Nisqually River Council
Citizens Advisory Committee
Meeting Minutes
April 8, 2014, 6:00 – 8:00 PM
Nisqually Tribe's Natural Resources Office

CAC Members Present: *Robert Smith, Marjorie Smith, Steve Pruitt, Rosalea Pruitt, Ed Kenney, Phyllis Farrell, Jean Schaffer*
Guests: *Lou Whiteaker—Mount Rainier National Park*
Staff Present: *Morgan Greene*

Welcome and Introductions
The meeting was called to order at 6:02pm. There was a motion to approve March's meeting minutes. They were accepted as written, as was the agenda.

Nisqually Watershed Stewardship Plan (NWSP) – *Ecosystem Functions*
Steve shared that during the March meeting, CAC decided to look at ecosystems throughout the Nisqually that aren't necessarily fish habitat. Fish habitat gets a lot of attention already but it's important to look at other equally important ecosystems, particularly prairies. Having a speaker come to a future CAC meeting to discuss local prairie ecosystems would be great. Fred mentioned that he is meeting with a prairie expert from Pierce County, and will ask him if he can attend an upcoming meeting.

This NWSP topic calls for viable, resilient ecosystems existing throughout the Nisqually Watershed. Steve pointed out that "resiliency" means a habitat is not only thriving now, but has the ability to rebound from damage. Humans usually take for granted how much ecosystems can recover from. However, human interference has done so much damage that it's necessary for people to restore ecosystems. The Ohop Valley is a great example. For tens of thousands of years, that ecosystem worked well, until people decided to farm it. This land use conversion worked well for 50 years, until the valley became unsustainable and lost resiliency. Today, it is necessary to restore both the Ohop's habitats *and* its resiliency.

Steve remembered he was shocked to hear the report given to NRC a few years ago, where he learned Native Americans visited Mount Rainier to experience the resources above the trees, in the subalpine meadows; ecosystems provided different things than originally thought. In the same way, he thinks that when we learn more about prairies, we will begin to understand more about the importance of the ecosystem.

In thinking about tasks that CAC can take on, Morgan mentioned that the NWSP Committee was interested in the idea of a Nisqually Watershed Ecosystem Report Card. Fred shared that these report cards have been an idea for a while now, but also take a lot of energy to accomplish. When done right, however, the results can be impressive. The hard part is to keep up with current information to make the reports meaningful.

Steve suggested putting the "ecosystem functions" NWSP topic back on the agenda for next meeting, after hearing the NRC's report on the topic. That way, CAC can hear about the tasks NRC suggests, which will make it easier for CAC to discuss where its role will be most effective.

Morgan shared that she has talked to Mason McKinley, who passed along a spreadsheet showing the ideal amount of prairie habitat, compared to actual amounts. It seems like a great template for creating a report card model. She will email the data to CAC before the next meeting. Steve suggested starting a notebook, with a different folder for each indicator. This could help to organize information discuss at CAC meetings, NRC meetings, etc.

Ed wondered if there are smaller ecosystem sub-sections within the larger ecotypes. He, for example, lives in an ecosystem type that isn't typically identified. However, those smaller microclimates can be important habitat for many species, including threatened and endangered species.

Steve also shared that he, Jean and Morgan met yesterday to help bring Morgan up to speed on the CAC. At that meeting, Jean had brought up a great point that continually focusing on crises can be very depressing. It's important for people to take a step back and relax, and especially take a positive view to create solutions. Jean wants to focus on doing good things to make a difference, than spend all our energy on preventing bad things from happening. Not only does it relate in proactivity, it also makes us more happy and healthy.

One thing that's been great in the CAC and NRC is the continuity of leadership. Transitions have happened slowly, and folks who have been around for a while have been able to see different approaches. This helps to understand which projects work best. However, Ed shared that there's no central body for data collection in the watershed. He thinks it's a great project for students to become involved with, and it would be great for information (like number of salmon returning) should be available publicly.

