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The Role of Citizen Science in Restoring Salmon and Salmon Habitat to the Suquamish Tribe's Port Madison Indian Reservation's Cowling Creek Watershed

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The Role of Citizen Science in Restoring Salmon and Salmon Habitat to the Suquamish Tribe’s Port Madison Indian Reservation’s Cowling Creek Watershed

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Cowling Creek Watershed
Port Madison Indian Reservation
Cowling Creek culverts are 100% impassable to all fish
The Cowling Creek chum salmon enhancement program released 37,500,000 chum from 1977 to 2004. The facilities are now used as an educational program to restore naturally spawning chum to the stream. Volunteers and students provide most of the labor.
- Suquamish sign the Point Elliott Treaty on January 22, 1855 at Mukilteo
- Chief Seattle signs for the Suquamish Tribe.
- Land title is exchanged with the United States Government for certain reserved treaty rights including fishing rights, shellfish gathering rights, hunting rights, water rights, health care, and education.
Virginia led an effort by the Friends of Miller Bay to purchase 29 acres for permanent protection and donated her 13 acre property to the Tribe to establish the Cowling Creek Center for salmon research, education, and outreach.
Cowling Creek as mapped by DNR
Columbia Street Culvert
Cutthroat caught below Columbia Street culvert
Unmapped DNR Cowling Creek Spawning Habitat
Excellent rearing habitat upstream
Documenting LWD
Recruiting to upper Cowling Creek
Culturally modified cedar in the Cowling Creek watershed on Reservation
WFC’s 2010 documented Cowling Creek stream habitat and fish classification
The regulatory maps missed 66% of this watershed.
We expected to find native sculpins in the Cowling Creek estuary..........

But Frank Sicilia’s homemade underwater camera surprised all of us with the following video:
The impassable log road culvert was replaced by a pedestrian only bridge on Elder’s Tributary to Cowling Creek with County funds. Volunteers plant native vegetation and remove invasives.
A Kitsap County Backyard Salmon Habitat Grant was used to remove an impassable culvert installed illegally by the previous landowner.
The grant provided for substantial LWD and clean spawning gravel placement.
50,000 to 100,000 eyed chum eggs (local Chico stock) are moved from Grovers Creek Hatchery to the Cowling Creek each winter by interns and volunteers.
The gravel is evened out
The eggs are added and covers closed
Suquamish Elementary 3rd graders monitor the growth of their classroom aquaria chum before transporting the fry to Cowling Creek.
Certified wetland ecologists and Tribal GIS experts delineate Cowling Creek wetlands and train students and volunteers.
Tribal DNR technicians monitor water quality and flow

Session S9D, Salish Sea Conference, May 2, 2014
The Center provides instruction for students and volunteers doing projects or research

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Olympic Community College students learn basic ecological principles in the Cowling Creek Forest Preserve
A 400 year old cedar proves size makes a difference in the Cowling Creek forest
College students and volunteers beach seine Cowling Creek estuary
Students observe migrating salmon, forage fish, and many other species. They learn how a drift cell functions and the biota it supports.
All field data is reviewed and QA/QC’d by professional biologist and trained interns at the Cowling Creek Center.
November 2013, Suquamish Elementary students view naturally spawning chum salmon in Cowling Creek for the first time in 82 years.
The students learn that salmon can spawn even with black bear bites
The native Olympia Oyster has disappeared from Miller Bay and most of Puget Sound eliminating oyster reef habitat and ecosystem services.
Plethodon salamander

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