

Tribal Natural Resources Management

**A Report from the Treaty Indian Tribes
in Western Washington
2017**



Northwest Indian Fisheries Commission Member Tribes



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Cover photos, clockwise: Lummi Natural Resources staff Tony George and Austin Dennis scan a hatchery chinook for a coded-wire tag during a tribal fishery; juvenile coho salmon; Dungeness crab; Salmon eggs; Eelgrass; Elk. Kari Neumeyer, Tiffany Royal and Debbie Preston. Map, opposite page: Ron McFarlane. Left: Wildlife technician Urijah Willis works with an elk. Debbie Preston



Year in Review

From the Chair

‘We started the Treaty Rights at Risk effort because we are losing the battle for salmon recovery. Salmon habitat is being destroyed faster than it can be restored. If there are no salmon to harvest, our treaty-reserved rights are meaningless.’

– Lorraine Loomis
NWIFC Chair

As we begin 2017, we are encouraged by events of the past year. Tribal treaty rights helped defeat a huge coal export terminal, ensure the repair of fish-blocking culverts, and set more protective state water quality standards. Unfortunately, ongoing loss and damage of salmon habitat continues to frustrate recovery efforts. Climate change is further contributing to the decline of habitat and historic low salmon returns over the past few years.

Habitat is the key to salmon recovery. If salmon are to survive, and if our treaty rights are to be honored, we must make real progress in habitat protection and restoration.

We were pleased that President Barack Obama kept his campaign promise to meet regularly with tribal leaders and give us a seat at the table where decisions are made about health care, education, natural resources, economic development and many other aspects of our lives. For the past eight years, he invited all 567 federally recognized tribes to the White House for the annual Tribal Nations Conference. That is something no other president has done.

More than that, he confirmed that tribal sovereignty and treaty rights are the cornerstones of Indian communities, and the federal government’s trust responsibility to the tribes is sacred.

We hope the incoming administration will continue President Obama’s legacy of honoring the promises made to Indian people through treaties that are the supreme law of the land.

Salmon Management Challenges

As salmon habitat declines, so does the salmon resource. When combined with the effects of climate change, the loss and damage of salmon habitat is magnified.

With salmon populations growing smaller, fisheries management planning becomes increasingly difficult because tribal and state co-managers must divide a steadily shrinking pie. In 2016, the continued decline of chinook required more than a month of overtime negotiations by the tribal and state co-managers to reach an agreement on a package of conservative salmon fisheries.



Lummi tribal fishermen operate a reef-net boat, *Spirit of* coal export terminal in the country had been proposed.

If we are going to recover salmon, the nonstop loss of salmon habitat in western Washington must be halted so that our habitat restoration efforts can successfully increase natural salmon production. In the meantime, we must rely on hatcheries to provide for harvest and help offset the ongoing loss of habitat.

About half of the salmon harvested in western Washington are hatchery fish. Continued habitat loss means we must depend on hatcheries for as long as lost and damaged habitat restricts natural salmon production and threatens our treaty rights.

The connection between harvest and habitat is clear. We cannot expect to harvest salmon – either naturally spawning or from a hatchery – as long as we continue to destroy salmon habitat. In the meantime, hatcheries must bridge the gap and be included as the essential part of salmon recovery that they are.

Treaty Rights at Risk

A wave of federal recognition of tribal sovereignty and treaty rights reached a highwater mark in the closing days of President Obama’s administration in 2016.

Some of this surge in federal recognition is directly tied to the Treaty Rights at Risk initiative begun in 2011 by tribal leaders in western Washington.



Kari Neumeyer

Sxwo'le, in the waters off Cherry Point, where the largest

We started the Treaty Rights at Risk effort because we are losing the battle for salmon recovery. Salmon habitat is being destroyed faster than it can be restored. If there are no salmon to harvest, our treaty-reserved rights are meaningless.

We have asked the federal government to align its agencies and programs and lead a more coordinated salmon recovery effort. The United States has both the obligation and authority to ensure salmon recovery and protection of treaty rights.

One sign that we are being heard occurred in October. The White House Council on Environmental Quality announced the strengthening of a federal task force to restore Puget Sound. The task force will work with tribal, state and local governments to develop an action plan to better coordinate and advance work aimed at improving the health of Puget Sound.

Cherry Point, Culvert Case Treaty Victories

In May, the U.S. Army Corps of Engineers denied a permit for a coal export terminal on Lummi Nation fishing grounds at Cherry Point. The Corps said that impacts to the environment and the tribe's treaty fishing rights would have been irreparable. The Gateway Pacific Terminal would have been the largest coal export terminal in the country.

In June, a three-judge panel of the 9th Circuit Court of Appeals unanimously upheld our treaty-reserved right to have salmon protected so that they are available for harvest. The ruling stemmed from a 2007 federal court decision requiring the state to repair hundreds of fish-blocking culverts under state roads.

More than 800 state-owned culverts block salmon access to more than 1,000 miles of good habitat and harm salmon at every stage of their life cycle. The state has been fixing them so slowly it would need more than 100 years to finish the job. In 2013, federal Judge Ricardo Martinez gave the state 17 years to reopen 90 percent of the habitat blocked by its culverts in western Washington.