Climate Adaptation Planning (CAP) Update

Morgan took a few minutes to explain the CAP process she's working on. The process is facilitated by the Model Forest Policy Program, which is a non-profit with employees spread across the nation. Each year, 4 or 5 communities participate in the program to develop a community based adaptation plan. The idea is to acknowledge certain climate changes are inevitable and to explore ways to create resiliency. That way, communities can be more prepared. The planning process is starting to get into the meat of it and Morgan is having a first meeting next Tuesday, April 15th from 10:00-11:30 in the Nisqually Tribe's Natural Resources Office. She has also set up a listserv for those who want to be kept updated on the process. If you are interested in joining the listserv, please let her know at morgan@nisquallyriver.org.

Subalpine and Alpine Ecosystems Presentation

Lou Whiteaker, Plant Ecologist, Mount Rainier National Park

Within the park, there are 4 different ecosystem zones. Since the park extends from about 1,600ft to over 14,000ft in elevation it allows for a lot of variability in ecosystem types. The majority of the park is forested, but the subalpine zone also comprises 23% of the park. Alpine zones cover 12% of the park, of which a large portion is covered by permanent zone and ice.

The subalpine parkland lies above the forest but below tree line, so it's a mosaic of tree clumps and meadows. Plants largely depend on the length of the snowpack; fires are also an important factor. Each year, lightning caused fires play a role in tree growth in the subalpine meadows. Once trees cannot grow any more, the alpine zone starts, leading into an upper limit of permanent snow and ice.

In these high elevation zones, annual temperature, snow pack and the length of the growing season influence both the vegetation type and the height of the vegetation. Likewise, topography plays a role in influencing snowmelt patterns. This in turn influences phenology, in particular pollination. Bees, for

example, will return when the snow melts. Similarly, micro-topography influences alpine vegetation distribution, too.

The park just finished a park vegetation map. But in general, subalpine communities consist of lush herbaceous fields, including green fescue-lupine and sedge-heath. Heather communities are particularly interesting—some are up to 7,000 years old. There's also a high genotypic diversity, which aids in longevity and a higher ability to adapt to changes. Alpine communities include heather, fellfield, talus and snowbed.

The origin of the 25-year-old restoration program was to help plant communities that have been damaged by humans or are threatened by invasive plants. In a two-step process, seeds are collected and transplanted. Meanwhile, sites are stabilized to reduce the potential for erosion by installing water bars, adding soil fill and mulch. All the plants are brought by wheelbarrows, and planted by hand! This project is a part of a larger vegetation monitoring program established among the three mountainous parks in Washington—Olympic National Park, Mount Rainier and North Cascades. The program aims to analyze the composition of alpine and subalpine communities at the park, while also gathering data on soil temperatures and snow cover.

Another aspect of the program is to analyze whitebark pine and its relationship to climate change. It's a high elevation species and is considered a keystone species. Whitebark pine is a long-lived tree—it's cones only start producing after the tree is 100 years old—and is an important food source, particularly for Clark's nutcrackers. Unfortunately, these trees are threatened by an introduced blister rust, which has produced widespread mortality. Other threats include fire exclusion and mountain pine beetle. In fact, the tree has been under review for listing as a T&E species since 2010.

Blister rust was introduced to the west around 1910 and has spread rapidly ever since. The rust relies on an alternate host—*Ribes* sp., or *Pedicularis* sp.—to complete its lifestyles. Whitebark pine also has very little resistance to the disease, and control efforts have been unsuccessful. MORA established a monitoring program in 2004, with a re-measurement in 2009. The results showed a relatively high infection rate in the park. In regards to climate change, warmer summer temperatures will create more favorable conditions for the rust. However, summers are likely to become drier in the PNW, too, which may harm the rust. Likewise, mountain pine beetle will likely benefit from warming temperatures. On another note, reduced snow pack and longer growing seasons will increase fire intensity, and will alter the hydrologic patterns of the park's rivers and streams.

For the Good of the Order –
Steve shared that Murray Creek is milky lately. He wonders what the practices are when Miles Gravel is out of place. He will begin to have those conversations.

- Next CAC Meeting: Tuesday, May 13, 2014, 6:00-8:00pm, Nisqually Tribe's Department of Natural Resources Office
- Important Dates:
    - NRC Meeting, Friday, April 18th, 9:00am to 12:00pm, at the Nisqually National Wildlife Refuge

The meeting was adjourned at 8:04pm.