NWIFC News

Northwest Indian Fisheries Commission

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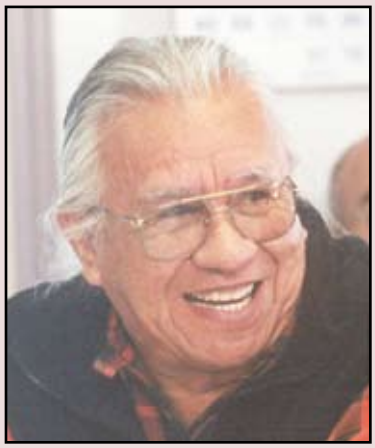
Being Frank

A Tribute To Kenny Braget

By
Billy Frank Jr.
Chairman



Kenny Braget's voice will always be with us.

A cattle rancher and a neighbor of mine in the Nisqually watershed, Kenny lived the life of a steward. He proved the belief that actions speak louder than words. No one's actions spoke louder than Kenny's.

My lifelong friend passed away this summer, but his legacy will live on.

Kenny was a champion of the Nisqually River. He took a bold stand against converting the estuary into an open water port. Without him, the mouth of the Nisqually might be like many rivers in the Puget Sound: saturated with poisons, bloated with urban sprawl and devoid of fish, animals and birds.

Decades ago, he enthusiastically came to the table as citizens, governments and businesses from the mouth of the Nisqually to Mount Rainier decided to work together to preserve natural habitat along our river. With Kenny's help, we established the Nisqually River Task Force and, with his ongoing support, it grew into an effort that has inspired watershed management programs near and far.

In the winter of his life, Kenny could have subdivided his 420 acres, permitted development to creep in, and lived out his years a wealthy man. But Kenny was interested in other kinds of riches. He didn't value his property by what it was worth in dollars.

Instead, he sold his property to the Nisqually Tribe, knowing that we would manage it in a way to protect and enhance the quality of all life in the delta. He knew we would tear down the dikes that his family built to protect their fields from the saltwater.

Today, those fields are a nesting place for birds, an incubator for young salmon, and a refuge for returning adult salmon. Despite the pressures of growth that Kenny felt and fought much of his life, the estuary is still a place where you can smell the tide that supports life throughout the watershed.

The estuary is Kenny's memorial.

Several hundred people braved near-freezing temperatures to dedicate the newly created Braget Marsh and to say goodbye to Kenny. Tribal members rejoiced with dancing, drumming and singing.

The tide moved in slowly. Only this time, the water reclaimed the land where Kenny's cattle once roamed. It glided onto the land that, until that day, had been kept dry by 9,000 feet of dikes. One hundred acres of the old Braget farm were reclaimed by the waters of Puget Sound, soon to be occupied by a variety of fish, waterfowl and thousands of other native species.

The estuary is coming to life again, right in front of our eyes, and I think Kenny is smiling.

NWIFC News

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On The Cover: Nisqually tribal elder Bob Sison blesses newly reclaimed wetlands along the Nisqually River as part of a celebration in October. Related story on next page.

Photo: E. O'Connell

Nisqually Tribe Reclaims Critical Salmon Habitat

NWIFC Chairman Billy Frank Jr. examines a sign commemorating Kenny Braget, whose family was key to the Nisqually Tribe's restoration of the former cow pasture. *Photo: E. O'Connell*

The Nisqually Indian Tribe recently celebrated one of the largest steps ever in the effort to restore Puget Sound. The tribe put the finishing touches on a decade-long effort to restore 140 acres of former cow pasture to critical salmon habitat. The tribe and its partners in the restoration project held a "Welcoming the Tides" ceremony on Oct. 31.

"It's coming to life again, right in front of our eyes," Billy Frank Jr., chairman of the Northwest Indian Fisheries Commission, told more than 100 people who turned out for the event. Other speakers included former U.S. Enviromental Protection Agency Administrator Bill Ruckelshaus, co-chairman of the Puget Sound Partnership, as well as U.S. Rep. Norm Dicks (D-Wash.).

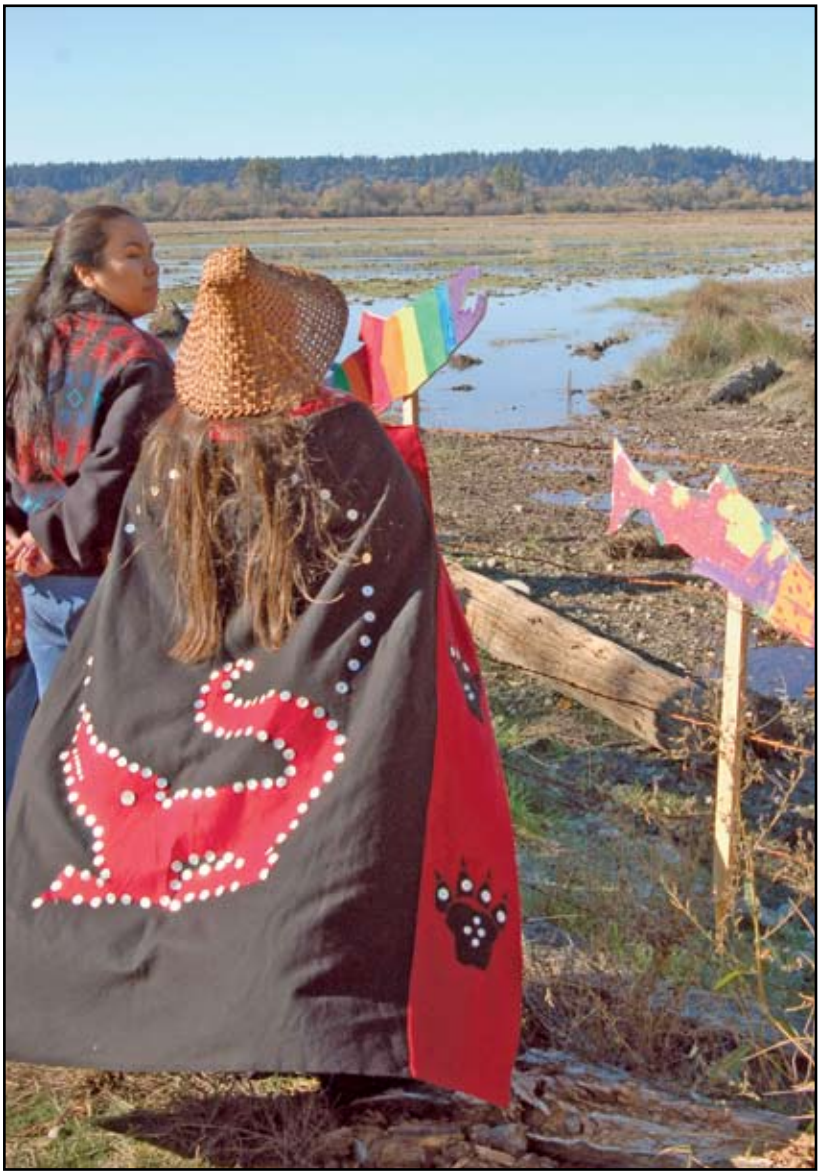
A new wetland within the restored estuary was dedicated to the late Kenny Braget, whose family operated the cattle ranch on the restoration site for over a century. "The new Braget Marsh will honor the family whose efforts protected this stretch of Puget Sound," said David Troutt, natural resources director for the Nisqually Tribe.

