Scope of Work
Technical Assistance to Evaluate Bellingham Bay Cleanup
June 16, 2006

Introduction: The Lummi Nation is one of the signatories to the Point Elliot Treaty of January 22, 1855 (12 Stat. 927) which was ratified by the United States Senate on March 8, 1859, Proclaimed April 11, 1859 and which reserves certain rights for the Lummi people including but not limited to "the right of taking fish at usual and accustomed grounds and stations" and "hunting and gathering roots and berries on open and unclaimed lands." The decision of *United States v. Washington* (384 F. Supp. 312, 377 [W.D. Wash. 1974], aff'd, 520 F.2d 676 [9th Cir. 1975], cert. Denied, 423 U.S. 1086 [1976]) and subsequent court orders, as upheld by the United States Supreme Court, provide rules of engagement of the Lummi Nation and other co-managers relating to natural resources management. The Lummi Nation is a federally recognized Indian tribe and the Lummi Indian Business Council is the duly constituted governing body of the Lummi Indian Reservation by the authority of the Constitution and By-laws of the Lummi Nation of the Lummi Reservation, Washington.

The Lummi Nation is a fishing tribe and has used the waters and shorelines of Bellingham Bay since time immemorial. Prior to and following the arrival of Euro-Americans, the shorelines of Bellingham Bay were used as fishing villages and the tidelands and waters of Bellingham Bay were used to harvest fin- and shellfish for commercial, subsistence, and ceremonial purposes. Although the Lummi Nation still fishes the waters of Bellingham Bay, the resources have been degraded by human activities and shoreline development has precluded the use of traditional hunting, fishing, and gathering sites along the bay. As shown in Figure 1, approximately 748 acres of the Bellingham Bay near shore has been impacted (dredged, filled, or armored) including the Whatcom Water Way and the Aerated Stabilization Basin (ASB). In addition to these actions that have physically precluded the exercise of tribal treaty rights in these areas, the Whatcom Water Way, the ASB, and surrounding areas are contaminated with a number of substances released from industrial waterfront activities including mercury discharges from the former Georgia Pacific chlor-alkali plant.

Although cleanup activities have been underway since the 1970s, the Lummi Nation and the Corps of Engineers, along with numerous other federal, tribal, state, and local government agencies, most recently have been involved in efforts to cleanup portions of Bellingham Bay since the 1990s. Numerous clean-up plans have been proposed over the years and a few cleanup actions have been implemented. Throughout these efforts, the Lummi Nation position has been that contaminated sediments should be removed from the aquatic environment and disposed of at an appropriate upland disposal site. Due to cost constraints, alternative cleanup actions have occurred in some areas and no clean up actions have occurred in other areas. As a result, much of the contaminated sediments still remain in the Whatcom Water Way, the ASB, and surrounding areas.

The Port of Bellingham purchased the former Georgia Pacific site and associated ASB in January 2005 and has assumed the environmental cleanup responsibilities from Georgia Pacific. Consistent with the requirements of the Washington State Model Toxics Control Act (MTCA),

the Port of Bellingham has prepared a draft Remedial Investigation and Feasibility Study (RI/FS) that is currently under review by the Washington Department of Ecology. The RI/FS evaluated eight remediation alternatives but did not consider an alternative where the ASB and associated rip-rap and contaminants are removed and disposed of at an upland location and the entire ASB area restored to the eelgrass beds that existed prior to the construction of the ASB. This level of site restoration is consistent with Condition "S" of Permit No. 071-OYB-2-004368 (the original permit issued to Georgia Pacific Corporation to authorize the construction of the ASB) and in Lummi's view, best restores the habitat at this site. The Lummi Nation expects the Corps of Engineers to evaluate this alternative as part of the Corps permitting process and associated need to comply with the National Environmental Policy Act (NEPA).

Like all federal agencies, the United States Corps of Engineers is to adhere to the national policy towards tribal governments. In recognition of the special considerations due to tribal interests, the U.S. Army Corps of Engineers has formulated and adopted Tribal Policy Principles. Providing technical support to the Lummi Nation to help evaluate cleanup and redevelopment proposals is consistent with the Corps of Engineers Tribal Policy Principles.

Technical Review Issues/Specific Questions: The Lummi Nation is seeking a third party/independent assessment of a number of issues and responses to specific questions regarding the Port of Bellingham's proposed Bellingham Bay cleanup and redevelopment effort. Addressing these issues and questions is needed for the Lummi Nation to be able to make informed decisions regarding the proposed cleanup and redevelopment efforts. An independent/third party assessment will also help inform the public debate regarding the Bellingham Bay cleanup and redevelopment effort.

Overall, we would like technical support on a thorough review of the draft RI/FS and associated draft environmental impact statement and other related documents. We are seeking technical comments in the form of a written summary memorandum or report on the following:

- Completeness and reliability of the human health and ecological risk assessments;
- Completeness and reliability of the Remedial Investigation methodology;
- Adequacies of the proposed remedial action objectives; and
- Completeness and reliability of the proposed remedial action alternatives.

