

Draft November 18, 2004

**Protection and Restoration Strategy
Puget Sound Marine Environments for Salmon Recovery**

Please provide comments by December 31, 2004 so we can improve this draft strategy for discussion at the Shared Strategy Summit.

What we have learned

For many years, how salmon use the marine environment of Puget Sound has been largely a mystery. There has been so much we have not known and what we did know has been scattered in a variety of places. Over the last year, however, that has begun to change. There are still many mysteries, but existing information demonstrates we must act to protect and restore the marine environment if we want to recover salmon. The Puget Sound Action Team, scientists and local salmon recovery planners have worked together this past year to put together existing information and craft hypotheses about Chinook populations and their relationship with the shorelines, estuaries, and marine areas of Puget Sound. Here are some of the key conclusions from discussions over the last year:

1. *We must ensure there is the capacity in both the fresh and marine waters of Puget Sound to support an increase in both juvenile and adult salmon. Puget Sound once was home to over 30 populations of Chinook salmon. Now, there are only 22. Lowering the risk of extinction for Puget Sound Chinook salmon will require that all remaining populations show significant improvements and 2-4 populations in each of the five sub-regions of the Sound (identified by the Technical Recovery Team) need to be naturally self-sustaining in the long-term. Recovery means more Chinook salmon as well as Hood Canal Summer Chum and Bull Trout will be using the estuaries, shorelines and marine waters of Puget Sound.*
2. *Areas that currently support salmon must be protected if we are going to have a chance to increase the capacity of the Sound to support all the needs of salmon and to maintain or improve the variety of opportunities for refuge and feeding that support diverse Chinook life histories and populations. A significant portion of the functioning estuarine and shoreline habitats and processes of Puget Sound have been lost or degraded. The majority of this impact has occurred in the major estuaries (deltas) and along Central Puget Sound shorelines. However, there is still high-quality, functioning habitat dispersed throughout the region that supports Chinook, Chum and Bull Trout populations.*
3. *Some areas of Puget Sound are more sensitive or susceptible to human impacts that can significantly diminish the survival of salmon. Special precautions must be taken in these areas.*

- a. Admiralty Inlet, Tacoma Narrows, Deception Pass and the San Juan Islands function as major migratory routes of juvenile and adult Chinook salmon. Therefore, catastrophic events, such as an oil spill, could significantly impact multiple populations at one time.
 - b. Areas such as the Whidbey Basin, the Inlets of South Sound and Hood Canal appear to be especially prone to water-quality impacts, like chronically low levels of oxygen, which can significantly decrease survival of listed salmonids.
 - c. The Whidbey Basin has a high percentage of shallow, low-gradient shorelines which are important for juvenile rearing. Ten of the 22 Chinook populations are produced from within this area, and juveniles from populations from other parts of Puget Sound rear in these habitats.
 - d. The major river deltas and areas within five miles of these deltas appear to be especially important to natal populations of Chinook salmon.
4. *Where we have significant scientific knowledge and local commitment to restore key environments, we should act, where these conditions are not present, large-scale restoration projects should wait until the science is better developed.* Significant restoration of Puget Sound river mouth deltas, pocket estuaries, shorelines and marine waters will be necessary to increase the viability of Puget Sound Chinook salmon. There is sufficient information and growing interest to significantly restore the Snohomish, Stillaguamish, Skagit, Nisqually and Dungeness estuaries. However, more research is needed to ensure that significant restorations in other parts of Puget Sound will truly provide benefits for fish. Restoration will be expensive and we must ensure that funds are spent wisely.
5. *We must find ways to engage landowners to protect and restore the marine environments in ways that support their personal interests.* Puget Sound marine waters and shorelines are important to salmon and they are also extremely important to the region's economy and other social interests of people. Balancing these interests will require new approaches and important decisions. Much of the shoreline that needs protection and restoration is privately owned. The areas that are least developed currently are predicted to experience the most growth in the next twenty years.

What do we need to do to achieve recovery?