Most of the massive Nisqually River estuary was diked in the early 20th century to create farm land. "If all of the diked estuary in the Nisqually basin was restored, we could double the survival of wild chinook salmon with that additional habitat," said Jeanette Dorner, salmon recovery program manager for the tribe. Nisqually River chinook are listed as "threatened" under the federal Endangered Species Act.

"It is critical for the recovery of salmon and of Puget Sound to restore as many wetlands in the region as possible," said Troutt. "Besides being the most important step we can take to restore wild salmon in the watershed, it is also the most cost effective."

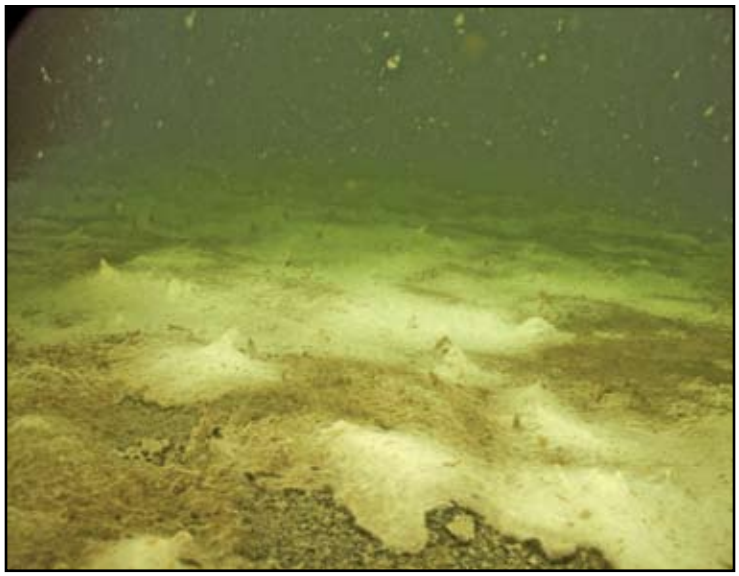
In addition to the 100 acres dedicated in October, the tribe already has reclaimed 40 additional acres in the same area during the last 10 years. "You start to see changes almost immediately in a restored estuary. Once that tide comes in the first time, it becomes estuary," said Dorner. "Plants that can grow in saltwater come back by themselves, providing valuable habitat to salmon and other wildlife."

The tribe's effort on the Pierce County side of the Nisqually is a precursor to a much larger estuary restoration planned on the Thurston County side where the Nisqually National Wildlife Refuge is in the planning stages of a project that will reclaim almost 700 acres of estuary. "Working closely with the Refuge we can almost totally restore the entire historic Nisqually River estuary," said Dorner. – *E. O'Connell*



Members of the Nisqually Canoe Family survey the wetlands in advance of the tide. *Photo: T. Meyer*

Dead Zone Discovered In Hood Canal



The Skokomish Tribe discovered a bacterial mat devoid of life on the bottom of Hood Canal. *Photo: S. Miller, Skokomish*

The Skokomish Tribe has discovered and confirmed the presence of a dead zone in Hood Canal. Details of the finding were released in a report issued by the tribe in September.

Tribal divers found the nearly 4-mile-long dead zone in late June in about 50 feet of water stretching between Twanoh and Belfair state parks. A 3.5-foot-thick layer of a white jelly-like substance was found covering the canal's floor at the site. The substance was found to be a marine bacteria called *Beggiatoa.* The bacterial "mats" have not been seen before in Hood Canal. No living fish or shellfish were found in the vicinity of the bacterial mats.

Many dead and dying juvenile salmon, Dungeness crab, bottom fish, and other species were found littering the canal's floor during a three-day follow-up survey in mid-August. Tribal research showed extremely high levels of nitrogen and low levels of dissolved oxygen where the bacteria were present. Increased nitrogen levels from fertilizers and septic systems fuel short-lived algae blooms that rob oxygen from the water when they die and decompose.

"We are deeply concerned that more of these dead zones may exist in other parts of southern Hood Canal," said Dave Herrera, fisheries policy representative for the Skokomish Tribe. The issue is of critical importance to the Skokomish Tribe because the tribe's fisheries are only in Hood Canal. "Our treaty-protected resources and tribal economy are threatened by the declining health of Hood Canal."

The tribe called for a more extensive assessment of the dead zone and the effects of the canal's current environmental conditions on the marine resources.

"The tribe is very concerned that there is not enough attention being focused on the state of the tribe's treaty resources in southern Hood Canal," Herrera said.

Skokomish divers revisited the dead zone in October and found that much of the bacterial mat had dissipated. However, it meant that the bacteria had receded into the seabed, said Skokomish shellfish biologist Chris Whitehead.

As seasonal temperatures dropped and rains began, water quality improved in the canal. Despite improved oxygen levels, however, sealife was still nowhere to be seen within the dead zone.

The tribe will establish a year-round monitoring program of the dead zone, Whitehead said.

"Tribal, state, federal and local governments, as well as community and conservation groups must work together if we are to effectively address these problems," Herrera said. "By working together and combining our resources and expertise, we can restore the health of Hood Canal."

