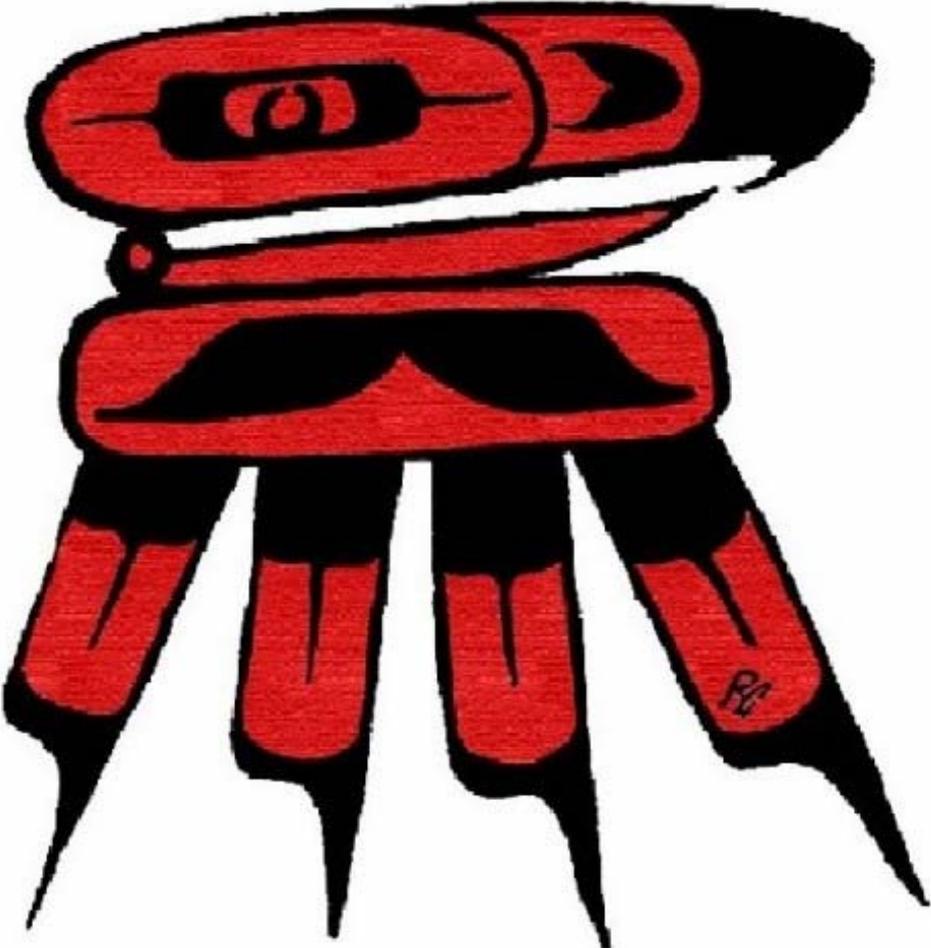


# Elwaha Klallam Fish Consumption



# Lower Elwha Klallam Tribe Fish Consumption

By

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December 14, 2008



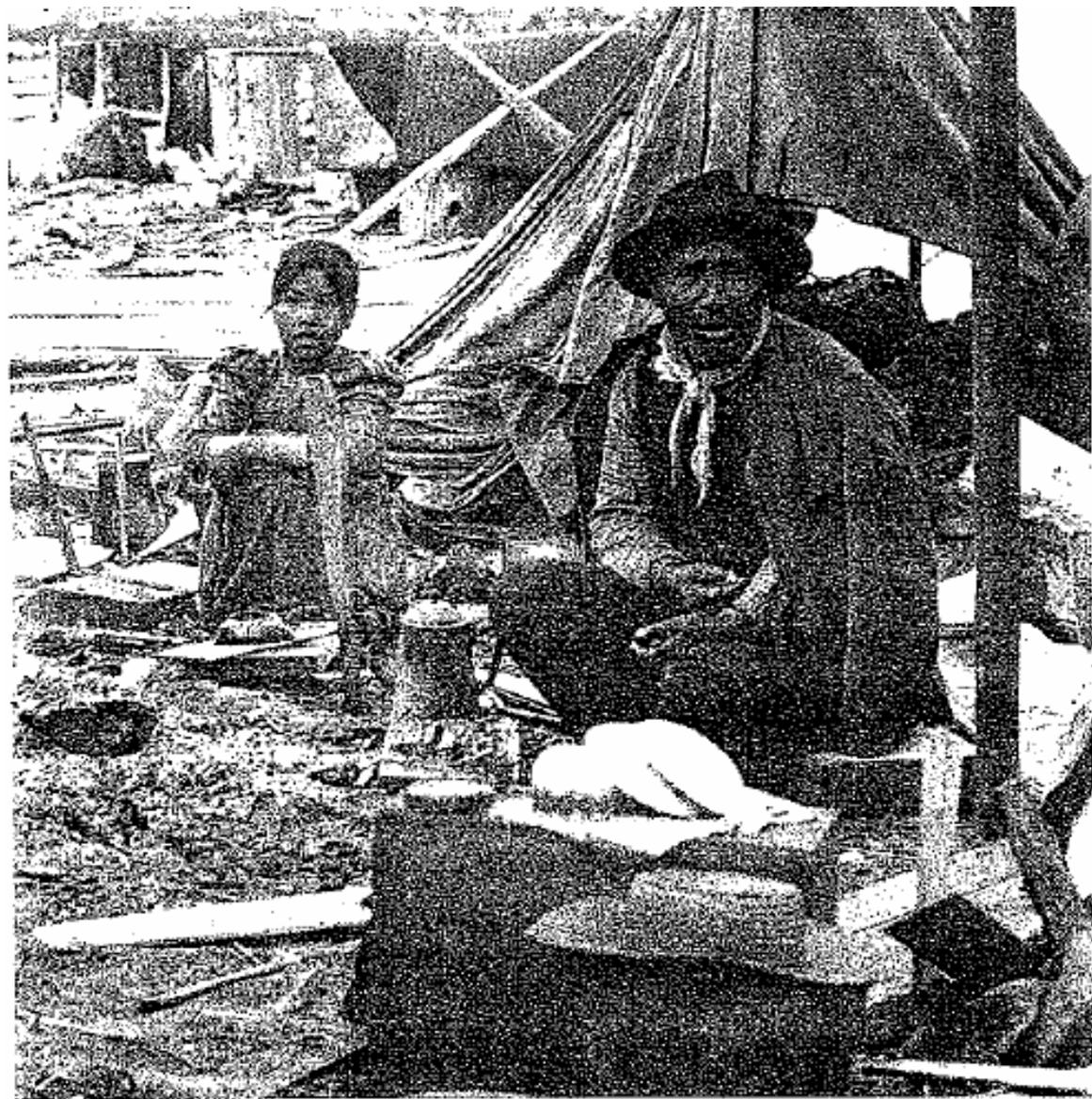
Prince of Wales family, shell fishing. Courtesy of North Olympic Library,  
Kellogg Collection.

# The Elwha Klallam & Port Angeles Harbor

- The Elwha Klallam People have been tied to the Strait of Juan de Fuca and Puget Sound for millennia. The recent re-discovery of Tse-whit-zen village, dated at over 2500 years, verifies this fact. They were reluctantly forced to leave by the settlers in the late 1940's.

# Port Angeles harbor had vibrant wealthy villages





MAN AND GIRL ON BEACH.

*Photo by Joe McKissick.*

# DIET & RESOURCES

- The Elwha Band of the Klallam Tribe were more reliant on the sea to provide for their sustenance than other tribes partly due to reduced access to other land based sources of protein.
- Their diet was almost exclusively fish and shellfish based, with some birds, wild berries and roots added.
- The Elwha Klallam chose to live on Port Angeles Harbor because of the abundance of seafood resources it contained.



HOLLYWOOD BEACH, PORT ANGELES, WASHINGTON. CIRCA 1900. TODAY THE SITE IS OCCUPIED BY THE RED LION MOTEL.

*Photo by Walter B. Miller. Bert Kellogg Collection,  
North Olympic Library System, Port Angeles, WA.*

# Treaty Rights and Fish Consumption

- *“treaty-secured rights to take fish are rendered meaningless if the ecological conditions necessary to support the fish are permitted to be degraded.”*

(Stanford Environmental Law Journal, Jan. 2000;  
Catherine O’Neill)

# Traditional Consumption

- Historically the Elwha Klallam People consumed fish and shellfish at a very high rate. They consumed no refined food stuffs such as sugar flour or dairy products.
- They ate this way for thousands of years and were always small, lean, healthy people.
- A significant change occurred in the mid 20<sup>th</sup> century when changes in body composition were observed. With a significant increase in weight came a myriad of health issues, which they hadn't faced before.



CAPTAIN CHARLES HALL, JAMESTOWN CANOE BUILDER.

*Photo by Joe McKissick.*  
Cy Frick Collection, Sequim, WA.