Tribes were disappointed to learn that the state will continue to appeal the case.

State of Our Watersheds Report

The fact that habitat is being lost faster than it can be restored was confirmed in the tribes' 2016 State of Our Watersheds Report. We continue to lose ground by every measurement we have. Some of those include:

- Increasing impervious surfaces like roads and parking lots lead to polluted stormwater runoff that kills salmon.
- Overdevelopment of floodplains essential to healthy river systems and good salmon habitat continues at an alarming rate.
- Forestlands that help cool salmon streams are disappearing.

These types of chronic environmental problems will only get worse as a million more people move here in the next 10 years. Meanwhile, climate change is magnifying and accelerating the effects of lost and damaged habitat. The report can be viewed at geo.nwifc.org/sow/.

2016 Climate Change Report

Climate change impacts have already been observed throughout the region and are projected to continue in freshwater aquatic, marine and terrestrial ecosystems.

Shrinking glaciers, higher water temperatures and lower levels of dissolved oxygen are among the many climate changes with profound implications for the plants and animals important to our

communities, ways of life, and treaty-reserved rights.

A new climate change report by the treaty tribes in western Washington shows that all of the resources protected by our treaties are influenced by the effects of climate change.

To meet these challenges, we must work together to reduce harmful greenhouse gas emissions. We must also improve the ability of our ecosystems and communities to adapt to changing conditions.

Learn more about how climate change affects tribes and treaty resources at nwtreatytribes.org/climatechange.

Improved Water Quality Standards

After decades of delay, Washington's water quality standards were updated to be more protective of human health. These standards regulate pollution in our water and the amount of toxic pollution that ends up in our bodies from the fish and shellfish we eat. Indian people are especially affected because we eat more fish and shellfish than most who live here.

The delay prompted the U.S. Environmental Protection Agency to step in and assist the state in developing more protective standards that were approved in November. The higher the fish consumption rate, the cleaner our waters must be to ensure that our health is protected. The new rules include a more accurate fish consumption rate of 175 grams per day compared with the previous rate of 6.5 grams per day. The rules also maintain a protective cancer risk rate that had been in place under state rules.

This has been a long, difficult process, but Washington now leads the nation in protecting human health through science-based water quality standards. This will protect both the long-term economy and environmental integrity of the region.

We look forward to working with the state to implement these standards, including effective pollution source control measures.

We applaud EPA for its leadership efforts. The agency clearly recognizes the federal government's trust responsibility to protect the health and treaty rights of the tribes, which benefits everyone else who lives here.

Rouaine Romis

NWIFC Chair

Habitat Management

Habitat protection and restoration are essential for recovery of wild salmon in western Washington. Treaty tribes are taking action to recover salmon in each watershed and have restored thousands of miles of habitat.

- Tribes released the 2016 State of Our Watersheds Report, which documents ongoing loss and damage of salmon habitat. The report found ongoing habitat degradation, despite an economic downturn. For more information, visit geo.nwifc.org/sow/.
- The NWIFC Salmon and Steelhead Habitat Inventory and Assessment Program (SSHIAP) provides a database of local and regional habitat conditions. SSHIAP has launched an interactive map to track repairs to state-owned culverts; a tool to map potential steelhead habitat; and a data exchange for research about the nearshore environment.
- Tribes conduct extensive water quality monitoring for pollution and to ensure factors such as dissolved oxygen and temperature levels are adequate for salmon and other fish. To make limited federal funding work to its fullest, tribes partner with state agencies, industries and property owners through collaborative habitat protection, restoration and enhancement efforts.
- In western Washington, the National Oceanic and Atmospheric Administration's Pacific Coastal Salmon Recovery Fund has supported projects that have restored thousands of acres of forest, protected hundreds of acres of habitat and removed hundreds of fish-passage barriers.

Squaxin Island Tribe Completes Coho Recovery Plan

Two out of every three years, coho are practically nonexistent in the Deschutes River. But the Squaxin Island Tribe knows how to bring them back.

A tribal recovery plan found that a combination of habitat restoration in the upper watershed, removing a lower river dam and restoring the river's estuary would recover the run within a few decades.

"Estuaries are vital transition areas for salmon to go from fresh to salt water," said Scott Steltzner, the tribe's salmon biologist. "If they don't get what they need there, their ability to survive in the ocean plummets."

Deschutes River coho runs were healthy through the late 1980s. A combination of declining ocean conditions and landslides in the upper Deschutes drove down the run's productivity.

"Coho return every three years, so each year in a three-year cycle is a separate population of fish," Steltzner said. "Only one of those age classes for Deschutes fish returns in any numbers anymore; the other two are functionally extinct."



Emmett O'Connell

Squaxin Island tribal staff Michael West and Candace Penn snorkel a tributary to the Deschutes River, looking for juvenile coho.

The recovery plan outlines habitat restoration projects that would reduce sediment, develop more complex habitat and lower temperatures.

