Northwest Indian Fisheries Commission

NWIFC News

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Being Frank

Treaty Rights are Civil Rights

By Billy Frank Jr.
NWIFC Chairman

The tribes' fight to preserve and protect the salmon and our treaty fishing rights has mirrored the civil rights struggle in the United States. That's because treaty rights are civil rights, just like your right to vote, and they are protected under the U.S. Constitution.

When we were fighting for our treaty rights in the 1960s, we marched with Dr. Martin Luther King. Returning home, we continued the struggle by protesting, getting arrested, getting out of jail and starting over again.

On Sept. 9, 1970 we had a fish camp under the Puyallup River Bridge near Tacoma. The state of Washington came down on us that day, just like they had done many times before, to stop us from exercising our treaty right to fish.

They gassed us Indians and threw us all in jail.

But someone else got gassed that day, too. His name was Stan Pitkin, the U.S. Attorney for western Washington. He was part of the crowd that gathered that day to watch the event unfold. Troubled by what he witnessed, Pitkin quickly took the first steps to file the U.S. v. Washington court case that would lead to the 1974 Boldt decision.

With the support of the Justice Department and U.S. Attorney's office, we were successful in defending our treaty-reserved fishing rights. Under the Boldt decision we were affirmed as co-managers of the salmon resource with the state of Washington. We are responsible for managing half of the salmon returning to western Washington every year.

But since the Boldt decision we have seen a steady decline of the salmon resource. After a long, difficult battle, we are seeing our hard-won treaty rights slip away because salmon and their habitat are being lost faster than they can be restored and the state refuses to enforce its own laws to protect the resource.

We may once again need the help of the Justice Department to protect our treaty rights.

Last summer we launched our Treaty Rights at Risk initiative to call on the federal government to take charge of salmon recovery in western Washington. We took this strong step because we are losing the fight for the salmon. The federal government has both the obligation and authority to recover salmon and protect our treaty rights. We want the government to align its agencies and programs to lead a more coordinated effort and get us back on the path to recovery.

We are encouraged by the early response from the federal government. We all agree about the need to strengthen the tribal and federal relationship to address obstacles to salmon recovery. We've already developed recovery plans and identified habitat barriers in most watersheds. Now we need a commitment from the federal government to coordinate the effort to tackle the most pressing obstacles in each watershed.

In the end, that effort can only be as effective as the decisions we make and the actions we take. We sure don't need more talk. We don't need more process. We need action.

That's why I think the Department of Justice needs to take a hard look at the damage being done to salmon habitat and the threat to our treaty rights. That may seem like strong medicine, but for us Indian people, nothing less than the heart of our culture is at stake.

NWIFC News

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On the cover: Lillian Ives, Port Gamble S'Klallam Days Princess, places a decorated salmon carcass into a canoe during the tribe's Return of the Salmon ceremony in August. The tribe held the ceremony for the first time in decades. See story on Page 4. *Photo: T. Royal*

Coastal Tribes Meet in D.C. on Climate Change

Climate change is occurring rapidly, creating an urgent need for the world to use the indigenous ways of adapting that have served ancient coastal cultures for thousands of years.

That was the message delivered by representatives of indigenous coastal people from throughout the United States when they gathered in July in Washington, D.C. for the First Stewards symposium.

The conference was aimed at providing a unified voice from native people in a call for action on climate change. First Stewards was developed to create a way for the indigenous people of the United States to engage with governments, non-governmental agencies and others to help mitigate and adapt to climate change.

The fabric of indigenous societies is threatened by over-development of coastlines; alteration of freshwater streams and lakes; destruction of watersheds and coral reefs; and the decline of fish and wildlife. Climate change has worsened these threats and indigenous cultures are witnessing astonishing changes in coastal ecosystems.

A First Stewards resolution sent to Congress and President Obama requests formal recognition of the coastal indigenous people and their expertise in understanding and adapting to changes in their natural systems.

The coastal tribes of Washington, which hosted the symposium, already see changes happening in their own villages.

D. Preston (2)

Tribal members from the Hoh, Makah and Quileute tribes and the Quinault Indian Nation sing and dance at the Smithsonian's National Museum of the American Indian during the First Stewards symposium.

Ed Johnstone, QIN tribal member and fisheries policy spokesman, speaks about climate change with a tribal student journalist during the First Stewards symposium.

"Preparing for winter is an ages old principal," said Micah McCarty, Makah tribal chairman and chairman of the First Stewards board of directors. "What we must prepare for now is staggering, but we must design regional and national pathways to create ways of working together to adapt to and reduce the speed of these changes. We can make a little more time to create these new strategies."

> *'What we must prepare for now is staggering, but we must design regional and national pathways to create ways of working together to adapt to and reduce the speed of these changes.'*
>
> **MICAH MCCARTY**
> **Chairman**
> **Makah Tribe**

In Alaska, melting sea ice has reduced the availability of food for animals and humans alike.

"Our vulnerable communities are being devastated by climate change in Alaska," said Mike Williams, a member of the First Stewards board of directors, who lives in the Alaskan community of Akiak.

"On our small islands in the Pacific, we have survived for millennia by adhering to our ancestors' wisdom of fashioning tools, thatching roofs and conserving resources in preparation of anticipated weather, both good and bad," said Kitty Simonds, vice chairman of the First Stewards board of directors and executive director of the Western Pacific Regional Fishery Management Council.

"*E hume i ka malo, e ho`okala i ka ihe*." Simonds said. "We are girding our loincloth and sharpening our spears to undertake this project and are asking President Obama, the U. S. Congress and others to engage in sincere and earnest consultation with us, so our cultures, our peoples and our world can survive and thrive."

A copy of the resolution can be found at *firststewards.org. – D. Preston*

Paddle to Squaxin

The Squaxin Island Tribe welcomed nearly 100 canoes from the Pacific Northwest, British Columbia and beyond at Tribal Canoe Journey 2012 in July. "Teachings of Our Ancestors" was the theme of this year's event.