# Tse-Whit-Zen Village (1926)



# Tribal Health

Health Issue	Lower Elwha Klallam Tribe	National Average
Hypertension	31% 9% (children)	24%
Clinically overweight	68%	55%
Clinically obese	48% 35% (children <4 yrs)	22%
Depression	30%	19%

Source: Centers for Disease Control (2007)

# Elwha Klallam people Today



# Genetics and Tribal Health

*“Genetic traits may be positively or negatively selected relative to their concordance or discordance with environmental selective pressures. (1) When the environment remains relatively constant, stabilizing selection tends to maintain genetic traits that represent the optimal average for a population. (2) When environmental conditions permanently change, evolutionary discordance arises between a species’ genome and its environment,…”*

*The American Journal of Clinical Nutrition, Loren Cordain, Et Al, 2005*

# Genetics and Tribal Health

- *“the profound environmental changes (e g, in diet and other lifestyle conditions) that began with the introduction of agriculture and animal husbandry 10,000 years ago occurred too recently on an evolutionary time scale for the human genome to adapt. (2-5). In conjunction with this discordance between our ancient, genetically determined biology and the nutritional, cultural and activity patterns in contemporary Western populations many of the so called diseases of civilization have emerged.”*

*The American Journal of Clinical Nutrition, Loren Cordain, Et Al, 2005*

# Dietary Impact

The European-based diet, rich in carbohydrates, fats, and dairy products has contrasted sharply with the historic composition of the traditional Klallam diet.

- The rapid, often forceful, introduction to the western diet and food preparation techniques has resulted in a serious disruption in the physiological responses of the Klallam people.
- This rapid dietary transition for the Klallam Tribe, who had for thousands of years maintained essentially the same diet and lifestyle, has occurred over a period of less than 100 years.**

- **In contrast, the European diet was, in general, gradually developed over millennia using food resources starkly different from those available to Native Americans.**
- **Dairy products, eggs, red meat, pastas, potatoes, and other foods provided significantly higher levels of carbohydrates and cholesterol than the traditional native diet.**
- **The Klallam People have been physiologically and genetically unable to adapt to such a rapid and significant shift in diet.**

# **Current Consumption and Suppression Effect**

A “suppression effect” occurs when a fish consumption rate (FCR) for a given population, group, or tribe reflects a current level of consumption that is artificially diminished from an appropriate baseline level of consumption for that population, group, or tribe.

# Considerations of Suppression Effect

**. “... In each case, there would be important questions of history, culture, and aspiration that would need considered in determining an appropriate baseline; that is to say, an appropriate baseline might mean an examination into what people had consumed as well as aspiration for what people would consume were there “fair access for all to a full range of resources,” or were the conditions fulfilled for the full exercise of treaty and trust protected rights and purposes.”**

*(NEJAC, 12/2001)*

# Local Suppression factors

**Relevant local examples are marine contamination of Port Angeles Harbor, fish passage barriers (dams) of the Elwha River, and commercially depleted fish stocks such as Salmon...**

***Contemporary Native Consumption rates, as documented by current surveys, are suppressed from original rates for Native fishing populations due to depletion and contamination of fisheries, reduced availability within the usual and accustomed fishing areas, and population growth.***

EPA region 10 Tribal Fish Consumption Guidelines, 2007

**In the Pacific Northwest, degradation of riparian, near shore, and estuarine environments has led to:**

- Listing of 24 salmon and steelhead runs as endangered or threatened.**
- Discharges into the bays and harbors contaminating shell fish and restricting harvests.**
- Reduced availability of fish and shellfish for Tribal members.**
- Greater risk of consumption of contaminated fisheries for fish and shellfish that are harvested.**
- Inadequate cleanup of Port Angeles Harbor will only exacerbate this issue.**

# Subsistence Fisheries

- Institutional controls and advisories are accepted methodologies of dealing with unsafe or contaminated fish stocks, but results in the presumption that the consumer has other options.
- Tribal Subsistence Fishermen frequently have no other options.

# So What is an Appropriate Consumption Rate ?

- Based upon descriptions from Tribal Elders, consumption was likely between 900 and 1500 grams of fish/shellfish per day.
- An extrapolated estimate of the calories necessary to maintain a body weight of 154 lbs. is 900 to 1476 grams per day.

**The Lower Elwha Klallam Tribe wants to be able to fish and harvest shellfish in Port Angeles Harbor as their ancestors did, to achieve this goal this much more robust consumption rate than the MTCA default must be used.**

**The Tribe is trying to increase consumption in an attempt to improve over all tribal health. The Tribe is trying to survive.**

**The Elwha are not asking for special treatment, they are asking for equal protection from contaminants. The default rates are considered to be safe for the average consumer. The Elwha consume much more than average and therefore require a more thorough cleanup for equal protection.**

# HOW TO GET THERE

- **How can an acceptable consumption rate be reached for cleanups?**
- **The tribe believes the new EPA Region 10 Human Health Risks Tribal Consumption Framework can help.**

# APPLICATION OF THE FRAMEWORK

Bill Beckley

Ridolfi Inc.