"There are a lot of problems in the watershed, mostly in the upper reaches of the river and its tributaries," Steltzner said.

Restoring the river's estuary is key to the effort.

"We could do everything else, be as aggressive as we can be in the upper watershed, and we wouldn't see decent results until we increase the number of fish that come back from the ocean," said Andy Whitener, the tribe's natural resources director. "The most logical way to do this is to restore the river's estuary."

Hatchery Management

Hatcheries must remain a central part of salmon management in western Washington as long as lost and degraded habitat prevent watersheds from naturally producing abundant, self-sustaining runs of sufficient size to meet tribal treaty fishing rights.

- Treaty Indian tribes released more than 43 million salmon and steelhead in 2015, including 14.1 million chinook, 18.9 million chum and 8.8 million coho, as well as sockeye salmon.
- Most tribal hatcheries produce salmon for harvest by both Indian and non-Indian fishermen. Some serve as wild salmon nurseries that improve the survival of juvenile fish and increase returns of salmon that spawn naturally in our watersheds.
- Tribes conduct an extensive mass marking and coded-wire tag program. Young fish are marked by having their adipose fin clipped before release. Tiny coded-wire tags are inserted into the noses of juvenile salmon. The tags from marked fish are recovered in fisheries, providing important information about marine survival, migration and hatchery effectiveness.

Lower Elwha Klallam Wraps Up Pink Broodstock Program

The Lower Elwha Klallam Tribe has finished a four-year captive broodstock project that protected the Elwha River's pink salmon population during dam removal.

Removal of the Elwha and Glines Canyon dams was a key part of the massive project to restore the Elwha River after nearly 100 years of blocked flows and degraded salmon habitat.

Concerned that a huge amount of sediment trapped behind the dams might harm pink salmon, the tribe began a captive broodstock program to protect the stock. Adults were captured and their offspring reared in hatcheries to improve their chances for survival.

While pink salmon have a low commercial value, they play an important role in a properly functioning ecosystem by providing food for other animals and contributing nutrients to the watershed.

About half a million pink salmon historically called the river home. After the two fish-blocking dams were built in the early 1900s, the run dwindled to just 200 fish. Following dam removal, more than 1,000 pinks were observed in the river in 2015.

"This is definitely the most we've seen in the river since we started observing them in the early 1990s," said Mike McHenry, the tribe's habitat program manager. "This year we saw them above the old Elwha dam site for the first time since the dams were taken out. That's huge. They haven't been up there in more than 100 years."

In 2011 and 2013, pinks returning to the Elwha River were collected and spawned. The fertilized eggs were incubated at the Washington Department of Fish and Wildlife's Hurd Creek Hatchery, then sent to the National Oceanic and Atmospheric Administration's Manchester Research Station, where they were reared in seawater to adults. Those adults were then brought back to Elwha the following summer for spawning.

In 2015, the tribe spawned its last group of adults from Manchester, and the offspring were released into the river in spring 2016.

To estimate how many hatchery and captive brood fish contributed to the river's salmon population, these fish were marked by altering the water temperature during incubation. This leaves a distinct pattern on the fish's otolith – a mineral structure often



Tiffany Royal

Lower Elwha Klallam Tribe assistant hatchery manager Mitch Boyd prepares a pink salmon for spawning at the tribe's House of Salmon Hatchery.

referred to as an ear bone – which accumulates daily rings.

This mark is unique and differentiates these fish from other pink salmon stocks. Otolith and tissue samples were taken from returning adults in 2013 and 2015, and will be taken from pinks returning in 2017.

Harvest Management

Salmon

Treaty Indian tribes and the Washington Department of Fish and Wildlife co-manage salmon fisheries in Puget Sound, the Strait of Juan de Fuca and nearshore coastal waters.

- For decades, state and tribal salmon co-managers have reduced harvest in response to declining salmon runs. Tribes have cut harvest by 80 to 90 percent since 1985.
- The tribes monitor their harvest using the Treaty Indian Catch Monitoring Program to provide accurate, same-day catch statistics for treaty Indian fisheries. The program enables close monitoring of tribal harvest levels and allows for in-season adjustments.
- Under *U.S. v. Washington* (the Boldt decision), harvest occurs only if sufficient fish are available to sustain the resource.
- Tribal and state managers work cooperatively through the Pacific Fishery Management Council and the North of Falcon process to develop fishing seasons. The co-managers also cooperate with Canadian and Alaskan fisheries managers through the U.S./Canada Pacific Salmon Treaty.

Salmon Managers Agree to Fishing Seasons in Overtime Negotiations

State and tribal fishery managers agreed to the 2016 Puget Sound salmon fishing seasons in late May, ending several weeks of extended negotiations.

Officials with the Washington Department of Fish and Wildlife (WDFW), Gov. Jay Inslee's office and treaty tribes also agreed to work together to improve the process of setting salmon fishing seasons, known as "North of Falcon." The co-managers did not reach agreement during the annual season-setting process, which concluded in mid-April.

Anticipated low numbers of salmon – especially coho – returning to Puget Sound made this year's negotiations challenging.