Crab Haul

A catch of prized Dungeness crab is unloaded from a Quileute fishing boat at the dock in LaPush in early December. A low oxygen zone off the Washington coast several months earlier had resulted in pots of dead crab being pulled up by Quinault tribal crabbers. The zone has since dissipated, but the tribes say more research is needed on its cause and potential impacts to coastal fisheries. *Photo: D. Preston*

Joint Tribal, State Project

Extra Hatchery Coho Seed Tibbetts Creek

Off and on during the past decade, the Muckleshoot Tribe, in cooperation with Washington Department of Fish and Wildlife (WDFW), has taken hundreds of surplus adult coho from the Issaquah hatchery and released them into Tibbetts Creek in the hopes that they will successfully spawn and produce offspring.

Catching a ride with the Muckleshoot Tribe was the only way the salmon could spawn in the creek that passes through Issaquah; for years a fish-blocking culvert prevented salmon from using most of Tibbetts Creek.

"Depending on how many surplus coho they get back at the hatchery, we can potentially spread hundreds of coho throughout the creek," said Mike Mahovlich, fisheries biologist for the Muckleshoot Tribe. "Most of the spawning and rearing areas are in the upper creek where the fish could not reach because a culvert was blocking their access."

Muckelshoot biologists Mike Mahovlich, left, and Mike Leslie sort coho at the Issaquah Creek hatchery for distribution in the Tibbetts Creek watershed. *Photo: E. O'Connell*

Some years, more than 20,000 coho return to the WDFW Issaquah Salmon Hatchery. Only a portion of those fish are needed to produce the next generation. This year, the tribe placed 550 surplus coho in Tibbetts Creek.

A week after the coho are distributed, tribal biologists survey the creek to see how many coho actually spawned. "We've estimated in some years that up to 90 percent of the coho we put in Tibbetts end up spawning successfully," said Mahovlich.

"Placing adult coho salmon back into these urban backyards is an excellent reminder for everyone that these were all salmon-bearing streams long before the rapid urbanization took place in the Issaquah area.

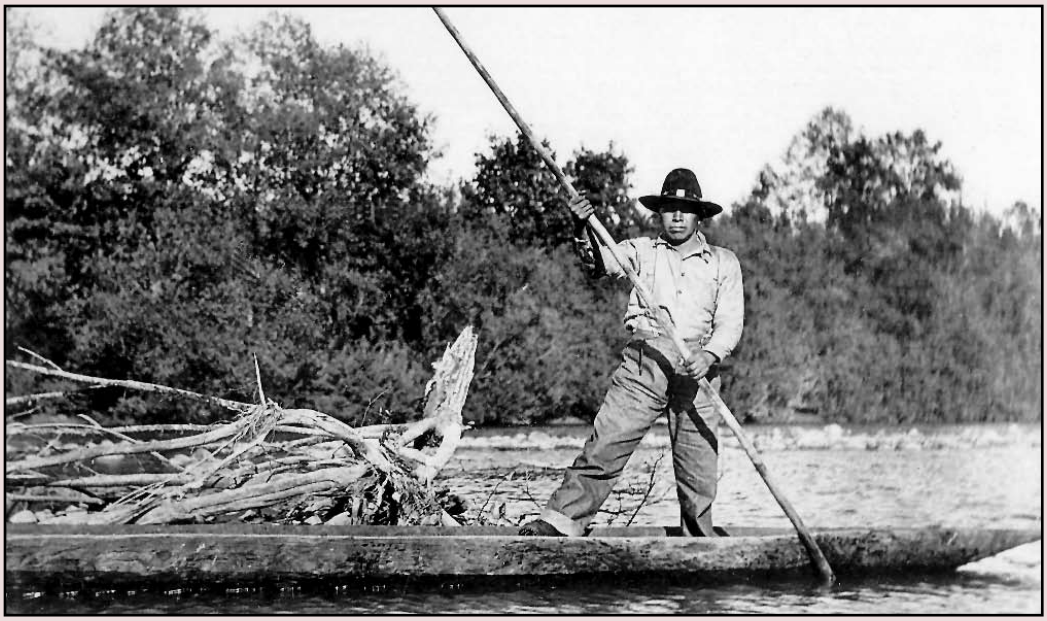
"If people see a big red adult salmon swimming up the creek in their backyard, it definitely gets them thinking more about how they are personally impacting salmon. If we have any chance of reclaiming these areas back for salmon, it needs to start with educating the people who live on these creeks on how they can be good be stewards of the stream in their backyard," said Mahovlich.

"In most years, there are enough extra coho returning back to the hatchery that we could distribute them to creeks throughout the whole watershed," he added. – *E. O'Connell*

Generations

Philip Starr poles a shovel nose canoe or *t'li* on the Green River, near Auburn. This photo was taken about 1919. Well into the 20th century, canoes were a typical mode of transportation for tribal fishermen.

Photo: Muckleshoot Indian Tribe



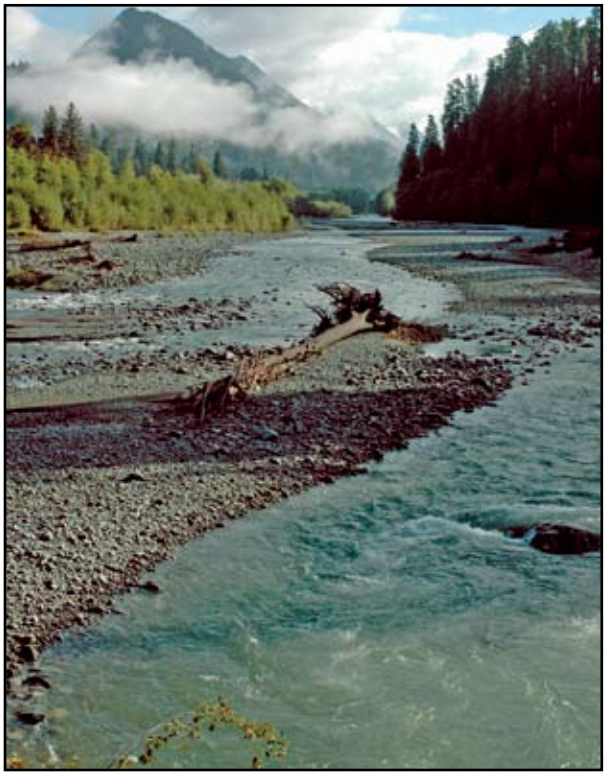
On Upper Quinault River

QIN Set to Begin Major Habitat Project

Returning the forest to 11 miles of barren floodplains in the upper Quinault River watershed is the goal of an ambitious sockeye habitat restoration plan developed by the Quinault Indian Nation (QIN). Key to the plan is the cooperation of individual landowners as well as local and federal government agencies.