Above, Squaxin Island tribal members welcome a canoe to their beach. At right, a young puller helps maneuver a canoe during the final landing in Olympia's Budd Inlet. Following the paddle, the tribe hosted a week of potlatch protocol that included songs, dances, storytelling and other traditions. The annual event, hosted each year by a different tribe or first nation, began in 1989. The Quinault Indian Nation will host next year's journey.

T. Meyer (2)

Port Gamble Blesses Salmon

For the first time in several generations, the Port Gamble S'Klallam Tribe held a blessing ceremony for its fishermen this summer.

"We wanted to recover the history behind the ceremony but also create an event that was reflective of the tribe today," said Nicole Aikman, one of the organizers. "We knew it had been done in the past but none of our elders remember it taking place in their lifetime.

"It's important to recognize our fishermen and let them know the strength of support they have from their tribe."

Several hundred tribal members, staff and friends showed up at Point Julia Aug. 11 for the "Return of the Salmon" ceremony. Elders blessed the day, then the S'Klallam Canoe Family took four small baskets of decorated salmon carcasses out to Port Gamble Bay while the S'Klallam Singers offered songs.

"It's an awesome experience because it brings us together, creating fellowship," said tribal elder Lloyd Fulton. "It's a wonderful day because our tribe is really blessed with all our fishing, clamming and geoducking. I'm thankful for the strength that I have to fish because it is from the strength of the tribe."

The organizers were pleased with the turnout and event, which included food, art, free T-shirts for attendees and activities for kids. The tribe plans to make it an annual event.

– T. Royal

T. Royal

Salmon prepared for the tribe's blessing ceremony.

Elwha River Recovering Faster than Expected

Since the deconstruction of the Elwha River's two fish-blocking dams started in September 2011, changes to the watershed have been taking place quickly, including the movement of sediment downriver, natural revegetation and salmon making their way into areas that haven't had ocean-going fish in nearly a century.

T. Royal

The natural revegetation of former Lake Aldwell in August 2012. The river is to the left, where it is carving out its own channel.

Wild Fish Return

Less than a year since the dams started to come down, native salmon have made their way deep into the Elwha watershed for the first time in nearly a century.

After the 108-foot-tall Elwha Dam was dismantled in March, an additional 3 miles of river habitat was re-opened for fish spawning, rearing and feeding. In June, a 35-inch-long adult male wild steelhead was found spawning in Little River, a tributary to the Elwha.

"We were so excited and wanted to find more," said Ray Moses, a Lower Elwha Klallam Tribe project biologist. "We had just finished transporting tagged steelhead upstream the previous week. We were looking for those fish but we knew this steelhead wasn't part of that group. We also knew it wasn't part of the tribe's steelhead broodstock program either."

In August, biologists got another surprise when adult male chinook salmon showed up near the Glines Canyon Dam and in Indian Creek. Moses thinks the fish made it that far before the biologists installed a fish weir in the lower river, which is used for counting fish returning to the river and collecting broodstock for the state's chinook program.

"There is some pristine habitat in Olympic National Park that the fish can use," Moses said.

Sediment Management

A dramatic sediment plume forming at the mouth of the Elwha River the past year has tribal and federal scuba divers looking for changes to the marine habitat.

The plume is the result of thousands of cubic yards of sediment that have been unleashed from behind the river's Elwha and Glines Canyon dams.

Divers from the tribe and U.S. Geological Survey have been surveying the nearby shoreline and deep waters to observe immediate changes to marine life.

"It appears most of the fine sediments are not depositing in the subtidal survey areas just yet," said Matt Beirne, the tribe's environmental quality manager. "What could be happening is that the sand is depositing at the river mouth but the finer sediments are being carried out a greater distance. I think we may see some major changes this winter when the high river flows from seasonal flood events resume."

USGS

Divers survey the bottom of the Strait of Juan de Fuca, near the mouth of the Elwha River, studying marine life and sediment.

The dams prevented the river from regularly flushing sediment from the upper watershed. Today, the beaches by the mouth of the river are dominated by cobbles instead of a sandier environment that tribal elders remember, Beirne said.

Deconstruction Update

All remnants of the Elwha Dam were removed by March; the site is now a large hill with the river cutting through its east side.

The formerly 210-foot-tall Glines Canyon Dam has been deconstructed at a slower pace, with only 90 feet left to demolish. Work was delayed in increments during the summer so that fish making their way into the watershed would not be harmed by sediment coming down the river. The dam is expected to be completely gone by summer 2013. – *T. Royal*

Passing Down Tradition

Youth Learn from Elders

Students in the Upper Skagit Tribe's summer youth enrichment program are learning traditional ways to gather and weave cedar.

Recreational youth coordinator Tara Rodriguez said there haven't been any organized cedar gatherings for tribal youth since she was a child.

In small groups, the 10- and 11-year-old students hiked into an old-growth forest in the Mount Baker-Snoqualmie National Forest near Darrington, accompanied by education specialist Curt Pavia and biologist Doug Couvelier.

Selecting a healthy cedar, Couvelier used a small ax to lift up the outer layer of bark before showing the students how to pull long strips from the tree.

After three or four strips were pulled, Couvelier moved students to another tree, ensuring no permanent harm was done to the trees.

Access to traditional gathering areas has declined as development has reduced the number of old-growth trees in the region. Tribal members are allowed to gather cedar by permit in national forests or by permission on private land.

The adult tribal members accompanying the students shared fond memories of cedar gathering when they were young.

"I used to come out here with my family to gather cedar, but a lot of these kids have never seen this," said tribal member Richie Baker as he separated the rough outer bark from the pulled strips of cedar. "They won't forget this experience."

Tribal elder Clifford Edwards stripped cedar all afternoon, but went home empty-handed. He gave all of his bundles to the students to take back to the reservation.

Once the cedar is dry, Rodriguez plans to have Edwards show the students how to weave headbands, hats and baskets.

"I hope next year we can do the same, and have even more trips with our tribal youth and elders," she said.

K. Neumeyer

Upper Skagit tribal youth Anthony Gabriel Corona concentrates on pulling bark from a cedar tree.

Generations Work Together

With a small ax and carving knife, Port Gamble elder and master carver Gene Jones Sr. deftly removes a 1-foot by 3-foot section of bark from a felled cedar log. He shaves off some of the rough bark, revealing a smooth tan inner layer. About an hour later, after scoring, cutting and carving, he has a bucket for bailing water out of canoes.

