

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

**EASTERN STRAIT OF JUAN DE FUCA**

**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 Eastern Strait of Juan de Fuca sub-basin. People with an interest in this are 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 recommendations that follow. 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 Eastern Strait of Juan de Fuca nearshore provides a migratory corridor for all 22 Chinook populations of the Puget Sound ESU and for Hood Canal/Eastern Strait of Juan de Fuca summer chum populations. Additionally, adult salmon from Canadian rivers, the Columbia and Snake River ESUs may enter the area to rear and feed. The TRT identified two historically independent Chinook salmon populations from the sub-basin - the Elwha and Dungeness. A natal population of Hood Canal/Eastern Strait of Juan de Fuca summer chum also exists, including summer chum spawning in the Jimmycomelately and Salmon/Snow creeks. There are two bull trout core areas - the Elwha and Dungeness. Emerging data are showing that juvenile salmon are present in the nearshore regions after July. The life history types are unknown, but it is reasonable to assume that a variety of life history types of natal and non-natal populations use the area.

**Landscape Story:**

The nearshore area within the sub-basin is 12% of the entire Puget Sound nearshore. The Elwha and Dungeness deltas are a significant portion of the sub-basin's nearshore (17%). Armoring occurs along 54% of the 136-mile long shoreline. Armoring in one area is due entirely to protection for a pipeline and protection of Ediz Hook. Highway 101 is a significant anthropogenic constraint, and railroads follow the shoreline along Discovery Bay, a portion of Sequim Bay and a section of the Port Angeles shoreline. These bays also have higher concentrations of overwater structures than the rest of the shoreline. The damming of the Elwha River has reduced sediment loads to a portion of the Central Straits and likely has accelerated erosion in some places. The PSAT identified twenty-two pocket estuaries by examining oblique aerial photos on the DOE's Digital Coastal Zone Atlas website; most are located at the southern terminus of Discovery Bay, Sequim Bay, Dungeness Bay and Port Angeles Harbor. All three Chinook functions (feeding, osmoregulation, refuge) were observed in nine of the 22 pocket estuaries. About a third

of the pocket estuaries were functioning well according to PSAT's analysis. Shoreline development, urbanization, diking and filling, susceptibility to spills and discharges, and potential competition from hatchery releases were highlighted in many of the pocket estuaries. Kelp beds line much of the nearshore of the central Straits. Eelgrass habitats are located in Discovery Bay and Sequim Bay.

**Key Actions:**

At the September 9, 2004 meeting of 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 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 pocket estuaries and shallow water/low velocity habitats within five miles of the deltas.
- Protect feeder bluffs.
- Protect against catastrophic events, such as oil spills. Large volumes of crude oil are transported through this area to refineries at March Point and Cherry Point.
- Protect functioning drift cells that support eelgrass and depositional features, including those along the shoreline of Discovery Bay to Fort Worden, all west Whidbey Island shorelines within the sub-basin and between Port Angeles and Agnew.
- Protect Eagle Creek, Paradise Cove and Bell Creek lagoon.
- Consider and/or continue and expand wastewater reclamation and reuse retrofits for Port Townsend, Sequim (a model for success) and Port Angeles wastewater discharges.
- Protect shorelines via shoreline master programs, critical areas ordinances, enforcement and incentives.

**Key Restoration Actions:**

Sufficient information is not currently available 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 pocket estuaries and shallow water/low velocity habitats near the major deltas (within five miles) including those supporting summer chum.

- Restore the Elwha delta and adjacent shoreline from Port Angeles landfill to Ediz Hook (a regionally significant action). Consider beach nourishment as an approach to restoration. Remove and/or relocate the Port Angeles water pipeline, if feasible and cost effective.
- Consider restoration of functions in Maynard, Blyn, Glenn and Morse creek's pocket estuaries.
- 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?