Salmon recovery requires a long-term view and commitment as well as a near-term focus on the actions necessary to reduce the risk of extinction and move populations on a positive trajectory with regard to their abundance, productivity, spatial structure and diversity. We must ensure that Puget Sound's shorelines, estuaries and marine environments support salmon recovery and are consistent with actions occurring in freshwater environments.

Based on what we know, the following principles should shape the nearshore and marine strategy for the next 10 years:

1. Protection is a key salmon recovery strategy for the nearshore and marine environment; river mouth deltas, shorelines, pocket estuaries, and marine waters of Puget Sound. We must find ways to accommodate additional development and protect existing physical habitat functions and processes in marine waters, estuaries and shorelines, protect areas where multiple populations mix and are vulnerable to catastrophic events, and protect water quality in sub-basins susceptible to degradation.
2. Secondly, we must restore key areas where we know a significant contribution to recovery is possible. This includes our major river mouth deltas and select pocket estuaries and shorelines where we have local participation concurrent with a high benefit for fish. The strategic restoration needs assessment developed over the next five years through the Puget Sound Nearshore Ecosystem Restoration Program (PSNRP) process will help determine large-scale restoration projects in the longer timeframe as we learn more.
3. Thirdly, we need to continue to expand our knowledge of how fish use Puget Sound's shorelines, estuaries and marine environments to focus our protection and restoration actions. In the next ten years, coordinated monitoring and research should occur at the sub-basin, local, and drift cell scales.

What must be protected to ensure healthy habitats continue to function?

Effectively protecting shoreline function means the level of protection must match the functions provided by the habitat and be applied at the appropriate geographic scale. The best scales for most protection actions are at the level of individual drift cells and the larger sub-basins as defined by the Puget Sound Technical Recovery Team (TRT).

It is important to protect all functioning of:

- Important segments of drift cells, such as feeder bluffs, that support sediment processes
- Eelgrass beds
- Pocket estuaries
- Estuarine habitats of major river mouth deltas
- Forage fish spawning areas and critical rearing and migration habitats
- Marine shorelines (especially pocket estuaries and shallow, low gradient, fine substrate habitats) within 5 miles of major river deltas
- Freshwater sources that directly affect estuaries and marine shorelines

Who must act to protect existing habitat?

1. Local governments need to continue to enforce existing regulations and where necessary improve their regulatory programs to ensure the habitat features mentioned above are protected to the degree possible in the regulations.

2. The State needs to support local government efforts to improve regulatory protection (improved guidance, model policies, financial support for updates and/or early adoption).
3. State agencies need to enforce state policies to protect existing functions.
4. Voluntary conservation efforts and funds need to be focused on the protection of habitats and processes at risk of loss and not adequately protected by regulations because of landownership or development patterns.
5. State and local governments need to improve incentives and education for private property owners.
 - develop a Public Benefit Rating System for marine areas
 - create a fund for purchase of vested properties or to optimize re-development opportunities
 - provide information that explains the role their land plays in salmon recovery
6. The State needs to work with federal and local agencies to ensure protection of Admiralty Inlet, Tacoma Narrows, Deception Pass and the San Juan Islands from catastrophic events such as oil spills.
7. Increase protection of Whidbey Basin, South Sound, and Hood Canal from water quality impacts that result in low levels of dissolved oxygen.

Requests to Local Governments and State Agencies

Will local governments and State agencies take the actions recommended above?

Where new protection measures are necessary what will be the timeframe for action?

What conditions need to be considered to undertake the action by local governments and state agencies?

Sub-Basin Summaries

In addition to the above strategies for protection, restoration and research, the initial conclusions for sub-basins of the nearshore and marine chapter of the regional recovery plan are attached for your review. They reflect the Work of the Puget Sound Action team and discussions among the TRT, Puget Sound Action Team and Shared Strategy staff. Some recommendations have already been 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 will expand upon the information in this summary and will provide the more-developed logic train from the fish story and landscape story to hypotheses, strategies and actions. The summary is intended to help regional and watershed planning

groups synthesize the technical 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.