Ancestors of western Washington tribes relied on cedar bark as a resource for making items for everyday use. Today, tribal members continue harvesting and teaching the handicraft to the next generation by making traditional items such as baskets, hats and regalia.

"Typically you harvest when the dogwoods bloom in May and June – when it's hot but not too hot," said Marilyn Jones, the Suquamish Tribe's traditional heritage specialist. "It's when the pitch is good so the outer bark comes off easily, exposing the inner bark, which is used for weaving."

After harvest, the cedar strips are laid out to dry for a year. The tribe's forestry manager, David Mills, coordinates the cedar harvesting.

"It provides an opportunity for tribal members to gather materials for traditional means that can be hard to come by otherwise," he said. "We only get a few times a year to harvest."

Tribal elder Earlene Abler brought her son, his partner and their kids to the most recent cedar gathering near Indianola. The three generations were all new to the harvesting process.

"I want to expose my kids to this part of our culture," said James Abler. "This is my first experience gathering cedar and I want them to be more involved than I was at their age."

– K. Neumeyer & T. Royal

T. Royal

Port Gamble S'Klallam Tribe elder Gene Jones Sr. cuts away bark to make a bucket for bailing water out of canoes.

Suquamish Tribe Develops FLUPSY

The Suquamish Tribe is one of the few tribes in western Washington to build its own floating upwelling system (FLUPSY), a type of shellfish nursery for growing clams to seed on beaches.

The tribe constructed a 15-foot by 30-foot dock that holds eight bins for clam seed. In mid-June, for the inaugural load of seed, 2 million clams were placed throughout four of the bins. A constant flow of water is forced through the bins, providing nutrient-rich water for the clams, promoting growth.

"Typically, we purchase clams ready to seed on beaches," said Viviane Barry, the tribe's shellfish management biologist. "But we can save money by purchasing smaller seed and raising them ourselves in the FLUPSY."

After several weeks of growth, the tribe picks out the largest ones ready for planting on beaches.

"We'll plant at lower densities on the beach because larger seed have better survival rates," Barry said. – *T. Royal*

T. Royal

Suquamish Tribe shellfish staff Ron Harrell, left, and Luke Kelly discuss how best to divide 2 million clam seed into four containers of the FLUPSY.

Jamestown S'Klallam Enhances Olympia Oysters

Chris Kaplan, Jamestown S'Klallam Tribe

Jamestown S'Klallam natural resources technician Chris Burns, left, and Jonathan Davis, marine science adviser for the Puget Sound Restoration Fund, attach Olympia seed grow bags to an anchored line on Sequim Bay tidelands.

The Jamestown S'Klallam Tribe planted more than 10,000 Olympia oyster seed this summer to enhance an acre of tidelands near the tribe's government campus on Sequim Bay.

"The tidelands in front of the tribal center have small patches of mature and juvenile Olympia oysters so there is successful reproduction occurring, meaning that is probably good habitat," said Kelly Toy, the tribe's shellfish management program manager.

Olympia oysters are native to the Northwest and were an important food source for many tribes. Olympias were once abundant, but due to pollution, overharvest and habitat degradation, the populations are extremely low. Pacific oysters were introduced for harvest to supplement the severe decline in the early 1900s and eventually outcompeted the Olympias on beaches throughout Puget Sound, Toy said.

Olympia oyster reefs provide many ecological benefits to other marine species and improve water quality, she said.

"Boosting the Olympia oyster population on the Sequim tidelands will increase an important resource that will benefit tribal members," she said.

The tribe also is enhancing oyster habitat on the beach by adding empty oyster shells. As with other oysters, Olympia oyster larvae need oyster shells to settle on and grow. Survival and growth of the plot will be monitored and more Olympia seed will be planted over the next five years, Toy said. – *T. Royal*

Nisqually Tribe Leads Habitat Restoration

The salmon recovery effort in the Nisqually River watershed is shifting focus from freshwater habitat projects to restoring Puget Sound.

"All of our work inside the Nisqually watershed could be undone if we let Puget Sound continue to decline," said David Troutt, natural resources director for the Nisqually Tribe.

The tribe coordinates and plans restoration efforts in the watershed as the lead entity for salmon recovery. The effort is in response to the 1999 listing of Puget Sound chinook under the federal Endangered Species Act (ESA).

"The Nisqually watershed community was the first group to produce a salmon recovery plan two years after chinook were first listed under the ESA for this watershed," Troutt said. "Since then, we've made large steps in restoring salmon productivity."

In the last decade, the tribe has worked with partners throughout the watershed to restore and protect salmon habitat. Restoration projects on two important chinook tributaries – the Mashel River and Ohop Creek – and restoration of the river's estuary will result in more naturally spawning chinook.