"Our first priority is to develop fisheries that are consistent with efforts to protect and rebuild wild salmon stocks," said Jim Unsworth, director of WDFW. "Reaching an agreement on how to do that proved very challenging this year. Ultimately, we agreed on a package of fisheries that places a priority on conservation while allowing for limited fishing opportunities in Puget Sound."

State and tribal fisheries managers were able to open limited fisheries based on coho returns. Those fisheries were opened because of active in-season tribal management.

With the season's fisheries resolved, the co-managers planned to focus on long-term resource management concerns, such as restoring habitat and boosting salmon stocks.

"Habitat restoration and protection must be at the center of that effort," said Lorraine Loomis, chair of the Northwest Indian Fisheries Commission. "There is a direct connection between salmon habitat and fishing opportunities. We can't expect salmon to thrive while their habitat continues to be lost and damaged."

Tribal and WDFW leaders said they appreciated the governor's leadership and participation in the process, and that they remain committed to co-management of the state's shared resources. They believe the state and tribes are most effective when working together to conserve fish and wildlife, and their habitat.



Skokomish tribal members fish for coho salmon in Hood Canal near Hoodspout.

Tiffany Royal

Shellfish

Treaty tribes harvest native littleneck, manila, razor and geoduck clams, Pacific oysters, Dungeness crab, shrimp and other shellfish throughout the coast and Puget Sound.

- Tribal shellfish programs manage harvests with other tribes and the state through resource-sharing agreements. The tribes are exploring ways to improve management of other species, including sea cucumbers, Olympia oysters and sea urchins.
- Tribal shellfish enhancement results in bigger and more consistent harvests that benefit both tribal and non-tribal diggers.
- Shellfish harvested in ceremonial and subsistence fisheries are a necessary part of tribal culture and traditional diet.
- Shellfish harvested in commercial fisheries are sold to licensed buyers. For the protection of public health, shellfish are harvested and processed according to strict state and national standards.
- Tribes continue to work with property owners to manage harvest on non-tribal tidelands.
- In 2015 (the most recent year for which data is available), treaty tribes in western Washington commercially harvested more than 800,000 pounds of manila and littleneck clams; more than 2.3 million pounds of geoduck clams; more than 2.3 million oysters; 7.7 million pounds of Dungeness crab; nearly 370,000 pounds of sea cucumbers; and more than 226,000 pounds of shrimp.

Olympia Oysters Restored to Support Ecosystem

The Swinomish Indian Tribal Community is enhancing native Olympia oyster beds with the hope of restoring the ecosystem they once supported.

“When native oysters grow and oyster beds slowly develop, we hope the ecosystem will return as well,” said Julie Barber, Swinomish senior shellfish biologist. “Maybe this will make tribal tidelands more resilient in the face of changing ocean conditions.”

Worldwide, 85 percent of oyster reefs have been lost, according to The Nature Conservancy, making them “the most imperiled marine habitat on earth.”

Olympia oysters are sensitive to extreme temperatures, so Swinomish focused its efforts on the pocket estuaries at Lone Tree Point and Kukutali Preserve where the oysters would be constantly inundated and could avoid large temperature swings.

“Pocket estuaries are typically surrounded by salt marsh and have tidal channels, lower wave and current energy, and some freshwater input,” Barber said. “Our eventual goal is to establish self-sustaining populations of native Olympia oysters in these estuaries and ideally, in other areas around Similk and Skagit bays.”

Oyster larvae settle and grow on adult shells or cultch. In 2012 and 2013, Swinomish staff distributed Olympia oyster seed set on Pacific oyster cultch, and in 2015, they planted individual



Swinomish senior shellfish biologist Julie Barber and shellfish technician James McArdle survey Olympia oysters in the lagoon at Lone Tree Point.

Jim Gibson, Swinomish

oysters. All seed was bred from Fidalgo Bay broodstock.

Because the goal is for the oysters to spawn and self-seed, the tribe needs to know when reproductive activity typically occurs in each location. Fisheries staff monitored activity through spring and summer 2015, also collecting data on water temperature and salinity.

The research team used non-lethal methods to assess brooding status. Oysters were briefly dried out and inspected. A 5-millimeter-wide zip tie was used to gently sweep the inside of the mantle to

extract larvae to determine the development stage. The oysters were then placed in a seawater bath before being returned to the pocket estuary.

The research found that the oysters could brood at temperatures colder than had been previously reported.

“We need to make sure that all self-seeding efforts are in place by mid-April rather than the commonly accepted time period of mid-May,” Barber said. “That way, when the larvae are released, the shell is there waiting for them to settle on and grow.”

Harvest Management

Marine Fish

Treaty tribes are co-managers of the marine fish resource, working closely with the state and federal agencies and in international forums to develop and implement conservation plans for all marine fish stocks in Puget Sound and along the Pacific coast.