"Without essential spawning habitat, our other efforts to improve sockeye production will not be successful," said Bill Armstrong, QIN salmon resources biologist.

Sockeye (or blueback) are culturally and economically vital to the nation. The Quinault River watershed, which includes Lake Quinault, is renowned for the blueback it produces. Adult sockeye spawn in the tributaries and side channels of the upper Quinault River and their young rear in the lake for one or two years before migrating to the ocean.



The Quinault Indian Nation will begin a comprehensive plan to stabilize the upper Quinault River watershed in 2007. *Photo: D. Preston*

"Past forest and land use practices removed much of the wood, destabilizing the river," said Armstrong. "The river channel moves back and forth across the river valley much more rapidly, which eliminates sockeye spawning channels."

To return forests to the floodplain, the tribe will plant more than 5,000 trees annually, using black cottonwood and fast-growing conifers such as Sitka spruce and Douglas fir. A majority of the trees will be obtained from QIN's own forest nursery.

"These are native tree species to the watershed and the planting designs will help recreate what the watershed looked like historically," said Armstrong. "We want mature trees that will stabilize the floodplain and act as key members to form logjams that will stay in place and accumulate more wood. Stable logjams help create side channel spawning and rearing habitat and also become the foundation for more trees that help further stabilize the channel."

To encourage the creation of stable logjams while the young trees are growing, QIN will create engineered logjams in several locations beginning in 2007.

The forest restoration effort complements other aspects of QIN's sockeye salmon recovery efforts that include boosting food availability supply for sockeye in Lake Quinault and maintaining a sockeye hatchery supplementation program at the Lake Quinault Hatchery.

"Completing the floodplain reforestation component is critical to the long-term, natural process approach to salmon habitat restoration in the upper Quinault River valley," said Armstrong.

– D. Preston

Suquamish Tribe Honors Cowlings For Helping Salmon

For years, Virginia and Bill Cowling have allowed the Suquamish Tribe to use their property for the sake of helping salmon. Since entering a hatchery lease agreement with the Cowlings in 1977, the Suquamish Tribe has restored chum salmon populations in major streams throughout east Kitsap County. The tribe named the small hatchery in honor of the Cowlings.

Thirty years later, several hundred people watched as the Suquamish formally honored and thanked Virginia Cowling and her late husband during a ceremony in September.

"The Suquamish Tribe was happy to acknowledge and honor the Cowlings' commitment to not only the restoration of salmon runs and environmental protection, but also their willingness to recognize the Suquamish Tribe as a partner in these efforts," said Suquamish Tribal Chairman Leonard Forsman. "Virginia was one of a few non-Indian community members who respected the tribe's sovereignty in the early formation of our modern tribal government."

The Cowlings purchased the 14-acre parcel when they moved from Seattle to east Kitsap County in the early 1970s. Paul Dorn, then the tribe's salmon enhancement biologist, approached the couple about starting an experimental chum hatchery on one of the creeks that ran through their property in 1977.

In the following years, 14 million chum were released from Cowling Creek Hatchery and 167,700 adult salmon returned to the hatchery. Those adults provided 48 million eggs for the 14 satellite incubation facilities that the tribe operated in east Kitsap County for 20 years as well as several other sites, including the Muckleshoot Tribe's Keta Creek Hatchery, around central Puget Sound.

"My 30-year relationship with them has been a win-win," Virginia Cowling said. *– T. Royal*

Tribe Encourages Natural Approach To Beach Protection

The Jamestown S'Klallam Tribe is working with a group of property owners to encourage the use of natural materials in beach shoreline stabilization projects.

When extremely high winter tides damaged 15 waterfront properties along the Strait of Juan de Fuca in February 2006, the property owners wanted to restore the beach as naturally as possible. The tribe helped out by donating 40 oversized logs to the project.

"Knowing the tribe wanted to help meant a lot to us," said John Lewis, president of the property owners association. "Being where we live, we care about the environment and what we're doing here."

> **'With manmade structures. . . we find beaches harden over time.'**
>
> *– Byron Rot*
> *Habitat Program Manager*
> *Jamestown S'Klallam Tribe*

The 40-foot-long logs were trucked to the site and buried, along with existing driftwood, under 1,700 cubic yards of gravel and sand to enhance the existing natural berm on the 1,500-foot stretch of beach. Native plants, such as Nootka rose and dune grass, were planted on the berm to create an interlocking network of roots and rhizomes that will help stabilize the berm.

Virginia Cowling rests in the kitchen of her home on Cowling Creek. *Photo: T. Royal*

Biologist Dave Shreffler directs placement of oversized logs on a beach along the Strait of Juan de Fuca. The logs, donated by the Jamestown S'Klallam Tribe, are being used in the construction of a natural berm to protect the beach. *Photo: T. Royal*

The natural berm protects upland areas from flooding while benefiting the shoreline environment and everything that lives within the ecosystem, such as salmon, eelgrass, clams, forage fish and birds, said Byron Rot, Jamestown S'Klallam Tribe's habitat program manager.

"With manmade structures, such as massive retaining rock walls or concrete bulkheads, we find beaches harden over time, as the waves tend to flush away the sand and gravel," he said. "Large cobblestones are left behind, which is not good habitat for clams and forage fish."

"A natural berm maintains the type of habitat that the animals have adapted to, as opposed to rock walls," added Dave Shreffler, a local habitat biologist and consultant who worked on the beach restoration project. "To their credit, these property owners didn't want to do a typical bulkhead construction – they wanted to enhance their level of protection while maintaining the beach in as natural a condition as possible."

Clallam County, Department of Ecology, Washington Department of Fish and Wildlife and 4 Seasons Engineering of Port Angeles also contributed to the project. – *T. Royal*

In Salt Creek Watershed

Lower Elwha Tribe Improves Salmon Access

The 64-foot-long and 14-foot-wide culvert – as big as an 18-wheel truck – loomed above the Lower Elwha Klallam Tribe's restoration crew. The task: shovel dirt by hand against the base pipe to ensure it settles into the creek properly.