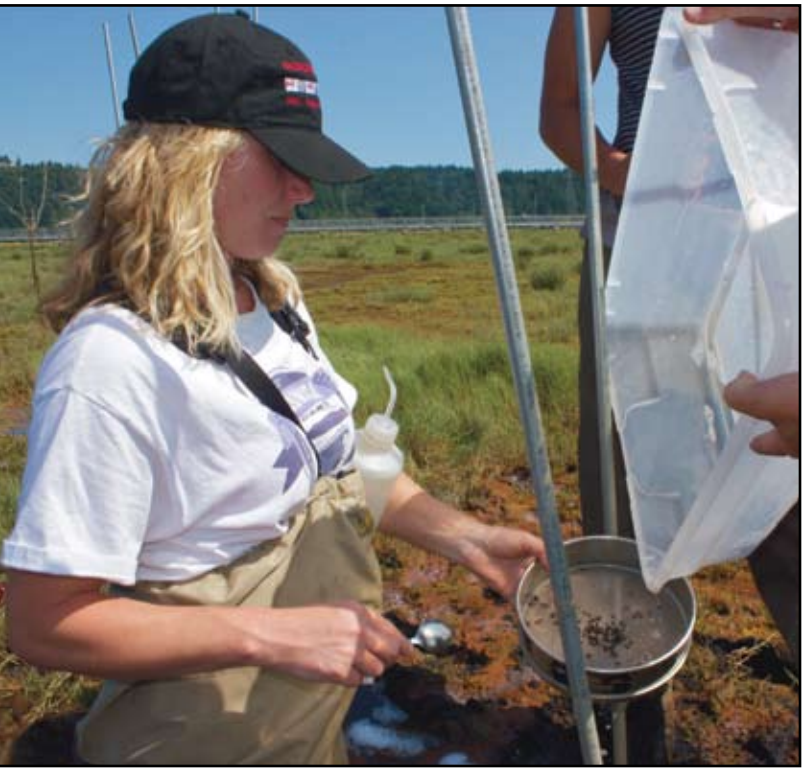
E. O'Connell

Chris Ellings, Emiliano Perez and Walker Duvall, Nisqually Tribe's natural resources staff members, haul in a beach seine to sample sea life near the mouth of the Nisqually estuary.

"Salmon have gained a lot of habitat inside the watershed, but once they leave for the ocean, they are still facing challenges," Troutt said. "While we have been making gains in the watershed, we seem to be losing ground along the shorelines of Puget Sound."

More than 40 percent of the nearshore area just off the mouth of the Nisqually River is armored with bulkheads or similar structures, including most of the shoreline areas that contribute vital sediment to Puget Sound.

– E. O'Connell



T. Royal

Skokomish habitat biologist Shannon Kirby holds a fine mesh strainer that collects the bugs from the fallout trap.

Monitoring Bugs in Skokomish

The Skokomish Tribe is studying bugs that live in the Skokomish estuary, providing food for chum, chinook and coho salmon, and other fish.

The tribe has four fallout traps located near the edge of the estuary. Made of plastic boxes stabilized between four rods of conduit, the traps catch bugs that land in tubs of soapy water.

The tribe collects the invertebrates, which include flies, twice a month and sends them off to a U.S. Geological Survey lab for analysis.

"By collecting these invertebrates, we're creating a baseline of information of what kind of food is currently available for salmon," said Shannon Kirby, the tribe's habitat biologist.

"Invertebrates are important indicators of water quality and ecological integrity of estuarine habitats," she added. "They are also key food resources for fish and bird predators."

Besides the fallout traps, the tribe also is looking at the stomach contents of juvenile fish.

"By comparing the types of invertebrates found in the stomach samples, we can determine whether juvenile salmon are feeding in the tidal channels where they are found and what food is available for them to eat," she said. *– T. Royal*

D. Preston

Nicole Rasmussen, water quality biologist for the Quileute Tribe, prepares to install a water temperature monitoring device in a tributary to the Dickey River. The device will monitor water temperature continuously and the data will be downloaded regularly into a computer.

Quileute Tribe Bolsters Water Data Collection

Half-sliding, half-walking, Nicole Rasmussen, water quality biologist for the Quileute Tribe, makes her way down a mud slope to a creek in the Dickey River watershed. Dressed in chest waders and rain gear, she wades to a spot along the bank where she can securely anchor a monitoring device to track water temperature.

Rasmussen's work is part of the Quileute Tribe's effort to establish baseline water quality information for traditional fishing areas in the Quillayute River system, which includes the Bogachiel, Calawah, Dickey and Sol Duc rivers.

The data will provide useful information for planning management projects to improve water quality conditions.

More than 47 sites on- and off-reservation will be monitored at least monthly. Twelve additional sites that carry high volumes of water will be sampled for effects of storms that dump at least 2 inches of rain in 24 hours.

"We'll be able to see how much turbidity increases after a storm in these larger systems," Rasmussen said. "The smaller, shallow systems clear out too rapidly to be a good indicator."

"The tribe has been working hard to get a full-time water quality biologist here," said Katie Krueger, staff attorney and policy analyst for the tribe's natural resources department. "In the past, we were training our Timber/Fish/Wildlife biologists and technicians to do some of this work when they weren't doing other projects, but that was only on-reservation.

"Now, through federal Environmental Protection Agency funding, we'll be getting that critical baseline information from all of the waters that flow into the reservation." – *D. Preston*

Engaging Students in Wetland Science

Northwest Indian College students on the Tulalip campus are getting field experience monitoring water quality in their own backyard.

A few years ago, the Tulalip Tribes' natural resources department constructed a wetland adjacent to the parking lot that serves the college as well as the Boys and Girls Club.

Engineered wetlands contain highly organic soil and vegetation to absorb and break down pollutants carried by stormwater, including copper from brake pads, which is harmful to salmon.

To monitor the effectiveness of the wetland, native environmental studies students are sampling water in two catch basins following a rainstorm. The first catch basin collects water that runs off the parking lot. After the stormwater has time to filter through the system, the students will sample water from a second catch basin where the water drains from the horseshoe-shaped wetland.

"This constructed wetland was a demonstration project," said Valerie Streeter, stormwater planner for the tribe. "I hoped to get students interested in the wetland, and I was very impressed with how engaged they were."

Monitoring the wetland is part of a service component of Ben Lubbers' class on biology and the natural history of the Salish Sea.

"Hands-on learning is important," Lubbers said. "In class, we learn about water quality and stewardship. What better place to expand on that than right outside the classroom?"

– *K. Neumeyer*

K. Neumeyer

Kaeli Grenier Moses Johnson, left, a summer youth worker, and stormwater planner Valerie Streeter check the water level in a rain barrel beside the Northwest Indian College building on the Tulalip reservation. Tulalip Natural Resources has partnered with NWIC to engage young people in resource stewardship.

K. Neumeyer

The Sauk River is part of a river system fed by nearly 400 glaciers. The Sauk-Suiattle Tribe is examining the ways a changing global climate will affect fisheries in the region.

Sauk-Suiattle Anticipates Effects of Climate Change

The Sauk-Suiattle Tribe is studying how climate change will affect members of the tribe and the natural resources that sustain them.

"The tribe values a healthy river as equal to a healthy and vibrant human community," said Jason Joseph, Sauk-Suiattle natural resources director. "This project will be a case study of sustainability in the face of global warming. We're focusing on the effects on fisheries and reservation infrastructure."