Ideally, these comments will be provided to the Lummi Nation no later than 10 working days prior to the close of the public comment period for the draft RI/FS, which is currently scheduled to be released by the Washington Department of Ecology during August 2006.

Related specific issues and questions related to natural resources that we are seeking technical support to address include those listed below. The Lummi Cultural Resources Department has other issues and concerns that are not included in this scope of work.

1. Historic, current, and future sediment sampling approach and results
    - Can the sediment sampling and analyses methods used to characterize the site over time be reasonably expected to provide accurate and reliable results (e.g., temporally representative [short-term, mid-term, long-term], spatially representative

[horizontally and vertically], comparable between sampling events, sufficient to accurately estimate short- and long-term trends)?

- Was the quality assurance project plan effectively implemented during the sampling and analysis of sediment (i.e., were performance audits performed and were the results positive)?
- Are the observed results sufficient to make accurate predictions regarding the long-term sediment deposition rates?
- How reliable are the estimates of sediment discharge from the Nooksack River?
- What are the effects of changes in the location of the primary Nooksack River channel on Bellingham Bay sediment deposition? That is, the primary channel of the Nooksack River has changed over recent history from the western channel and is currently the eastern most channel. However, flooding and other geomorphic factors could result in the primary channel moving to discharge to Bellingham Bay further south/west of its present location.
- What would be the effects of reductions in discharge from the Nooksack River? For example, what would the effect on sediment deposition rates in Bellingham Bay and specifically in the Whatcom Waterway and adjacent areas be if a portion of the Nooksack River was diverted back to its historic channel and discharged to Lummi Bay as part of salmon habitat enhancement efforts?
- What future monitoring should be required to evaluate the effectiveness of proposed remedial actions and what contingencies should be identified in the event that long-term monitoring results indicate that remedial actions are not as effective as anticipated? What mechanism should be established to ensure that the contingency plans are implemented if needed?

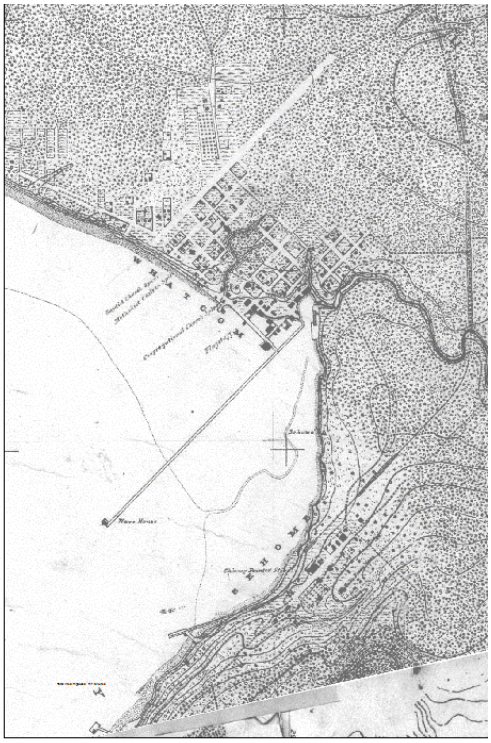
2. Bellingham Bay current studies
    - Is the available information on both surface and bottom currents adequate to evaluate the effectiveness of the proposed natural recovery approach (note that the RI/FS Volume 1 gives citations for Colyer [1998], Collias et al. [1966], and Broad et al. [1984] but the references for these sources is not provided)?
    - How does the 2005 bathymetric survey conducted by NOAA affect assumptions regarding currents in Bellingham Bay?
    - Is the development of a circulation model needed to adequately evaluate the long-term viability of the proposed natural recovery approach and to assess changes in Nooksack River discharge?

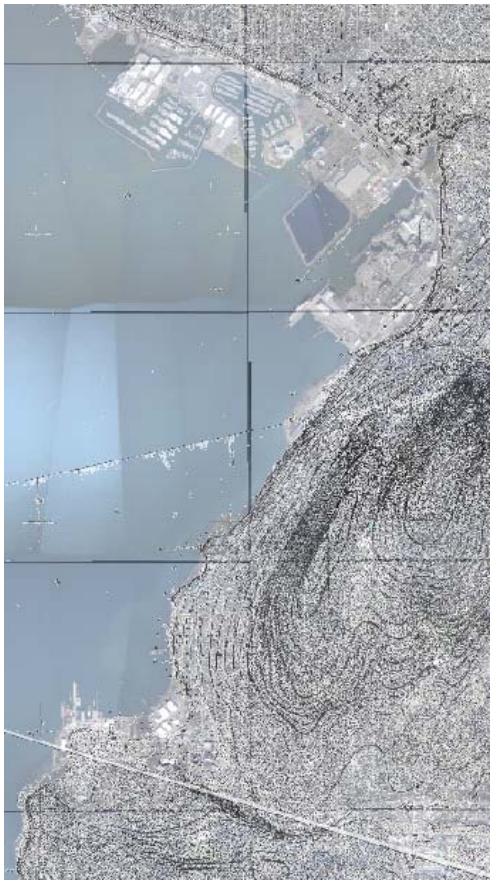
3. Adequacy of Clean-up Standards
    - Will the Corps of Engineers require that the Environmental Protection Agency (EPA) preference and general practice of using the 95th percentile consumption rate for purposes of estimating risks to a given population (see EPA/540/1-89/002, http://www.epa.gov/oswer/riskassessment/ragsa/) be used rather than the 90th percentile used in the Remedial Investigation?
    - Although there has not been a Lummi Nation specific fish consumption study completed, the EPA reports that consumption studies have been performed for the Tulalip Tribes (1996) and the Suquamish Tribe (2000). The 95th percentile