This was one of two projects the tribe completed this fall to help fix salmon blockages within the Salt Creek watershed, about 15 miles west of Port Angeles. More than 30 salmon barriers were identified during a comprehensive assessment of the watershed in 2004.

"This watershed is prime coho salmon habitat because of all the adjacent wetlands, which coho thrive in," said Mike McHenry, the tribe's habitat program manager. "It's important to make sure these streams are restored and thriving."

A Lower Elwha Tribe restoration crew shovels dirt around a new culvert to ensure proper settling in the streambed. *Photo: T. Royal*

The large culvert installed by the tribe replaced a much smaller culvert, 4 feet in diameter, which was inadequate for salmon passage. A second small culvert nearby was replaced with a pipe 12 feet in diameter and 40 feet long. All the work was completed on land owned by the State Department of Natural Resources (DNR), which partnered with the tribe on the project. DNR provided the engineering and guidance in placing the structures. A third culvert is expected to be removed and replaced with a bridge next summer on the same creek as the first 64-foot culvert.

With the new structures, vertical drops that prevent salmon from traveling farther upstream are eliminated, said DNR public works engineer Eric Carlsen.

"The fish will have better access to areas that have not been accessible before," he said.

In addition to culvert replacement, the tribe is working to improve salmon habitat by placing large woody debris in streams within the Salt Creek watershed. More than 75 large logs were placed by helicopter in a 1-mile section of Salt Creek in mid-October on Green Crow timberlands.

The creek was intentionally cleared of woody debris in the 1950s, when it was thought that clearing the streams would be good for salmon, McHenry said. However, much fish habitat was lost through that effort because logs in the streams help create pools of water that salmon use for resting, feeding and hiding from predators. – *T. Royal*

Fall Color

Sockeye in red spawning colors jam the Adams River (a tributary to the Fraser River) in British Columbia during their spawning migration. The Fraser sockeye fishery is extremely important to tribes, particularly those in the northern Puget Sound and along the Strait of Juan de Fuca. Fraser sockeye are one of a number of stocks managed by the U.S. and Canada under the Pacific Salmon Treaty.

Photo: F. Wilshusen

QIN Investigates High Cow Elk Death Rate

As part of their comprehensive wildlife management program, Quinault Indian Nation (QIN) wildlife biologists, along with state biologists and trained volunteers, have over the past two years inserted radio transmitters into 109 elk both on QIN lands and adjoining non-tribal lands.

The transmitters are inserted into the elk's stomach. By monitoring the animal in its herd, information about herd size, home ranges, mortalities, and harvest rates are obtained. "We know from other studies that we have a lot of bears here. Predation by bears and cougars is definitely a factor in the elk mortality rate here," said Grover Oakerman, QIN wildlife biologist.

A preliminary conclusion of the study shows that bull numbers are healthy, but that cow elk on the Quinault Indian Reservation and in nearby areas die at a higher rate than bulls. This may be due to a combination of poor nutrition and disease. "The good news is that our bull population is nearly optimum for the area, but the high cow mortalities, in combination with lower calf survival rates, are causing an overall decline of the herd," said Oakerman. In response, the QIN has reduced elk harvest in recent years, modified hunting seasons and taken a number of other conservation measures.

QIN research has shown that many cow elk have low unhealthy levels of bone marrow and must travel widely to forage for food. Varying differences in the quality of food could be a contributor to the low bone marrow levels. Poor forage can cause cows, which normally bear calves annually, to reproduce only every other year.

"We are developing some management recommendations for consideration by the QIN that will improve habitat conditions and should eventually result in improved cow survival and calf production rates," said Oakerman. – *D. Preston*

Quinault Indian Nation wildlife technician Kenny McCoy and wildlife enforcement officer Stacey Squiemphen use water to cool a tranquilized elk that will be tagged and tracked as part of the QIN elk management plan. *Photo: D. Preston*

Stillaguamish Tribe Adopts Boat Launch Site

The Stillaguamish Tribe has adopted the Hatt Slough boat launch between Stanwood and Silvana, through the Washington Department of Fish and Wildlife Adopt-an-Access program.

Hatt Slough is important to the Stillaguamish, Tribal Chair Shawn Yanity said, because the tribe used to have villages in the surrounding area.

"We use the boat launch for natural resource projects and water quality studies," Yanity said. "We're proud to be its stewards and to continue our cooperative relationship with Fish and Wildlife."

Since adopting the 7-acre site last March, the tribe has held bimonthly work parties to clean up trash and maintain the site. Tribal work crews already have cleared about 2,000 square feet of blackberries and other invasive species from the site. Staff members from the Stillaguamish natural resources department also make an effort to pick up trash whenever they're at the site.

In October, 17 volunteers from the tribe and Stanwood High School planted 300 native trees and shrubs from the tribe's BankSavers nursery. The BankSavers Project has provided 2,300 native plants, including western red cedar, Douglas fir, and shore pine. – *K. Neumeyer*

Stillaguamish Tribal Chair and Fisheries Director Shawn Yanity and his son, Cameron, wheel a load of mulch to a boat launch site on Hatt Slough that was adopted by the tribe.

Photo: K. Neumeyer

Several thousand feet of dike along the lower Skokomish River will be removed to allow estuary function to return. *Photo: T. Royal*

Skokomish To Begin Dike Removal Project

Nalley Valley Estuary To Be Restored

The Skokomish Tribe, in partnership with the City of Tacoma and Mason Conservation District, recently received nearly $1 million to put toward removing more than 3,000 feet of dike on the Skokomish River delta.

The project is centered on a 108-acre parcel just west of the river's mouth, located within the tribe's reservation. In addition to dike removal, several tide gates and an access road will be removed. Initial work began in 2006; removal of the dike will begin this year. Boardwalks will also be constructed to allow tribal members access to traditional fish and plant harvesting areas at the river's mouth.

The dike, built in the early 1940s, has prevented the delta from receiving a natural tidal flow, severely affecting the health of the estuary and eliminating important juvenile salmon rearing habitat.

"Removal of the dikes will allow nutrients to flow through the area and allow for a more natural restoration of the property," said Keith Dublanica, Skokomish Tribe's natural resources director. "We want to see the river flow again through the delta."

