

Lummi Nation Surface Water Quality Program and Regulating Water Quality to Protect Tribal Foods



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Tribal Rights and Fish Consumption Workshop

Fish Consumption Rate Standards and Protection of Human Health Panel

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Purpose Statement

- The purpose of this presentation is to:
 - Summarize the Lummi Nation approach to environmental review of proposed projects; and
 - Describe the Lummi Nation Surface Water Quality Standards Program – a regulatory approach to protecting tribal foods.
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Environmental Baseline



What is the Appropriate Environmental Baseline?



- Although there is the federal trust responsibility and state/tribal agreements that support protection of tribal resources, the baseline used to evaluate the impacts of proposed development projects is typically current conditions.
- Current conditions are typically degraded from historic conditions; adopting current conditions as the environmental baseline is not protective of tribal interests or Treaty rights.
- One example related to the Lummi Nation is tribal fishing levels.

Lummi is a Fishing Tribe



Lummi is a Fishing Tribe



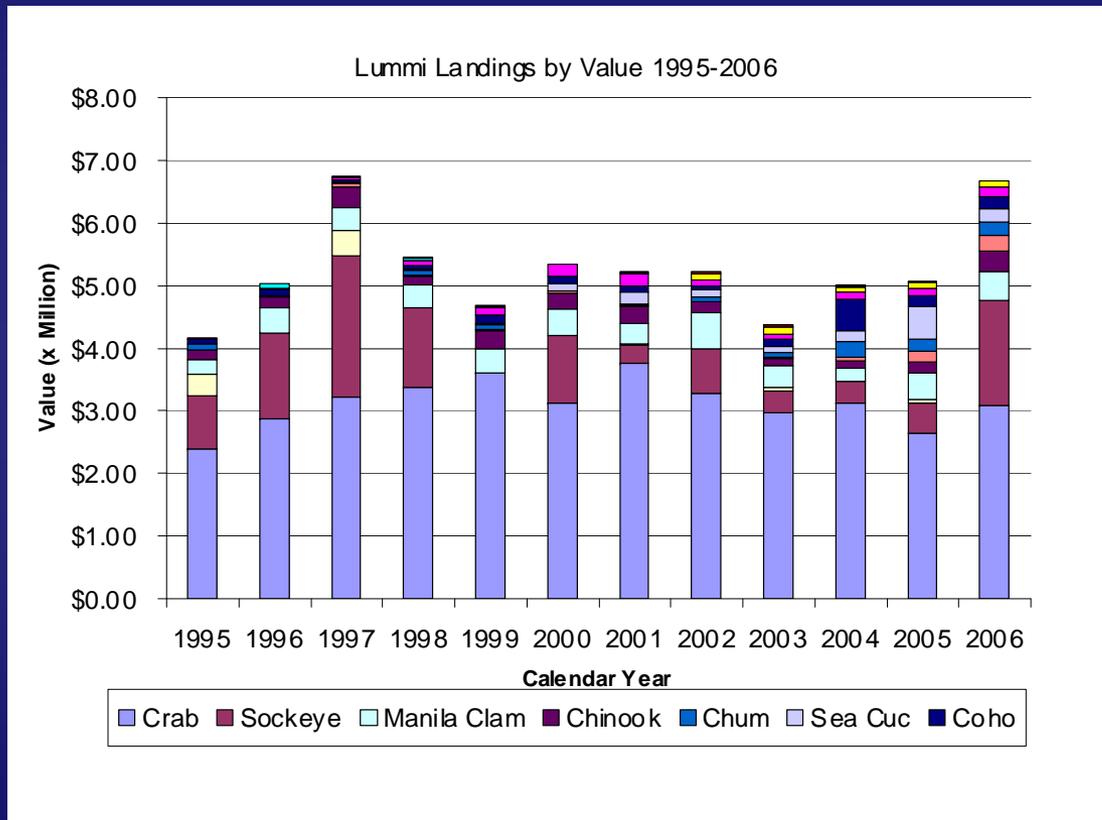


Lummi is a Fishing Tribe

- Lummi has largest fishing fleet of all northwest tribes.
- At its peak in the mid-1980s, the Lummi fishing industry employed approximately 2,000 Lummi members.
- In the 10-year period between 1995 and 2005, on average there were 592 fishing registrations and 126 crabbing registrations each year.
- There are currently over 250 vessels registered with the Lummi Nation.



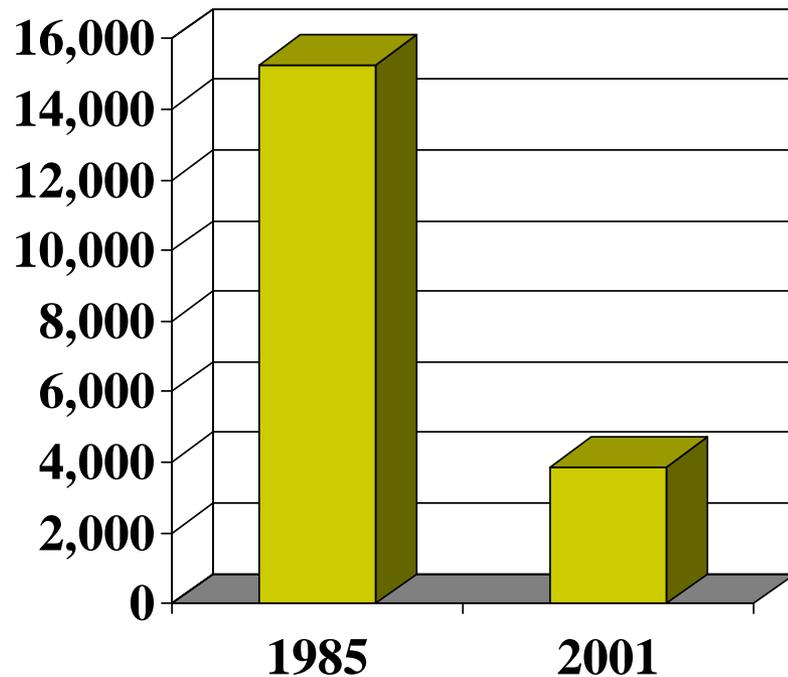
Lummi is a Fishing Tribe



- Over the last 10-years, the crab fishery provided the largest percentage of the yearly fishery revenue
- Sockeye salmon and manila clams were next.
- There was no Sockeye fishery during 1999 and 2007!!!
- The loss or reduction of a fishery increases the importance of the other fisheries to the Lummi economy.
- Although there are annual variations, 2001 is representative of the most recent 10 years.



