Skagit Bay, and eelgrass can be found along Saratoga Passage shorelines and along much of the shoreline of the protected part of the Whidbey Basin. Sewage outfalls and other chemicals are known stressors. In terms of water quality, it is important to recognize the connectivity of the Whidbey Basin with Padilla Bay. Lower Stillaguamish water quality, especially West Pass, is poor. During low flows, the water temperature increases, dissolved oxygen drops (as a result of agricultural runoff) and conditions could be detrimental to fish migration. Hydrology has been altered by diking of the deltas and the jetty at the entrance to the Swinomish Slough.

Key Actions:

At the September 9, 2004 meeting of the PSAT, the TRT and Shared Strategy staff, actions for marine and nearshore sub-basins were organized under two strategy types – **protection** and **restoration**. Protection is recommended as the primary strategy direction for nearshore and marine areas, given the current state of knowledge. This strategy is designed to protect what is currently functioning, while leaving options open for future restoration. In the next five years, the Puget Sound Nearshore Ecosystem Restoration Program (PSNERP) is expected to provide additional information that will better inform the development of large-scale restoration efforts. Restoration actions in the near-term should occur where benefits to fish are reasonably certain and there is local support.

Key Protection Actions:

In addition to the recommendations identified in the WRIA plans, the following actions should be considered in the near-term if possible, and in the longer-term as part of a regional Puget Sound assessment:

- Protect the entire sub-basin for natal population functions. This should also benefit non-natal populations. In particular protect shallow water/low gradient habitats and pocket estuaries, including the Simlik and Tosi Point pocket estuaries.
- Protect eelgrass habitat.
- Protect drift cell function supporting eelgrass habitats and depositional features.
- Protect water quality.
- Protect habitats in the Deception Pass region, (for example, against catastrophic events) to ensure fish can enter and exit Whidbey Basin.
- Consider wastewater reclamation and reuse retrofits for sewage discharge facilities.
- Protect all remaining functional nearshore habitat throughout the sub-basin via shoreline master programs, critical areas ordinances, enforcement and incentives.

Key Restoration Actions:

There is not sufficient information to evaluate the regional benefit of restoration actions in this sub-basin. The following actions should be considered as part of a Puget Sound regional assessment and prioritized for their benefit.

- Restore the entire sub-basin for natal and non-natal population functions. In particular restore shallow water/low gradient habitats and pocket estuaries.
- Prioritize clean-up of contaminated sediment hot spots, such as the Everett Harbor area.
- Restore water quality in the lower Stillaguamish area.
- Evaluate the effects of hatchery fish using nearshore habitats under current and restored conditions—how will their presence affect the status of wild salmon in the area?