This project is the first part of a multi-phase effort to restore more than 300 acres of the estuary to its historic conditions, including the restoration of Nalley Island. The Skokomish River is the only river in the Hood Canal basin that directly supports Olympic Peninsula bull trout, Hood Canal summer chum and Puget Sound chinook - all listed as "threatened" under the federal Endangered Species Act.

Keith Dublanica, natural resources director for the Skokomish Tribe, explains the dike removal project to a group of USGS biogloists. *Photos: T. Royal*

Funding for this phase of the project came from the state of Washington's Estuary and Salmon Restoration Program. The funds will be administered by Mason Conservation District. Additional support has been provided by the Pacific Coast Salmon Recovery Fund, Washington Salmon Recovery Funding Board, City of Tacoma, Mason Conservation District, Mason County Public Utilities District No. 1 and U.S. Army Corps of Engineers. – *T. Royal*

Salmon Numbers Up Sharply After Dam Removed

Joe Puhn, Squaxin Island Tribe, hoists a coho salmon during a recent ceremonial and subsistence fishery in deep South Sound.

Photo: E. O'Connell

Coho populations on Goldsborough Creek have increased significantly since a dam was removed from the stream in 2001, according to data collected by the Squaxin Island Tribe.

"This shows us that dam removal works in restoring salmon populations," said Andy Whitener, natural resources director for the Squaxin Island Tribe. "If you give salmon habitat to spawn and rear in, they're going to use it."

In 2003, more than 60,000 juvenile coho, the first batch of coho that benefited from the increased habitat, migrated out to sea. "While that first out-migration is still the largest in the five years, the number of coho being produced has increased steadily," said Joe Peters, fisheries biologist for the tribe.

Coho especially benefited from the dam removal because it opened up access to a series of wetlands that provide important salmon rearing habitat. Unlike most other species of salmon, coho spend an additional year in freshwater before heading out to sea. "The removal of the dam has helped coho throughout the watershed," said Peters. "Even coho that didn't spawn in the upper watershed can now access these wetlands."

Since the dam was removed, the tribe, with help from the U.S. Army Corps of Engineers, has operated a pair of smolt traps on the creek above and below the former dam site. Smolt traps are safe and effective devices for counting young fish. Smolt comes from the word "smoltification" which is the term used to describe the physiological changes that young salmon undergo while in freshwater, just before migrating downstream and entering saltwater.

"The smolt traps give us a good idea of the production, post-dam removal," said Peters. The joint effort with the U.S. Army Corps of Engineers to study Goldsborough ends this year, but the tribe will still maintain a smolt trap on the lower creek. The Goldsborough Creek smolt traps are part of a large network of smolt traps in deep South Sound operated by the tribe.

The tribe also conducts yearly adult spawning surveys on Goldsborough Creek above the former dam site. "We get a good look at these salmon at both ends of their lifecycle – as they leave as juveniles and when they returning as spawning adults," said Peters.

"The success we've seen after the dam came out shows directly how much salmon really do depend on good habitat," said Whitener. "It is important to not only provide access to salmon habitat, but to also make sure that habitat is protected."

– E. O' Connell

Nooksack Tribe Awarded Grant for Habitat Work

The Nooksack Tribe has been awarded $617,500 from the state Salmon Recovery Funding Board for the construction of four engineered logjams in the lower South Fork Nooksack River, near the mouth of Todd Creek.

The work, slated for summer 2008, is part of continuing habitat restoration aimed at recovering self-sustaining stocks of South Fork Nooksack River chinook and other wild salmon.

Last summer, the Nooksack Tribe constructed six logjams and relocated a levee near the mouth of Hutchinson Creek, to provide refuge and lower stream temperatures for salmon. The logjams withstood November's flooding on the Nooksack River.

"We're laying the building blocks for natural habitat that will enable the recovery of native salmon stocks," said Bob Kelly, natural resources director for the Nooksack Tribe.

Wetland, floodplain and streamside restoration projects already have begun on the tribally owned property near the mouth of Todd Creek. The tribe will work with Herrerra Environmental Consultants of Seattle, a firm that specializes in engineering logjams to withstand high flow conditions.

"This project will not increase flood hazard in the area," Kelly said. "We have a long history of natural resource management and we're committed to cooperating with our neighbors."

– K. Neumeyer

Persistence Key In Knotweed Eradication

Tanya Garcia, fisheries technician for the Quileute Tribe, sprays weed killer on a large patch of knotweed on the banks of the Dickey River earlier this year. *Photo: D. Preston*

The inch-high sprout growing in the floodplain of the Dickey River doesn't look like anything special. But to Frank Geyer, biologist for the Quileute Tribe, the plant is an indicator of success in the effort to eradicate knotweed from the watershed.

"That's a big leaf maple tree," said Geyer. "When the knotweed was thick in here, nothing else was growing. There weren't any trees growing."

The tribe has worked to eliminate knotweed on the Dickey River for three years. Japanese knotweed is an aggressive non-native species that threatens salmon habitat along rivers. It replaces native vegetation that provides bank stability and shade on riverbanks. What started as a few plants on an old Dickey River homestead became hundreds of acres of dense knotweed jungle throughout the watershed.

> **'Proper disposal of the cuttings is key.'**
>
> *– Frank Geyer*
> *Biologist,*
> *Quileute Tribe*

Because the plant can spread from even the smallest cuttings, eradicating it can take years. Olympic coast tribes as well as state, federal and county agencies and the non-profit 10,000 Years Institute are working to eliminate knotweed on the Olympic Peninsula.

"Proper disposal of the cuttings is key," said Geyer. Cuttings should be burned or the plants should be sprayed with herbicide. "Landowners are welcome to call us if they're in our area and we'll see if we can swing by and spray it. Cuttings thrown in the river only spread it more."

The Quileute Tribe has also started evaluation and some treatment of the knotweed problem on the Calawah, Bogachiel and Quillayute rivers. "We're very careful with the herbicide spray. If the plants are growing too close to the river, the crew will inject the stalks with weed killer in a syringe rather than spraying," said Geyer.

The tribe is also cooperating with a study of knotweed by University of Washington graduate student Lauren Urgenson.