Lummi is a Fishing Tribe



■ Landings (1,000 lbs)

- In 1985, the Lummi Fishing Fleet landed about 15.3 million pounds of fin- and shellfish.
- In 2001, the combined harvest was about 3.9 million pounds of fin- and shellfish.
- Lummi position is that 1985 is a more appropriate environmental baseline than 2001.

Lummi Nation Water Quality Standards Program



What is the Lummi Nation WQS Program?



- The Lummi Nation works in close cooperation with federal, state, and local agencies to address water quality issues for a number of reasons including the fact that water flows freely, and generally downstream, across jurisdictional lines.
- The Lummi Reservation, like most Puget Sound Reservations, is located at the downstream end of the watershed.
- The Lummi Nation initially applied to the EPA for eligibility to administer the water quality standards program under Section 518 of the Federal Clean Water Act (CWA) in March 1995.

What is the Goal of the Lummi Nation WQS Program?



- The overall goal of the adoption of water quality standards is to protect the public health of Reservation residents and to attain fishable and swimmable waters within the Lummi Indian Reservation (Reservation).
- The water quality standards apply to all surface waters within the Reservation boundaries.



How Long Does the Process Take?

- Original Lummi Nation application filed in March 1995.
- In February 1999 supplemental materials were provided to the EPA.
- During the summer of 1999, the EPA conducted a public comment period on the Lummi Nation application to administer the program.
- Over 500 comment letters received – generally opposing delegation.
- Lummi provided supplemental materials to the EPA from 1999 through 2006.
- EPA approved the Lummi application in March 2007.
- Lummi WQS adopted in August 2007 and sent to EPA.
- EPA approved the Lummi WQS in September 2008.

What Are Elements of the Lummi Nation WQS?



- The Lummi Nation Surface WQS is a regulation adopted pursuant to the Lummi Code of Laws Title 17 (Water Resources Protection Code).
- The Regulation (17 LAR 07) has 21 sections including:
 - Designated Water Uses and Criteria Classes
 - Narrative and/or Numeric Criteria to protect the designated uses. For example,
 - Criteria for temperature, bacteria, dissolved oxygen, pH
 - Toxic Substances (Aquatic Life Criteria, Human Health Criteria)
 - Anti-Degradation Policy
 - Mixing Zones

Fish Consumption Rates



Fish Consumption Rates in the Lummi Nation WQS



- Fish Consumption Rates are used to address cancer and non-cancer effects from toxics in fish (fin- and shellfish).
- The consumption rate affects the toxic substance criteria of the WQS.
- The general equation to estimate risk is:
$$\text{Risk} = \text{Dose} \times \text{Toxicity}$$
- Fish consumption is part of the “Dose” in the computation of Risk (1 in 1,000,000).
- The higher the “Dose”, the lower the “Toxicity” must be to have the same Risk.

What is the Appropriate Fish Consumption Rate to Use?



- Environmental Baseline Question:
 - Current conditions or conditions in the mid-1800s.
- Fish Consumption Rates for the current conditions are depressed in some areas due to a variety of factors including: environmental degradation that prevents harvest in traditional areas, reduced abundance, alternative food choices.
- Fish consumption is integral to the Lummi way of life (“Schelangen”) and was undoubtedly the primary food source in the mid-1800s.

What is the Appropriate Fish Consumption Rate to Use?



- Wide Range of Fish Consumption Rates in the literature:
 - 6.5 g/day (former EPA default [1980] and current Washington State Water Quality Standard).
 - 17.5 g/day (EPA nationwide default [2000])
 - 63.2 g/day (CRITFC [1994] average current tribal consumption)
 - 142.4 g/day (EPA subsistence default [2000])
 - 159.7 – 221.7 g/day (90th percentile Squaxin Island and Tulalip tribes current consumption)
 - 620 g/day (*U.S. v. Washington* [1974] average salmon consumption)
 - 972 g/day (CRITFC [1994] maximum value, current tribal consumption)

What is the Appropriate Fish Consumption Rate to Use?



- Lummi used the 142.4 g/day (EPA subsistence default [2000]) to determine the toxic substances criteria in the Lummi 2007 Water Quality Standards for a number of reasons including the following:
 - A Lummi-specific fish consumption survey is not currently available.
 - Policy decision related to conflict avoidance and the desire to obtain the tools represented by approved water quality standards.
 - Opportunity to modify the fish consumption rate and the resultant toxic substance criteria exists during the required triennial review of the WQS.

Next Steps Related to Fish Consumption Rates



- Obtain funding and conduct a scientifically valid Lummi-specific fish consumption study:
 - Current efforts working with the EPA have led to submittal of a formal request for assistance to the Agency for Toxic Substances and Disease Registry (ATSDR).
 - Any other ideas?
- Work with the Washington Department of Ecology during their triennial review to ensure that the fish consumption rate used to compute their toxic substances criteria is more protective of tribal people.
- Monitor what is happening in Oregon.