- Many areas of Puget Sound have experienced a stark drop in marine fish populations. Herring and smelt, historically the most plentiful forage fish, have sharply declined the past two decades. Several species of rockfish are listed as threatened or endangered under the federal Endangered Species Act. Human activity, such as pollution and development, is believed to be a leading cause of the overall decline.
- The Pacific Fishery Management Council, which includes the tribal and state co-managers, regulates the catch of black cod, rockfish and other marine fish. Halibut are managed through the International Pacific Halibut Commission, established by the U.S. and Canadian governments. Tribes are active participants in season-setting processes and the technical groups that serve those bodies.
- Treaty tribes manage marine fisheries that include purse-seining for sardines and anchovy, midwater fisheries for rockfish and Pacific whiting, and groundfish fisheries that include sole, Pacific cod and rockfish.
- The coastal tribes and state support ocean monitoring and research leading to ecosystem-based management of fishery resources. This includes integrating available ocean habitat information into a common database called the Habitat Framework Initiative. The initiative puts available habitat data into a common catalog for state, federal and tribal managers who often share jurisdictions and manage resources jointly.

Makah Fishermen's Co-op Offers Local Economic Boost

The Makah Cape Flattery Fishermen's Co-op in Neah Bay is processing its own fish fillets, adding value to the fish and jobs to the community.

Every step of processing done outside of Neah Bay is money that leaves the village.

"The goal of the board of the co-op and the fishermen members was always to get back to processing our own fish," said Joey Lawrence, Makah Co-op general manager.

It took several big investments on the part of the co-op, including the purchase of a machine that creates ozonated water that kills bacteria and keeps it from growing on the fish for seven days.

"It increases the shelf life of the fish, especially since we're not trucking it away from here to undergo this process," Lawrence said.

During the busy seasons, an estimated 25 tribal members are employed to fillet fish before it is vacuum-sealed.

"We have a blast freezer that keeps fish at 33 degrees, but most of this fish is off the water, processed, iced and on a truck to market within a day," Lawrence said.



Staff at the Makah Cape Flattery Fishermen's Co-op package fish at the new facility.

Debbie Preston

The co-op's operation has passed the test for federal Food and Drug Administration certification.

Most of the fish being processed is true cod, yellowtail, petrale and Dover sole, but the co-op also packages chinook for specialty markets in Los Angeles, Denver

and Boston.

"We couldn't participate in that sort of market in the past," said plant manager Roger Wertenberger.

"Our board and fishermen had this goal in mind and they took the steps needed to make it happen," Lawrence said.

Regional Collaborative Management

Tribal Environmental Protection and Water Resources Program

The Coordinated Tribal Water Quality Program was created by the Pacific Northwest tribes and the federal Environmental Protection Agency (EPA) to address water quality issues under the Clean Water Act.

- EPA's General Assistance Program (GAP) was established in 1992 to improve capacity for environmental protection programs for all tribes in the country. Many tribes are now participating in the pilot "Beyond GAP" project to build on the investments of the last 24 years by creating environmental implementation programs locally while supporting national environmental protection objectives.
- These programs are essential to combat the threats to tribal treaty resources such as declining water quality and quantity. In western Washington, climate change and urban development negatively affect water resources and aquatic ecosystems and will get worse with a state population expected to rise by nearly 1 million in the next 10 years.
- Tribal water quality resource program goals include establishing instream flows to sustain harvestable populations of salmon, identifying limiting factors for salmon recovery, protecting existing groundwater and surface water supplies, and participating in multi-agency planning processes for water quantity and quality management.

Tribes, State Partner on Juvenile Chinook Study

Northwest treaty tribes want to know how much pollution juvenile chinook salmon are absorbing when leaving their natal streams and estuaries.

Tribes are concerned about possible development issues and other health impacts to juvenile fish that may be caused by exposure to toxic chemicals.

Several tribes have partnered with the state Department of Fish and Wildlife (WDFW) to collect out-migrating juvenile salmon near the mouths of 11 major Puget Sound rivers and the Ballard Locks. All tissue samples will be analyzed by federal, county and international labs for toxic chemicals, such as PCBs and flame retardants (PBDEs). Additionally, a subset of samples will be analyzed for chemicals such as illegal drugs, pharmaceuticals and personal care products that are discharged in wastewater and make their way into rivers and Puget Sound.

A state and federal pilot study in 2013 found that one-third of the juvenile chinook salmon sampled were exposed to contaminants of known concern at concentrations associated with adverse health effects, such as reduced growth and resistance to disease, as well as altered hormone and protein levels.

"Sampling from each major river delta and the Ballard Locks will allow us to assess contaminant exposure at multiple levels, including between major population groups such as the Juan de Fuca and



Mariko Langness, biologist with the state, and Neil Harrington and Hansi Hall, scientists with the Jamestown S'Klallam Tribe, pull in a beach seine to sample juvenile chinook from Dungeness Bay.

Hood Canal (groups), and between river systems such as the Elwha and Dungeness rivers," said Mariko Langness, WDFW biologist.

"While Dungeness Bay is removed from industrial discharges, we have concerns about stormwater, as well as pharmaceuticals and personal care products entering marine waters from nearby septic systems," said Hansi Hals, the Jamestown S'Klallam Tribe's environmental planning manager.

