

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

SOUTH GEORGIA STRAIT

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 South Georgia Strait sub-basin. People interested in this area 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 TRT identified two historically independent populations from this sub-basin – the North Fork/Middle Fork Nooksack and the South Fork Nooksack. It is probable that several other non-natal populations of the Puget Sound Chinook salmon ESU use this area as a migratory corridor. Studies of juvenile salmon use of this area have been limited. Large-scale migration patterns through the Strait are probably a function of a variety of oceanographic features such as river discharge from the Fraser River and circulation patterns in Bellingham Bay. It is likely that a diversity of size classes uses this sub-basin. It is probable that the area provides natal support for four life history types of Chinook salmon originating from the Nooksack River system. Freshwater streams such as Dakota Creek are important rearing areas for Chinook salmon. The marine area also provides foraging and migrating habitat for bull trout. Cherry Point herring are thought to be a significant prey resource for salmon.

Landscape Story:

This sub-basin has 221 miles of shoreline. Armoring occurs along 21.1% of the shoreline compared to 4.3% in the adjacent San Juan Islands sub-basin. The nearshore area is 15% of the entire Puget Sound basin. Railroads follow the shoreline from Chuckanut north to Bellingham and at the northeast section of Drayton Harbor. Concentrations of overwater structures such as ramps, piers and docks, can be found in Drayton Harbor, Birch Bay, Sandy Point and Bellingham Bay. Fourteen pocket estuaries were documented and analyzed by the PSAT by examining oblique aerial photos on the DOE's Digital Coastal Atlas website. Based on criteria applied by the PSAT, none were considered to be functioning well. Shoreline development, urbanization, diking and filling and susceptibility to spills and discharges were identified as stressors in nearly all the pocket estuaries. A significant amount of eelgrass habitat can be found in this sub-basin,

however, an estimated 500 acres have been lost from Bellingham Bay. Sediment contamination is an issue in Bellingham 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 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 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 shallow water/low gradient habitats and pocket estuaries within five miles of the Nooksack River for natal and non-natal functions.
- Protect small creeks, and some larger creeks such as Dakota Creek, for direct rearing by juvenile Chinook.
- Protect shorelines used for spawning by Cherry Point herring stock.
- Schedule in-water construction activities later in the year to protect juvenile salmon.
- Protect functioning drift cells and that support eelgrass bands and depositional features along Birch Bay, Drayton Harbor, Portage and Lummi Island shorelines.
- Consider wastewater reclamation and reuse retrofits for Bellingham Bay and Semiahmoo Spit wastewater discharges.
- Protect all remaining functional nearshore habitat throughout the sub-basin via shoreline master programs, critical areas ordinances, enforcement and incentives.
- Protect against catastrophic events.

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 areas of Bellingham Bay consistent with Bellingham Bay pilot project. Cap toxic sediments.
- Let natural processes control/accomplish reconnection of the Nooksack and Lummi rivers.
- Restore shallow water/low gradient habitats and pocket estuaries within five miles of the Nooksack River for natal and non-natal functions.
- Restore small creeks, and some larger creeks such as Dakota Creek, for direct rearing by juvenile Chinook.

- Restore Cherry Point herring spawning populations.
- 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?