

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

CARR-NISQUALLY

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 Carr-Nisqually Sub-basin. People with an interest 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 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 TRT identified one historically independent Chinook population from this sub-basin – the Nisqually. There appears to be extensive use of nearshore habitats by hatchery Chinook. It is not known what specific life history types are produced by this population. Habitats close to the Nisqually river delta are especially important to the natal population. As a result, pocket estuaries and other shallow water low velocity areas should be protected and restored. Non-natal Chinook juvenile salmon, including those from the South Sound and Central Puget Sound where most delta functions have been lost, also use this sub-basin. Adult Chinook salmon use the area for feeding and as a migratory corridor. Use by Hood Canal/Straight of Juan de Fuca non-natal summer chum may occur, but is not known for certain. The sub-basin provides foraging and migrating habitat for bull trout. The Tacoma Narrows functions as a migratory corridor for all fish exiting or entering south Puget Sound.

Landscape Story:

The nearshore portion of the Carr Nisqually sub-basin comprises 4% of the entire Puget Sound nearshore. Of the 154 miles of shoreline, 44% is armored. Fill associated with the I-5 crossing of the Nisqually River estuary has significantly reduced the historical estuarine habitat. Railroads follow the entire shoreline from the eastern edge of the Nisqually Delta, north to the Tacoma Narrows bridge and beyond. Concentrations of overwater structures occur in the heavily-armored areas, especially Hale Passage, Henderson Bay and portions of Carr Inlet. Thirty five pocket estuaries were identified and analyzed by the PSAT by examining oblique aerial photos on the DOE's Digital Coastal Atlas website. All three Chinook functions (feeding, osmoregulation, refuge) were present in 13 of the 35 pocket estuaries. The PSAT concluded that the majority of the pocket estuaries were functioning well. Eelgrass habitat is located within a portion of the Nisqually Delta and portions of Henderson Bay. Water quality is a concern, with

some areas becoming increasingly anoxic. Commercial and recreational shellfish harvesting occurs throughout the sub-basin. Toxic contaminants such as PCBs and PBDEs (and others) are impacting the food web of Puget Sound, particularly in the central and south basins. Natal Chinook salmon populations as well as a primary salmon prey (i.e., Pacific herring) are affected.

Key Actions:

At the September 9, 2004 meeting of Puget Sound Action Team, 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 shallow water/low gradient habitats and pocket estuaries within five miles of the Nisqually delta.
- Protect against catastrophic events. For example, guard against potential spills in the Narrows during construction of the new Narrows Bridge (a bottleneck).
- Protect small tributaries because of their significance to juvenile salmon.
- Protect functioning drift cells supporting eelgrass habitats and depositional features, including areas along Anderson, McNeil, Ketron and Fox island shorelines and the Gig Harbor peninsula shoreline along the Narrows.
- Protect shorelines via shoreline master programs, critical areas ordinances, enforcement and incentives.
- Protect water quality through existing programs (TMDL, NPDES) and other processes (such as HB2415).
- Add enhanced treatment, to the same standards as for salmon bearing streams, for stormwater discharging directly to Puget Sound.
- Consider wastewater reclamation and reuse retrofits for McNeil Island and Solo Point discharges.
- Promote shellfish environmental codes of practice.

Key Restoration Actions:

Currently, 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 shallow water/low gradient habitats and pocket estuaries, within five miles of the Nisqually delta.

- Continue to support efforts to restore the Nisqually delta.
- Retrofit as much of the railroad grade as possible from the Nisqually River to Point Defiance to address access to blocked pocket estuaries. Connect upland and aquatic environments.
- Study the feasibility of limited beach nourishment to mimic the natural sediment transport processes where corridor functions may be impaired.
- Encourage voluntary revegetation of cleared residential shorelines throughout the sub-basin.
- 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?