The Stillaguamish Tribe sampled juvenile chinook in nearshore and estuary

habitats, two upriver sites and at a smolt trap, said Jennifer Sevigny, a biologist with the tribe.

Stillaguamish also is working with the U.S. Geological Survey and the state Department of Health to test adult chinook salmon for contaminants, with the goal of creating a risk assessment and safe consumption rate for tribal members.

Other tribes involved in the study include Lummi, Upper Skagit, Tulalip, Stillaguamish, Puyallup, Muckleshoot, Nisqually, Skokomish, Port Gamble S'Klallam and Lower Elwha Klallam.

Tiffany Royal

Regional Collaborative Management

Forest Management

Two processes – the Timber/Fish/Wildlife (TFW) Agreement and the Forests and Fish Report (FFR) – provide the framework for an adaptive management process that brings together tribes, state and federal agencies, environmental groups and private forestland owners to protect salmon, wildlife and other species while providing for the economic health of the timber industry.

- Treaty tribes in western Washington manage their forestlands to benefit people, fish, wildlife and water.
- Reforestation for future needs is part of maintaining healthy forests, which are key to maintaining vibrant streams for salmon and enabling wildlife to thrive.
- Forestlands are a source of treaty-protected foods, medicine and cultural items.
- A tribal representative serves on the state’s Forest Practices Board, which sets standards for activities such as timber harvests, road construction and forest chemical applications. Tribes also are active participants in the FFR Cooperative Monitoring, Evaluation and Research Committee (CMER).

Prairie Burns a Traditional Tool for Forest Resources

What fire burns becomes new. It’s a land management principle used by Quinault Indian Nation (QIN) people for thousands of years.

In addition to using fire to manage reservation timberlands, QIN plans to use burns to maintain important habitat for cultural plants on Moses Prairie northwest of Lake Quinault.

A \$64,000 Washington Coast Restoration Initiative grant, facilitated through the state Recreation and Conservation Office and acquired by QIN Natural Resources, will fund the estimated 20-acre Moses Prairie burn as well as educational outreach.

“This is a pilot project to provide understanding of traditional management of the six prairies on the reservation by the Quinault people,” said Dave Bingaman, QIN’s natural resources director. “We believe each prairie had specific uses and are trying to capture historical information to provide future guidance on prairie management.”

Quinault people used fire to maintain camas and beargrass for thousands of years, said Justine James, Quinault cultural resources specialist. Camas is the purple flower of the prairies that has been used as food and medicine by tribes.

Burning often occurred twice a year. A light burn in spring cleared away vegetation that prevented camas and other plants from thriving. A second burn in the fall removed accumulated duff.



Environmental anthropologist Joyce LeCompte-Mastenbrook photographs Moses Prairie.

Debbie Preston

“The fall burn had the control of rain that would usually occur within days,” James said. “The Quinaults of the time had a much better understanding of the weather patterns. With no private property ownership issues, there wasn’t the fear of burning someone’s property and needing to pay for lost resources.”

Management burns ended in the late 1800s, around the time treaties were signed creating reservation boundaries, according to fire history and ecological restoration research.

Land adjacent to the tribe’s reservation was homesteaded by non-tribal people, further preventing tribal access to the prairie.

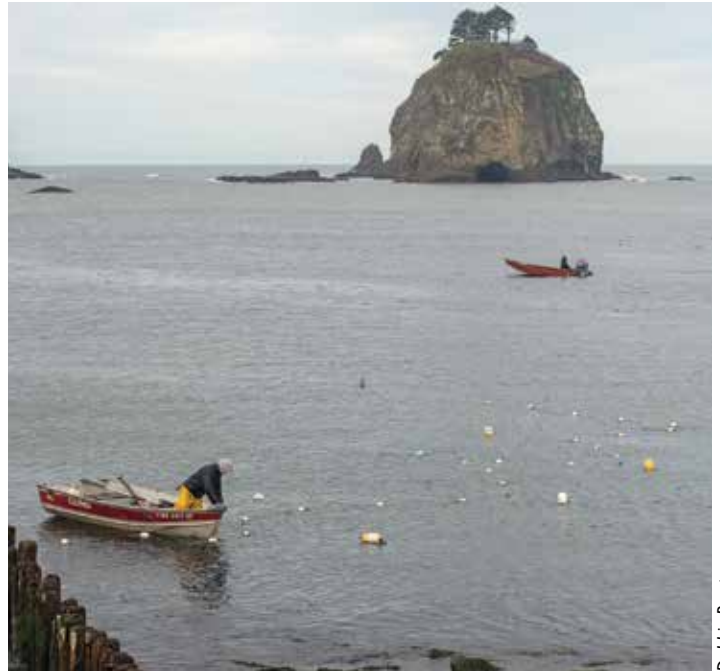
“I found one story of a family that would move every summer for one month out to the prairie to harvest beargrass in particular, as well as huckleberries and other plants,” James said.

He is hopeful that the prescribed burn will spur growth of dormant beargrass, a sought-after plant used for baskets, as well as huckleberries.