The homes and administration buildings of the Sauk-Suiattle reservation are on the banks of the Sauk River near Darrington. With nearly 400 glaciers in the region, the Sauk and other tributaries to the Skagit River – the Suiattle and Whitechuck – will see rapid change as the climate continues to warm.

"Our predictive model will take information from many places, starting with glacier recession and changes in snow elevation already under way, and project those into the future," said Robert Franklin, Sauk-Suiattle fisheries manager. "As glaciers disappear and no longer contribute cold melt water in the summer, temperatures will rise, getting too warm for fish and making it more difficult for them to survive and grow."

Winter floods also will be larger and more frequent.

The tribe is using the global climate model, which is widely used for weather forecasts and projecting climate change.

"We'll look at erosion rates as the channel migrates, and get a prediction for how quickly the river will overtake reservation land," Franklin said.

The tribal natural resources department is holding a community meeting to get input from tribal members about their concerns.

"People have already seen things happen," Franklin said. "A bridge washed out on the Suiattle in 2006. We had record floods in 2006 and 2009. We want to make sure we're focusing on the things that matter to them, so that people will be able to make use of this study."

By predicting changes to the channel, floodplain, flows and water temperatures, fisheries managers can identify populations that are most vulnerable to climate change. For example, the eggs of fall-spawning salmon could be threatened by faster, higher flows if the snowfall no longer melts slowly, and instead becomes rain that enters the river right away.

"If we identify that certain runs of chinook are vulnerable, that should influence our approach to restoring them and harvesting them as we face what we can't stop," Franklin said. "We also can use the predictions for flood risk to plan and redesign buildings, utilities and roadways around the reservation."

The study is supported by a federal Environmental Protection Agency grant made available through the Puget Sound Partnership, and a partnership with the U.S. Geological Survey and Natural Systems Design, Inc. – *K. Neumeyer*

Generations

Swinomish Tribal Archive

A Swinomish tribal fisherman and his family bring a small boat ashore in Skagit Bay in this photo from around 1945. The Swinomish reservation is visible in the background.

E. O'Connell (2)

Tribes Track Fish Out of Water

Top, Eric Marks, biologist for the Puyallup Tribe of Indians, checks an off-channel area of the White River during dewatering in late July. The U.S. Army Corps of Engineers regularly drops flows in the river to make repairs to a diversion dam. The Puyallup and Muckleshoot tribes, the state Department of Fish and Wildlife and Cascadia Water (a local water utility) took to the river to estimate the number of salmon that died during the dewatering, and rescue as many as possible.

Puyallup Constructs Rearing Pond Near Wetland Restoration

A massive habitat restoration project and a new acclimation pond will complement each other on the upper White River.

The habitat restoration project will reconnect a 5-acre wetland to the Clearwater River, a tributary to the White. The project is being managed by the South Puget Sound Salmon Enhancement Group (SPSSEG). Just downstream from the habitat project site, the Puyallup Tribe is building a new juvenile chinook acclimation pond to replace an older pond where access was cut off by a winter flood.

"Acclimation ponds help make sure there are juvenile chinook in the river each year to take advantage of the improved habitat," said Russ Ladley, resource protection manager for the Puyallup Tribe of Indians. The new pond is being built on Jensen Creek, which flows into the Clearwater River.

"We know there is good spawning habitat on the Clearwater for chinook, and the habitat work will make that even more true," Ladley said.

The SPSSEG will remove a road that is blocking 10 acres of floodplain, including the 5-acre wetland.

"By taking out the road, the river will have more room to move and create habitat in a way it always had," said Kristin Williamson, SPSSEG project manager.

The tribe annually transfers as many as 800,000 juvenile spring chinook from either a state or Muckleshoot tribal hatchery and raises them in several acclimation ponds in the upper White.

"Increased attention to their habitat and changes to harvest and hatchery practices have meant more fish are coming back each year," Ladley said.

White River spring chinook – which are part of a stock listed as "threatened" under the federal Endangered Species Act – were at a historic low 20 years ago. But since 2000, the spring chinook run has consistently averaged more than 1,000.

"We can help chinook get up to the upper watershed, but what they really need is good habitat to thrive," Ladley said.

– E. O'Connell

E. O'Connell

Russ Ladley, Puyallup resource protection manager, inspects the tribe's new salmon acclimation pond in the upper White River.

Fish, Landowners Benefit from River Restoration

Work has begun on the second construction phase of the Quinault Indian Nation's (QIN) comprehensive restoration effort on the upper Quinault River.

Historic removal of the mature conifer forests from the floodplain has resulted in a loss of more than 50 miles of salmon habitat critical to sockeye (blueback) salmon. In addition to affecting fish, the unstable river now threatens the local community in the valley.

Adult sockeye spawn in the tributaries and side channels of the upper Quinault River and their young rear in Lake Quinault for one or two years before migrating to the ocean.

In the first phase of river restoration, QIN installed 13 engineered logjams in Alder Creek in 2008. The current project includes building seven more engineered logjams to help stabilize the river channel, restore habitat for salmon and reduce risk to landowners' property from erosion.

"Our primary goal is to restore the river and salmon habitat, but we cannot ignore the people who live in the valley," said Bill Armstrong, QIN salmon resources scientist and leader of the upper river restoration efforts.

Armstrong and other representatives from the Nation have met with upper Quinault River valley residents during the past seven years to build support as the project was developed.

