



**Nisqually River Council
Citizens Advisory Committee
Meeting Minutes
August 11, 2015, 6:00 – 8:00 PM
Nisqually Tribe's Natural Resources Office**

CAC Members Present: *Steve Pruitt, Phyllis Farrell, Karelina Resnick, Bob Smith, Marjorie Smith, Lois Ward, Rosalea Pruitt*

Guests Present: *2015 Nisqually Stream Stewards, Allie Denzler, Sheila Wilson, Chris Ellings and Jed Moore*

Staff Present: *Morgan Greene*

Welcome and Introductions

The meeting was called to order at 6:08pm. This meeting was held jointly with the Nisqually Stream Stewards. Due to a last minute change, the agenda was changed to include the following presentations: Nisqually Salmon Recovery by Chris Ellings; Fish Counter by Jed Moore; and Watershed in your Hands. All other scheduled topics were removed from the agenda.

Nisqually Salmon Recovery – Chris Ellings, Nisqually Indian Tribe

Chris Ellings began the evening with a presentation on the Nisqually Tribe's Salmon Recovery Program, and why it's so important to save the fish. He noted that several runs of Nisqually salmon are already extinct, and two other runs are listed as threatened under the Endangered Species Act. The runs and population numbers are heavily degraded due to industrialization and the heavy development of the Puget Sound Region. The Salmon Recovery Program was started after the Chinook salmon was listed as threatened. The first thing the program did was write a Recovery Plan (2001), which was adopted by the federal government in 2007.

The Recovery Plan has several main priority areas. These areas are the Nisqually estuary, the Nisqually mainstem, Ohop Creek, Mashel River, and reducing the number of hatchery fish that spawn with wild fish. A primary objective of the Plan is protect the undeveloped land of the watershed, because it's easier to protect pristine land, than restore developed land. Chris noted that the Plan follows the "portfolio theory"—by protecting dominate tributaries, habitat is diversified in the event of a disaster on the mainstem.

As of 2014, Nisqually Indian Tribe and partners have restored over 900 acres of the Nisqually estuary, protected nearly 80% of the Nisqually mainstem, and restored 2.5 miles of both Ohop Creek and Mashel River. Although this is great progress, Chris noted that there is still work to be done. As an example, the Nisqually River Council, Nisqually Land Trust, and Nisqually Indian Tribe are working to start a Community Forest in the upper watershed that would manage lands for sustainable logging, local mills, ecosystem protection and salmon conservation. Currently, the Community Forest Board has been established, and the first blocks of land will hopefully be purchased soon.

Chris also shared details on the historic 2009 Nisqually Delta Restoration Project. In his opinion, this project highlights a lot of the conservation work that has been done in the watershed. The major restoration construction occurred in 2009, but monitoring has been ongoing for the last 5 years. Chris noted that this project was a huge, regional effort: resources and funding came from across the Puget Sound region. The restoration also shed a lot of light on problems in the Nisqually, in particular a lack of sediment. In fact, most of the land on the delta is at a much lower elevation than the land surrounding it, which impedes re-growth

of vegetation. The Tribe has learned that Alder Dam traps about 92% of sediment washed down from Mount Rainier, and 50% of the remaining sediment is lost offshore, instead of depositing on the delta. Chris explained that the elevation of Alder Reservoir has changed 26 meters since the dam was installed. However, the restoration did positively affect fish populations. Even as the delta habitat is in a transition period, the habitat is very productive. One of the results is that salmon growth rates are very high, so they enter Puget Sound as larger, more resilient fish.

Another component of the Salmon Recovery Program involves managing the stock of hatchery fish and strengthening numbers of wild fish. This requires an adaptive management approach, because conditions and information is always changing. An example of this work is the mainstem weir. There, fish swim into traps so scientists can sort hatchery fish and wild fish, limiting the ability of hatchery fish from mating with wild fish. Challenges of this operation includes floods, droughts, and huge numbers of returning pink salmon. Successes, however, include successfully removing hatchery fish, tagging fish to monitor spawning habitats, and reducing the number of hatchery fish above the weir from 70% to 43%.