"In a study of knotweed I conducted on a tributary of the Skagit River, I found that there was a 70 percent decrease in the amount of native leaf litter in the knotweed dominated areas," said Urgenson. Native leaves, such as those from red alder, have a high nitrogen content that is an important component of the nutrients in streams and backwater channels that feeds the aquatic food web. Knotweed also loses leaves in the fall, but the plant re-absorbs most of the nitrogen from the leaves before they fall. "It may be that knotweed is impacting the productivity of aquatic food webs."

Urgenson is also looking at whether some areas need help to regenerate native vegetation once an area is treated for knotweed. "I'm interested in whether knotweed actively prevents native re-growth in certain areas. It may be that treatment works better in some areas if it's also replanted with native species."

– D. Preston

Makah Tribe Mounts Attack On Weeds

An all-out attack has been mounted on a wide variety of non-native weeds infesting the north Olympic Peninsula.

"The Makah Tribe sees weeds like tansy ragwort, scotch broom, knotweed and English ivy replacing valuable native plants important to fish and wildlife," said Jon Gallie, wildlife biologist for the Makah Tribe. "We're going after as many of these weeds as we can." The tribe is creating a noxious weed management plan that will guide future control efforts for remaining weed infestations.

This summer, a crew of nine Makah tribal members worked with Gallie to eradicate knotweed on the Hoko, Seiku, and Big rivers; Hoko-Ozette Road; a stretch of Highway 112 between Neah Bay and Clallam Bay; the Makah reservation; and within the community of Seiku.

Charles Williams, weed technician for the Makah Tribe, cuts English ivy from trees on the Makah reservation.

Photo: D. Preston

The crew also yanked acres of scotch broom and tansy ragwort on the reservation and began a new effort to eradicate English ivy. The non-native ivy is frequently planted as an ornamental, but can quickly envelop acres of land smothering forest understories and tree canopies, possibly killing the trees.

"I underestimated the bulk of the vines," said Gallie. "We had to use chain saws in some cases because the vines were as thick as an arm. It's quite jungle-like at a number of these sites." Crews hauled away truckloads of the ivy to burn because it can re-sprout if left on site.

Gallie expects it will take a number of years to get some of the invaders under control. "But once you get control and have a management plan to deal with smaller outbreaks, it's much easier to manage the problem." – *D. Preston*

What's For Lunch?

A Douglas squirrel, or *kwi'jo,* pops up to see if a free lunch might be available. The squirrel makes its home on the Quniault Indian Nation Reservation on the Pacific coast.

Photo: D. Preston

Tribe's Appeal Protects Streamflows

A proposal to use groundwater to compensate for the impacts of new wells near Woodland and Fox Creeks near Lacey was rejected by the state Pollution Control Hearings Board. The ruling upheld an appeal by the Squaxin Island Tribe, challenging two Department of Ecology water rights permits, allowing Miller Land and Timber LLC to drill two wells in the Woodland Creek watershed.

The hearings board said in this case that state law does not permit adverse impacts to streamflows necessary for the preservation of fish and wildlife species.

"Woodland and Fox Creeks do not have enough water for salmon in the summer," said Scott Steltzner, fisheries biologist for the tribe. The Miller proposal called for drilling two wells to service a pair of housing developments with 61 lots. One of the wells would pump additional groundwater directly into Fox Creek, in an attempt to mitigate the domestic withdrawal's streamflow impacts.

The board found that in this case, the technique would not compensate for lower streamflows caused by the domestic use. It would only "recycle" water already destined to enter the stream. "Because the creek's flow is naturally connected to the groundwater supply, the plan provided no net benefit to streamflow or salmon," said John Konovsky, environmental program manager for the tribe.

"The pumping of groundwater for streamflow augmentation therefore becomes a consumptive use itself because a significant portion of the groundwater captured by the pumping would have flowed into the surface water of Woodland Creek," the hearings board said in its ruling.

"They were proposing to take money out of one pocket and put it in another," said Jeff Dickison, assistant natural resources director for the tribe. The Woodland Creek basin was closed in 1980 to new water withdrawals because it had reached its limit in being able to meet the water needs of both people and fish.

> **'Woodland and Fox creeks do not have enough water for salmon in the summer.'**
>
> *– Scott Steltzner, Fisheries Biologist, Squaxin Island Tribe*

The board found the tribe's science more credible in helping them make their decision. Miller modeled the water resources in the watershed in 200-acre chunks, while the tribe's view was much more refined. "We were able to look at the situation 1/4 acre at a time to better mimic the natural system," said Nadine Romero, hydrogeologist for the tribe.

Sections of Woodland Creek regularly run dry during the summer. Lake Lois, for example, had been important habitat for salmon and trout until recent decades when its water levels began to drop significantly or it completely dried up during the summer. The tribe points to the large number of exempt wells in the area as a culprit.

Historically, the Woodland Creek watershed produced strong populations of coho salmon. "There are accounts of salmon going as far up as Long Lake, in the far reaches of the watershed," said Steltzner. "Coho salmon often spend an extra year or two in freshwater as juveniles. Without these small lakes and wetlands, coho have nowhere to survive and feed during that extra year in freshwater," he said.

"Every piece of creek, small or big, is important to salmon, so its important to us," said Andy Whitener, natural resources director of the Squaxin Island Tribe.

– E. O'Connell

Fading Glory

A dry fall gave many opportunities to see the beautiful colors of the season such as this scene of vine maple in the upper Quinault River watershed.

Photo: D. Preston

Wild Fall Weather Takes Toll On Region

Unruly weather is the norm in western Washington in late fall, but this past November's tantrums had even veteran tribal fisheries biologists concerned about the effects of the series of storms on future fish runs.

On the coast, summer's low stream flows carried late into the fall, worrying fisheries biologists that salmon would have trouble moving upstream to spawn. Then the late fall rain storms began, flooding rivers, sluicing away major roads and sending salmon egg-scouring debris roaring downstream. On top of that, power was lost to most coastal tribal communities for stretches as long as five days, creating headaches for tribal fish hatchery managers.

"I'm just really thankful for all the upgrades we've made in the past year or so because it means the generator comes on automatically and runs everything. We aren't losing fish because of power outages anymore," said Dahnielle Buesch, hatchery manager for the Quileute Tribe.

Quileute fisheries technicians Greg Urata and Joe Garrick survey Bear Creek in the Bogachiel River watershed as part of their search for coho redds during November's snow. *Photo: D. Preston*

Just as stream flows were returning to levels that would allow crews to get out and begin counting salmon nests in local rivers, snow enveloped the region, downing more trees, cutting power again and making travel difficult overall.