Ocean Resources

The state of Washington, the Hoh, Makah and Quileute tribes, and the Quinault Indian Nation work with the National Oceanic and Atmospheric Administration to integrate common research goals to understand changing ocean conditions and create the building blocks for managing these resources.

- In recognition of the challenges facing the Olympic coast ecosystem, the tribes and state of Washington established the Intergovernmental Policy Council to guide management of Olympic Coast National Marine Sanctuary. Many of the research and planning goals established by tribes and the state support the recommendations of the U.S. Ocean Policy.
- Climate change and ocean acidification have been top priorities the past four years. Because of their unique vulnerability, coastal indigenous cultures are leaders in societal adaptation and mitigation in response to events driven by climate change. As ocean conditions change due to climate change and disruptions such as the Pacific decadal oscillation, El Niño and seasonal upwelling, it will be important to understand the changes that are occurring and how they affect the ecosystem.
- The tribes continue to work with the state of Washington and federal partners to respond to the findings of the state's blue ribbon panel on ocean acidification.



Quileute Tribe fishermen harvest salmon near the mouth of Quillayute River.

Puget Sound Recovery

Puget Sound is the second largest estuary in the United States and its health has been declining for decades. Recognizing this, Congress designated Puget Sound as an Estuary of National Significance, further acknowledging the critical contributions that Puget Sound provides to the environmental and economic well-being of the nation. Through the National Estuary Program, the U.S. Environmental Protection Agency works alongside tribal, state and local partners to help restore and protect this iconic and ecologically important place.

- In 2007, the state of Washington created the Puget Sound Partnership, a state agency dedicated to working with tribal, state, federal and local governments and stakeholders to clean up and restore the environmental health of Puget Sound by the year 2020. This diverse group continues to work toward a coordinated and cooperative recovery effort through the Partnership's Action Agenda, which is focused on decreasing polluted stormwater runoff and protecting and restoring fish and shellfish habitat.
- The Tribal Management Conference was created in 2016 through the U.S. Environmental Protection Agency's new model for the National Estuary Program for Puget Sound. It increases the ability of tribes to provide direct input into the program's decisional framework.
- On Feb. 29, 2016, U.S. Reps. Denny Heck and Derek Kilmer introduced the Green Stormwater Infrastructure Financing Investment Act to address the impact of stormwater runoff by creating incentives for state, tribal and local governments.

Wildlife Management

The treaty Indian tribes are co-managers of wildlife resources in western Washington, which include species such as deer, elk, bear and mountain goats.

- Western Washington treaty tribal hunters account for a small portion of the total combined deer and elk harvest in the state. In the 2015-16 season, treaty tribal hunters harvested a reported 465 elk and 604 deer, while non-Indian hunters harvested a reported 8,095 elk and 40,338 deer.
- Tribal hunters hunt for sustenance and most do not hunt only for themselves. Tribal culture in western Washington is based on extended family relationships, with hunters sharing game with several families. Some tribes have designated hunters who harvest wildlife for tribal elders and others unable to hunt for themselves, as well as for ceremonial purposes.
- As a sovereign government, each treaty tribe develops its own hunting regulations and ordinances for tribal members. Tribal hunters are licensed by their tribes and must obtain tags for animals they wish to hunt.
- Many tribes conduct hunter education programs aimed at teaching tribal youth safe hunting practices.

Tracking Mountain Goat Populations in North Sound



Emily Wirtz, Sauk-Suiattle

Mountain goats are surveyed from a helicopter before being captured, collared and released.

Mountain goats in the North Cascades have started to rebound the past several years, but treaty tribes are concerned about the impact of expected climate change on their survival.

The Sauk-Suiattle, Stillaguamish and Tulalip tribes recently put global positioning system (GPS) collars on six mountain goats, with plans to collar an additional 14 in 2017, to better monitor and manage the population. To reach the animals, they needed a permit to land a helicopter and conduct captures in the wilderness

of Mount Baker-Snoqualmie National Forest.

“Studying these animals will allow for responsible management, which will ensure that sustainable populations of mountain goats persist into the future, especially in the face of climate change,” the tribal chairs wrote in their request to the Forest Service.

Mountain goats are considered especially vulnerable to changes expected in the next 60-70 years, according to a 2015 assessment conducted for the Stillaguamish

Tribe by the Climate Change Impacts Group of the University of Washington.

“We have very little data on how goats are responding to changes in climate so this is an opportunity to begin collecting data on both their movement and habitat use,” said Jennifer Sevigny, Stillaguamish wildlife biologist.

Traditionally, tribal members collected goat wool in close timing with snowpack melt in the North Cascades.

“One thing we will be looking at with our study is melting times,” said Emily Wirtz, Sauk-Suiattle wildlife biologist. “Early melting times that are forecast with climate change could change the vegetation patterns in the alpine, and affect goat use of the habitat.”

The tribes are working with the federal Natural Resources Conservation Service to place snow telemetry instruments in the Sauk and Stillaguamish watersheds to monitor temperature and snow depth.