Other work includes tracking salmon survival through Puget Sound. The Nisqually Watershed is important in the overall recovery of Puget Sound, because Nisqually fish have to swim through Puget Sound two times before spawning. To track the success of the Puget Sound recovery effort, the Tribe is monitoring zooplankton, Steelhead migration and other efforts. Zooplankton is an important prey source for salmon and can be used to measure how healthy the marine environment is. Steelhead were listed as a threatened species in 2005, because their abundance has plummeted in the last 2 decades. Research shows that only 4-12% of Steelhead survive their initial trip through Puget Sound, even though they spend an average of 14 days in the Sound.

Chris ended by sharing a video of the Ohop Valley Restoration Project. It is available here: <https://vimeo.com/131456782>.

Questions:

- How does the Tribe plan to fix the sediment problem? The Tribe is currently building models of sediment routing, which will help “map out” different solutions, like raising I-5 or moving it further upstream.
- Are there other examples from other rivers of moving sediment downstream? The Grand Canyon receives large flushes occasionally, but that has not been studied as an option here.
- What are minimum flow rates? Minimum flows are 700 cfs, but currently the river is at 500 cfs due to the drought.
- Is capturing juvenile Steelhead at the delta and trucking them to the Pacific Ocean a possible solution? The Tribe has brainstormed with the idea of barging fish around overly toxic sections of the Sound. If that moves forward, it will begin on as a small-scale study, not with the whole population.
- What is the root of the problem for Steelhead survival in Puget Sound? There is a big study going on right now to determine if it’s predators, disease or pollution based, or a combination. Chris noted that it appears to be largely driven by predators, but warm water is likely adding disease to the problem too.

- When mixing milt together, why doesn't it work to transplant fish from other places? It takes several generations for populations to become acclimatized to a particular area. For example, natural Nisqually fish instinctively use the delta; fish from a different system would take years to figure out how to use that habitat.

Nisqually Fish Counter – Jed Moore, Nisqually Indian Tribe

Jed is a Salmon Recovery Biologist for the Nisqually Indian Tribe. His main function is to monitor ecosystem indicators to track the salmon recovery process and identify recovery needs. This means a lot of counting fish! His work helps the Tribe identify priority projects to achieve their goals.

Jed started by explaining why studying fish is important. His counting helps determine and track abundance and sheds light on species behavior. Information collected includes spawning and return timing, spatial distribution throughout the river, and general health of the fish. However, studying fish is also tricky. Rivers are big, and fish are good at hiding. Rain can lead to poor visibility, or animals can eat the carcasses of salmon the scientists are trying to count.

There are many strategies to make counting fish easier, like using helicopters, boats, hikes, or snorkels. Today, Jed focused on the newest technology the Tribe is using to count fish: a Fish Counter and Camera system installed in the Centralia Diversion Dam. The counter is located at River Mile 24 in the Dam's fish ladder, which means that all fish swimming upstream pass through the device. The counter is equipped with an infrared scanner and a video camera, so it can detect fish passage and identify fish. It produces a lot of data! The scanner, for instance, provides a silhouette of the fish and identifies the length, width and direction of travel. The camera provides a color video of each fish as it swims through the compartment.

Jed showed several videos of various fish species as they moved through the counter. Also, he is interested in recruiting volunteers to help him sort through the data! If you are interested, please contact Morgan so she can coordinate a training.

For the Good of the Order – All

The rest of the meeting was spent outside with the Nisqually Stream Stewards completing a "Watershed in your Hands" activity.

Important Dates:

- Next NRC Meeting: August 21, 2015 at Wilcox Farms.
- Next CAC Meeting: September 8, 2015 from 6-8pm. The CAC will host the Stream Stewards.

The meeting was adjourned at 8:00 pm.