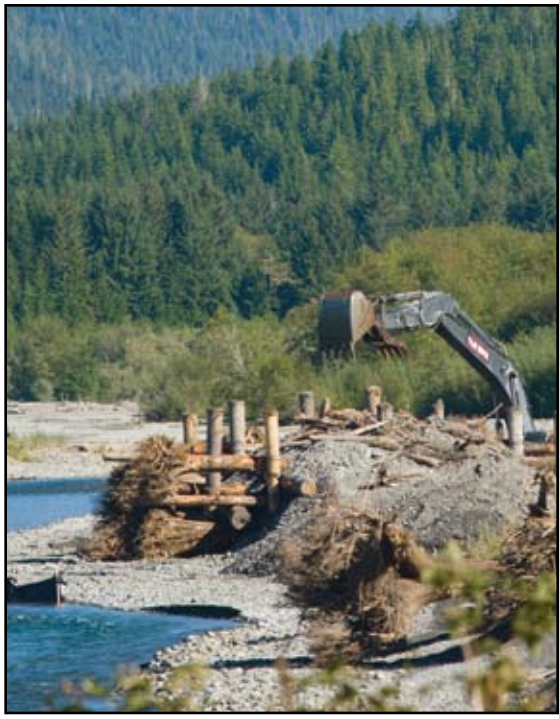
"Any time you try to bring people together who have different values, agendas and opinions about what is going on, there is distrust and potential for conflict," Armstrong said. "There is no doubt we've had our share of both, but I am confident that we have achieved a common understanding that has helped to resolve many of the issues. We have turned the corner toward building the solid coalition of partners necessary to restore the upper Quinault River."

A grant from The Nature Conservancy is paying for more than half the $500,000 cost of the project. The grant supplements other grants provided by the U.S. Forest Service, the Wild Salmon Center and Washington Department of Natural Resources. QIN recently allocated $30,000 to balance the project budget.

Similar to the Alder Creek project, the team approach between QIN, federal, state and local governments and agencies accomplished the required permitting in record time.

"We cannot understate the contributions made by the Bureau of Indian Affairs, regulatory agency staff and our contractors who work in support of the Quinault Indian Nation," Armstrong said. "Just like we did for Alder Creek, we've been able to work efficiently as a team to complete in a very short amount of time all of the planning, design work and regulatory requirements needed for this and other phases to proceed."

Restoring the river and habitat for blueback salmon is a necessity for the Quinault Indian Nation, Armstrong said, but the restoration also will provide jobs for loggers, heavy equipment operators and laborers, many who are out of work due to the recession and downturn in the local timber-based economy. – *D. Preston*



D. Preston

The Quinault Indian Nation is building logjams near Amanda Park to stablize the river channel and improve habitat for sockeye salmon.

Makah Replaces Fish-Blocking Culvert with Bridge

The Makah Tribe is working to improve salmon habitat on Grimes Creek in the Tsoo-Yess River watershed by replacing a fish-blocking culvert with a 60-foot-long bridge. The watershed is home to coho, chinook and steelhead.

"This particular culvert replacement has been on Makah Forestry Enterprise's radar for some time and they finally had the resources to get it done," said Ray Colby, water quality specialist for the Makah Tribe.

The culvert had become perched with a large drop that prevented salmon from moving upstream in all but the highest flows.

"It was actually cheaper to put the bridge in than a larger culvert and the bridge will give better passage," Colby said.

More than a mile of spawning and rearing habitat will be opened to fish, said Jim Haney, operations manager for Makah Forestry Enterprise. The tribe has worked steadily to improve fish habitat in the Tsso-Yess River watershed and has additional projects planned.

The 16-mile-long Tsoo-Yess is a source of drinking water for the tribe. The $70,000 project was paid for by the Makah Forestry Enterprise with assistance from Makah Fisheries personnel to protect fish during the project. – *D. Preston*

D. Preston

Makah water quality specialist Ray Colby, left, field technician Mike Dulik and water quality technician Billy E. Noel remove fish from Grimes Creek before replacing a perched culvert with a bridge.

Tribe Monitors Sea Lion Diet for Toxins

The Makah Tribe is examining levels and possible sources of two marine algal toxins in Steller and California sea lions on the Washington coast.

The tribe is working to determine the presence of domoic acid and saxitoxin in sea lions by measuring toxin concentrations in their feces. High levels of domoic acid and saxitoxin in fish and shellfish can sicken or kill animals and humans who consume them.

The Makah Tribe hopes to learn more about the accumulation of these toxins by top predators in the food chain, and to understand what factors lead to higher exposure, such as prey type, season or other environmental factors.

The number of sea lions dying in California due to high levels of domoic acid has increased over the past decade. Although sea lion mortalities from these toxins have not been recorded in Washington state, the Makah study will assess their risk of exposure to high concentrations.

Adrianne Akmajian, marine mammal technician for the Makah Tribe, has been collecting and processing scat from the California and Steller sea lions for more than a year with assistance from Makah marine mammal biologist Jonathan Scordino.

The samples are sent to labs to be tested for domoic acid and saxitoxin. Bone and fish structures in the scat also are examined to determine what the sea lions have eaten.

"It helps to know in general what they are eating compared to their levels of toxin," Akmajian said. "We are writing a grant proposal to continue sampling in our area for several more years to have a better data set and to receive samples from Steller sea lions in Alaska to do a comparison."

Steller sea lions in Washington are part of the eastern distinct population segment, which is listed as "threatened" under the Endangered Species Act. Additional samples from Alaska would be from the western distinct population segment, which are listed as "endangered." The National Oceanic and Atmospheric Administration's National Marine Fisheries Service is evaluating whether the eastern population has recovered sufficiently to be removed from the Endangered Species list.

– D. Preston

D. Preston (2)

Top: Sea lions haul out near Neah Bay. Recent die-offs of both California and Steller sea lions have prompted concerns about marine toxins. Above: Adrianne Akmajian, marine mammal technician for Makah Tribe, readies scat samples to send to the lab.

Upper Skagit Stewards Elk Habitat

K. Neumeyer

Upper Skagit biologist Doug Couvelier, right, and timberland services forester Robert Schuyler assess a parcel of Seattle City Light land.

The Upper Skagit Tribe has been contracted to help assess more than 10,000 acres of wildlife habitat that Seattle City Light (SCL) purchased to mitigate for habitat lost due to the Skagit River Hydroelectric Project.

As required by the 1991 Wildlife Settlement Agreement among SCL, tribes, and federal and state resource agencies, the public utility has been acquiring property in the Skagit and Nooksack watersheds.

"Acquisition and protection of the South Fork Nooksack River property is a great example of investing in a nearby watershed that has high habitat mitigation value," said Ron Tressler, a wildlife biologist for SCL. South Fork Nooksack land was identified by tribal representatives and the Washington Department of Fish and Wildlife as important habitat for the Nooksack elk herd.