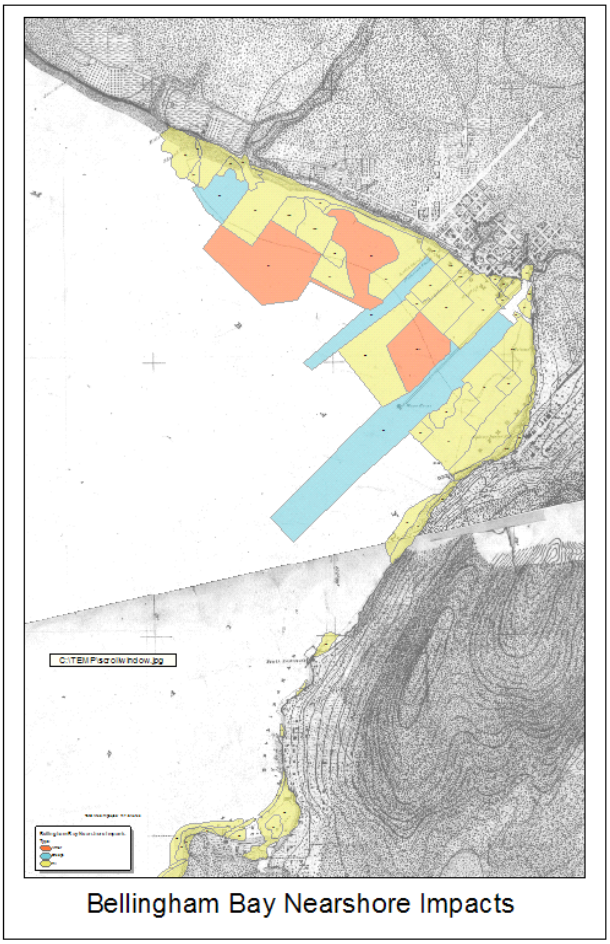
consumption rate for bottom fish and shellfish reported for the Tulalip Tribes is 89.4 grams per day for individuals with an average body weight of 81.8 kg (180 lbs); the 95th percentile consumption rate for bottom fish and shellfish reported for the Suquamish Tribe is 540 grams per day for individuals with an average body weight of 79 kg (174 lbs). These consumption rates do not include additional consumption rates for salmon and pelagic species. Both of these reported consumption rates are greater than the 70 grams per day used in the Remedial Investigation. We would like the Corps of Engineers to conduct a sensitivity analysis to evaluate how a range of consumption rates (from say for example 70 grams per day to 550 grams per day) and how a range of body weights (from say for example 30 to 300 pounds) affects the risk assessment results? We are particularly interested in being able to demonstrate that the bioaccumulation screening level is protective of children.

4. Long-term stability of proposed remedial actions.
    - Is the presented analysis on the effects of seismic or other natural hazards on the long-term stability of the mercury contaminated sediments adequate?
    - Is the presented analysis on factors affecting sediment stability (e.g., bioturbation, periodic storm surges, propeller wash, anchor drag) adequate? Are there other factors that should be considered that are not considered?

5. Are there suitable methods for removing the mercury-contaminated sediments from the Whatcom Waterway and areas adjacent to the ASB while minimizing the risks of re-suspension in the water column (e.g., suction dredge with curtains)?







Bellingham Bay Nearshore Impacts

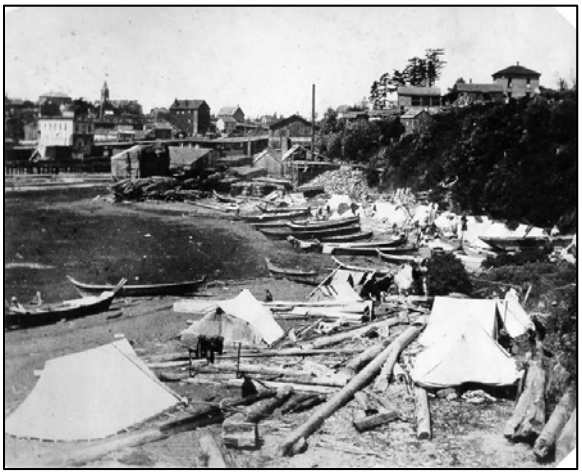


Figure 1. Bellingham Bay Near Shore Impacts