> **'It all translated into a crummy fishery for us.'**
>
> *– Scott Schuyler,*
> *Natural Resources Director,*
> *Upper Skagit Tribe*

Meanwhile, Quinault Indian Nation (QIN) fisheries personnel watched Lake Quinault rise 19 feet in 24 hours, threatening their salmon hatchery during an early November deluge. While the hatchery escaped serious harm, biologists are concerned about what flooding may have done to sockeye salmon habitat in the Quinault River watershed. "We can't afford to lose more fish habitat," said Bill Armstrong, fisheries biologist for QIN.

How fish will fare overall following this year's weather extremes won't be truly known until this season's young salmon return as adults, beginning in two years for coho.

Upper Skagit tribal fishermen in the North Sound had a short time frame in which to take advantage of their fall chum fishery following a hot summer and intense storms that moved through this fall.

Unusually dry weather through mid-October meant there was too little water in the Skagit River for fishermen to catch many coho salmon. In November, Upper Skagit fishers had only one week to fish for chum before heavy rain and flooding forced them off the river for about two weeks. Fishing had barely resumed when the late November snowstorms resulted in a five-day closure.

"It all translated into a crummy fishery for us," said Scott Schuyler, natural resources director for the Upper Skagit Tribe.

Although November was a near-record wet and snowy month, the preceding months were record-breaking in terms of drought, Schuyler said.

A typical water flow for the Skagit River during the month of October is 11,500 cubic feet per second. In mid-October, it was 3,200 cubic feet per second, Schuyler said.

Many of the tributary streams – the spawning ground for coho – were dry, Schuyler added.

The weather conspired with ocean conditions and other environmental factors to reduce the overall return of some salmon stocks.

Preseason estimates for the coho run were close to 100,000, said Michelle Myers, fisheries harvest management biologist for the Upper Skagit Tribe. The coho run of mostly hatchery fish turned out to be about half that, she said.

Upper Skagit members Len Rodriguez and Jason Boome, who have been fishing together for more than 20 years, said it was some of the poorest coho fishing they'd seen in some time.

After a bit of rain in October, the first week of the chum salmon run was significantly better. However, floods and snowstorms reduced the run and Upper Skagit tribal members were unable to harvest their entire allotted catch.

Despite lower returns of coho and environmental conditions, adequate numbers of coho and chum returned to spawn, so that future runs should not be affected, Schuyler said.

– D. Preston & K. Neumeyer

Forest Thinning Provides Habitat, Value

Bird calls echo through a sun-dappled forest interspersed with native salmonberry, huckleberry and sword fern. Tracks and the scat of bears, elk and deer tell Makah wildlife division manager Rob McCoy that a once nearly wildlife-free area is now teeming with life.

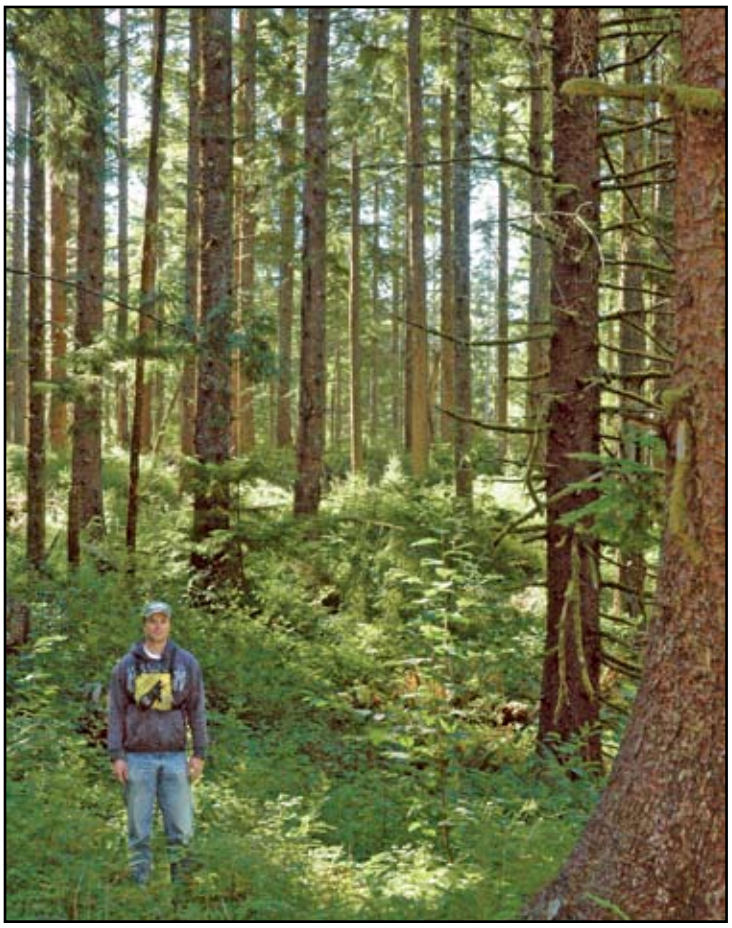
"This 122-acre piece of Makah-owned commercial forest land was thinned five years ago to improve habitat for elk and deer," said McCoy. "Thinning encourages a more diverse forest that includes smaller trees and native shrubs like the salmonberry that elk and deer love to eat," said McCoy.

The tribe also created several meadows in which deer and elk can feed. Grass was seeded throughout the meadows as well as on 2.5 miles of abandoned logging roads. "Before the thinning, we never saw signs of deer and elk using this area. Now, they are routinely found here," said McCoy.

A dense stand of timber is rarely used by many species of wildlife because there is little understory vegetation for food. "Thinning, particularly multiple thinnings over time, is not only better for wildlife, it also enhances the commercial value of the remaining trees which grow larger more quickly," said McCoy.

The tribe also closed vehicle access to most of the thinned unit, reducing stress on wildlife. "It's important to provide a place for the elk and deer where disturbances are reduced to maintain the health of the overall population," said McCoy.

"From a deer and elk perspective, this approach works," he added. "It's costly and takes a real commitment by the tribe, but the benefits to wildlife are clear." – *D. Preston*



Makah Tribe wildlife manager Rob McCoy stands in a thinned forest. *Photo: D. Preston*

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