“Another aspect of climate change, coupled with the increasing population of Washington, is that we expect that larger numbers of recreationists will be able to have access to the higher elevations earlier in the year, and stay longer in goat habitat,” said Mike Sevigny, wildlife manager for the Tulalip Tribes. “This will also put added stressors on mountain goat populations and have an effect on goat habitat use.”

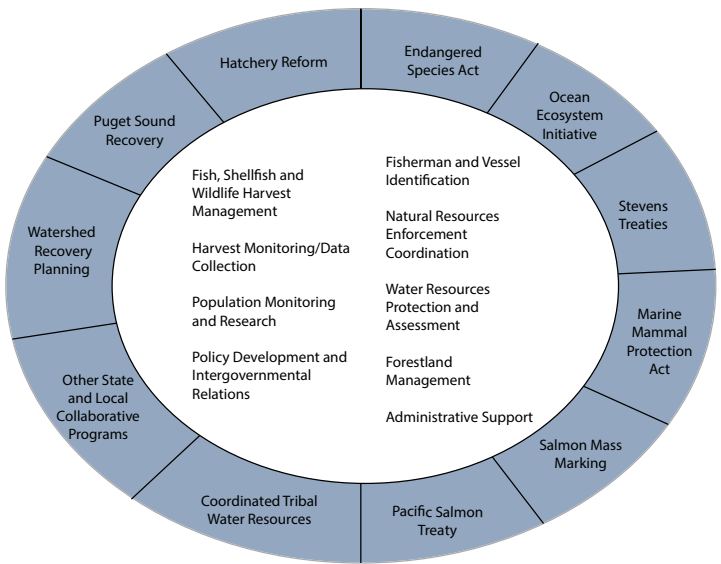
NWIFC Services, Programs and Activities

The Northwest Indian Fisheries Commission (NWIFC) was created in 1974 by the 20 treaty Indian tribes in western Washington that were parties to *U.S. v. Washington*. The litigation affirmed their treaty-reserved salmon harvest rights and established the tribes as natural resources co-managers with the state.

The NWIFC is an intertribal organization that assists member tribes with their natural resources co-management responsibilities. Member tribes select commissioners who develop policy and provide direction for the organization. The commission employs about 70 full-time employees and is headquartered in Olympia, Wash., with satellite offices in Forks, Poulsbo and Burlington.

It provides broad policy coordination as well as high-quality technical and support services for its member tribes in their efforts to co-manage the natural resources of western Washington.

The NWIFC serves as a clearinghouse for information on natural resources management issues important to member tribes. The commission also acts as a forum for tribes to address issues of shared concern, and enables the tribes to speak with a unified voice.



Habitat Services

- Coordinate policy and technical discussion between tribes and federal, state and local governments, and other interested parties.
- Coordinate, represent and monitor tribal interests in the Timber/Fish/Wildlife Forests and Fish Report process, Coordinated Tribal Water Resources, and Cooperative Monitoring, Evaluation and Research Committee ambient monitoring programs.
- Analyze and distribute technical information on habitat-related forums, programs and processes.
- Implement the Salmon and Steelhead Habitat Inventory and Assessment Project.

Quantitative Services

- Administer and coordinate the Treaty Indian Catch Monitoring Program.
- Provide statistical consulting services.
- Conduct data analysis of fisheries studies and develop study designs.
- Update and evaluate fishery management statistical models and databases.

Fisheries Management

- Long-range planning, wild salmon recovery efforts and federal Endangered Species Act implementation.
- Develop pre-season agreements, pre-season and in-season run size forecasts monitoring, and post-season fishery analysis and reporting.
- Participate in regionwide fisheries management processes with entities such as International Pacific Halibut Commission and Pacific Fisheries Management Council.
- Marine fish management planning.
- Shellfish management planning.
- Facilitate tribal participation in the U.S./Canada Pacific Salmon Treaty including organizing intertribal and inter-agency meetings, developing issue papers and negotiation options for tribes, serving on technical committees and coordinating tribal research associated with implementing the treaty.

Enhancement Services

- Assist tribes with production and release of more than 40 million salmon and steelhead each year.
- Coordinate coded-wire tagging of more than 4 million fish at tribal hatcheries to provide information critical to fisheries management.
- Analyze coded-wire data.
- Provide genetic, ecological and statistical consulting for tribal hatchery programs.
- Provide fish health services to tribal hatcheries in the areas of juvenile fish health monitoring, disease diagnosis, adult health inspection and vaccine production.

Information and Education Services

- Provide internal and external communication services to member tribes and NWIFC.
- Develop and distribute communication products such as news releases, newsletters, videos, photos and web-based content.
- Respond to public requests for information about the tribes and their natural resources management activities.
- Work with federal and state agencies, environmental organizations and others in cooperative communication efforts.

Wildlife Management

- Manage and maintain the intertribal wildlife harvest database and the collection and dissemination of tribal hunting regulations.
- Provide assistance to tribes on wildlife issues upon request.
- Respond and facilitate tribal discussions on key management, litigation and legislation issues.
- Provide technical assistance, including statistical review and data analysis, and/or direct involvement in wildlife and habitat management projects.



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