To gain information for proper management, Upper Skagit natural resources staff will assess and map upland, wetland and riparian habitat types on SCL's parcels of land, documenting areas with unique snags, cliffs and rock outcrops.

They also will identify inactive roads and stream culverts that need to be removed or replaced, and update habitat maps where river channels have migrated since the previous management plan was developed in 2006.

Tribal technicians will inventory and remove invasive weeds and monitor for illegal activities such as wildlife poaching, timber theft, trash dumping and other encroachments that cause damage to wildlife habitat.

– K. Neumeyer

Studying Summer Streamflow

E. O'Connell

Joe Puhn, resource technician with the Squaxin Island Tribe, sets up equipment for a habitat survey on the Deschutes River.

The Squaxin Island Tribe is examining streamflow in the Deschutes River to establish how much water salmon need to survive during the summer months.

"We want to look at the relationship between flows and salmon habitat," said John Konovsky, environmental program manager for the tribe. "As flows decrease, available habitat also decreases. We're trying to identify the point when that lack of flow and habitat becomes critical for juvenile salmon survival."

The end result of the tribe's research will be to set a minimum flow target standard for the watershed between April and December. If the state adopts this standard, it would be able to take corrective action when the flow drops too low. The state set a minimum flow standard more than 30 years ago for the winter months, but didn't address summer flows.

A historical analysis by the tribe shows that in recent decades, summer flows have gotten lower, and winter and spring floods more frequent and larger. The analysis points to an increase in impervious surfaces and a loss of forest cover as prime causes of the change in hydrology. Those changes have decreased flow during the summer months by at least 20 percent.

"We've seen a massive influx of people into the watershed and a corresponding increase in development," Konovsky said. "When forestland is replaced with parking lots and subdivisions, less water seeps into the ground during winter rains. And for our groundwater-fed systems like the Deschutes, that means less water in the river in the summer for fish."

Understanding summer flows will also give the tribe and other natural resources managers a better way to evaluate possible gains from future plans to recharge reclaimed water in the Deschutes watershed. The LOTT Clean Water Alliance (a consortium of Lacey, Olympia, Tumwater and Thurston County governments) operates wastewater and reclaimed water facilities in the region. The LOTT Alliance is evaluating further shifts from marine discharge of wastewater to upland infiltration, which could benefit streamflows.

"Since the 1980s, we've watched development slowly erode salmon populations in the Deschutes River," said Andy Whitener, natural resources director for the tribe. "We hope this research can point us in the right direction to restore these salmon that are part of our culture and economy.

– E. O'Connell

Tribe Keeps Tumwater Hatchery Program Afloat

The Squaxin Island Tribe recently contributed $72,000 to prevent a 75 percent cut in chinook production at the state's salmon hatchery in Tumwater.

"If the tribe hadn't been able to help the state, only 1 million chinook would have been released," said Jeff Dickison, assistant natural resources director for the tribe. Production at the Deschutes River facility has been steady at 4 million chinook, but because of a shortfall in legislative funding, production would have dropped to 1 million. Production has been as high as 12 million fall chinook salmon at the facility since the program began in the 1950s.

"This chinook run, in the deep southern end of Puget Sound, is incredibly important because these fish are caught everywhere from Alaska to Budd Inlet," said Joe Peters, harvest biologist for the tribe. "The vast majority of these fish are caught in sport fisheries between Everett and Tacoma."

The run's contribution to fisheries and the local culture comes despite limited salmon habitat.

"Almost as soon as these fish leave for the ocean, they enter an incredibly degraded estuary," Dickison said.

A shrinking state budget the last few years has put pressure on natural resources agencies, especially on salmon hatchery production.

"The money the state spends on the Department of Fish and Wildlife (WDFW) is less than 1 percent of the entire state budget and has shrunk over the last decade," Dickison said. Since 2001, the portion of the state budget spent on WDFW has shrunk from .68 percent to .56 percent.

"The tribe had to jump in at the last minute to save these fish," Dickison said.

E. O'Connell

Joe Peters, Squaxin Island Tribe, pulls in a gillnet in the chinook fishery in outer Budd Inlet.

"The tribe is interested in making sure our treaty right to harvest salmon is preserved," said Andy Whitener, tribal natural resources director. "Fishing these salmon is important to the tribe and to non-tribal sport fishermen too. We're glad everyone will be able to fish on this run." *– E. O'Connell*

Tulalip Releases Record Number of Coho

The Tulalip Tribes' Bernie "Kai-Kai" Gobin Salmon Hatchery released a record number of coho salmon this year, thanks to rearing improvements that led to a high survival rate.

In June, tribal hatchery staff released 1.3 million coho smolts from brood year 2010, bringing the total number of hatchery salmon released this year to 12 million, including brood year 2011 chinook and chum.

"We have made slight changes to the way we do things as far as fertilizing and handling eggs," said Jesse Rude, assistant manager of the hatchery. "Our survival rates have gone from around 80 to 85 percent up to 95 percent."

The hatchery coho and chinook are 100 percent otolith-marked in addition to being fin-clipped so fishermen can identify them as hatchery fish. Otoliths are mineral structures often referred to as "ear bones." They are marked by altering the water temperature at the hatchery, leaving a distinct pattern that fisheries managers can use to identify where the fish originated. A portion of the hatchery fish also are coded-wire tagged.

Otolith samples and coded-wire tags enable fisheries managers to determine the impacts of harvest on salmon populations. Tulalip has its own stock assessment lab where tribal technicians read the otolith samples.

"We get more accurate return estimates using the otolith information," said Mike Crewson, fisheries enhancement biologist. "The sampling and laboratory work enables more samples to be analyzed, and provides tribal members with interesting jobs."

Hatcheries are just one aspect of sustainable fisheries management. Responsible harvest management also is a key element, but even more important is the investment in habitat restoration and protection.

"We need to make sure salmon will still be around for our grandchildren," said Ray Fryberg, Tulalip Tribes director of natural and cultural resources. "We're putting money, time and effort into releasing these fish, but we're losing ground on habitat. We wouldn't even have fisheries if it weren't for hatcheries. Not only do they provide economically for our people, but more importantly, they preserve a lifestyle that belongs to us." – *K. Neumeyer*

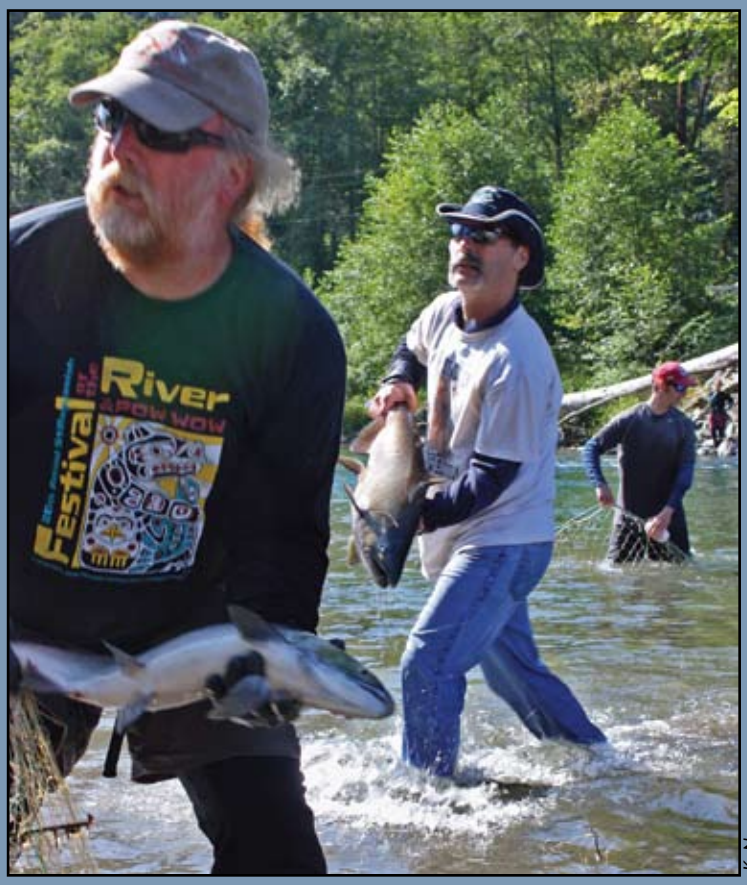
K. Neumeyer

Tagging technician Robert Esquiro marks a hatchery coho salmon by clipping its adipose fin at the Bernie "Kai-Kai" Gobin Hatchery.

Broodstocking a Team Effort

Stillaguamish fisheries technician Rick Van Arman, left, tribal Chairman Shawn Yanity, and biologist Scott Rockwell collect adult chinook salmon from the North Fork Stillaguamish River.

The fish will be used as broodstock for the tribe's hatchery program. The Stillaguamish Tribe has supplemented the declining chinook population in the North Fork Stillaguamish for more than 20 years.



K. Neumeyer

Walking On

Edith Hottowe

Edith (Edie) Hottowe, 86, passed away in May, surrounded by loved ones after a brief illness. She was born the ninth of 10 children to Luke and Ada Markishtum in Neah Bay, Feb. 11, 1926.

As their father desired, Hottowe, like most of her brothers and sisters, was well educated in academics, culture and music. Growing up, there was no road into Neah Bay. Travel was by trail, canoe or ship.

Hottowe attended boarding school in Chemawa, Ore., like many of the Makah children of the day. However, she returned home and graduated from Neah Bay High School as class salutatorian in 1944, after her family helped establish the school.

Hottowe completed nursing classes at Seattle University. As an adult, she used her formal and cultural education to help develop the Makah Tribe's first health plan as well as the first alcohol recovery plan, as a member of the tribal council.

In addition to her four years on tribal council, Hottowe worked many years for Head Start, was Makah Health Director, Olympic Peninsula Tribes Health Coordinator, Makah Alcoholism Program Director and Mainstream Director.

She married John Hottowe in 1947. Following his retirement from the Air Force civil service, they became ambassadors of Makah culture and tradition around the globe. They traveled as far as Tashkent, in the former Soviet Union, and to many other countries. They were married for 50 years before his passing in 2003.

At home, Hottowe shared her culture with children and adults alike. She also shared Makah culture as part of her work at the Makah Cultural and Resource Center.

She is survived by daughter Jean Hottowe Vitalis; sons Jeff and Dale Hottowe; and numerous grandchildren and great-grandchildren.

Guy McMinds

Guy McMinds, 75, of the Quinault Indian Nation (QIN), passed away July 9 from natural causes.

McMinds graduated from Moclips High School in 1955, attended Grays Harbor College, served two years in the U.S. Army, then received a fisheries science degree from the University of Washington in 1966. He was elected to the Quinault Business Committee and served many years as the QIN Fisheries Manager and Natural Resources Director. He retired in 2010 from his position as adviser to the president of the Quinault Indian Nation.

During his lifetime, he was a strong advocate of tribal treaty rights, natural resources and education.

In the mid-1960s, McMinds worked with the U.S. Department of Commerce to obtain funding to create the Quinault Department of Natural Resources. He was an active leader in Indian fishing rights, leading to the Boldt decision in 1974, and was instrumental in the creation of the Northwest Indian Fisheries Commission. McMinds also led the fight to turn treaty abrogation legislation into the 1980 Salmon and Steelhead Conservation and Enhancement Act.

While best known for his contributions to tribal fisheries and protecting Quinault lands, McMinds also devoted his life to the needs of children and families. McMinds was a founding member of the National Indian Child Welfare Association and served on the Governor's Substance Abuse Prevention Advisory Committee and the Grays Harbor College Board of Trustees.

In 1988, McMinds worked with then-Senator Dan Evans to restore more than 12,000 acres of land that had been erroneously excluded from the boundaries of the Quinault Reservation. The North Boundary Restoration Act, PL 100-638, provided the Quinault Nation with the means to consolidate land and address forest management problems resulting from the allotment of the reservation into 2,340 individually owned parcels.

McMinds is survived by Ruth, his wife of 45 years; two brothers; two sisters; eight adopted children; and 13 grandchildren.