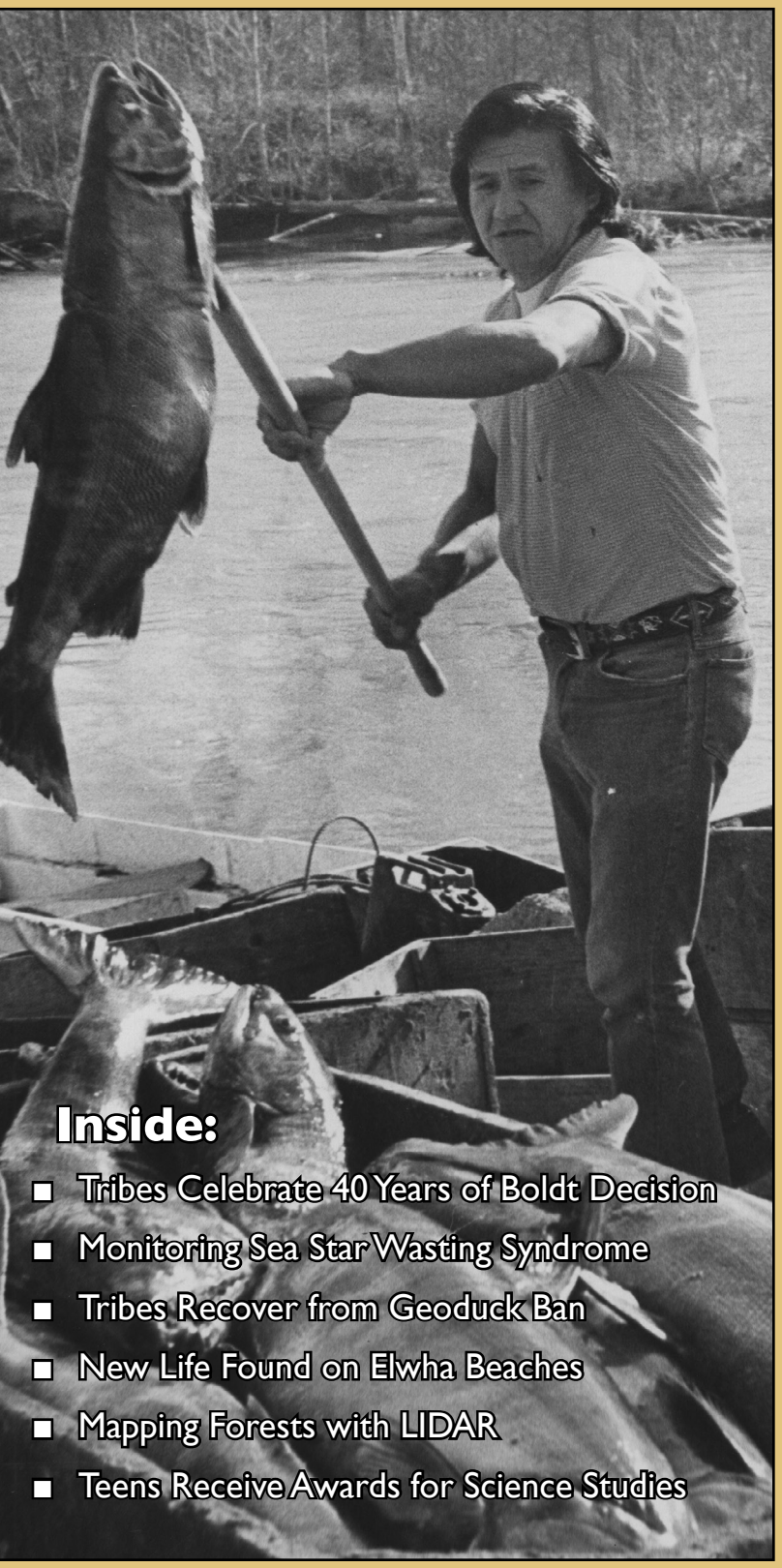
*Northwest Indian Fisheries Commission*

# NWIFC News

**Spring 2014**
*nwifc.org*



## Inside:



**Being Frank**

# Relationships Take Time

**By Billy Frank Jr.**
**NWIFC Chairman**

Good relationships don't just happen. We have to work together to build and maintain a strong foundation of trust and commitment to keep a relationship healthy and strong.

As we mark the 40th anniversary of the Boldt decision this year, the tribal and state natural resources co-managers met recently to re-dedicate ourselves to the principles of co-management.

At the core of co-management is a pledge to seek cooperation first and avoid litigation. The approach is based on a government-to-government relationship that respects the decision-making authority of both the tribes and state. Its success depends on jointly planning and developing clear objectives with agreed-upon data to support consistent and coordinated natural resources management programs.

Trust and cooperation go hand in hand. In the first decade following the 1974 Boldt decision, the tribes and state did not trust each other as co-managers. We spent hundreds, perhaps thousands of hours arguing before a federal court about whose data was more accurate and whether this fishery or that fishery should be allowed at this place or time.

All that time and money spent in court was wasted. It could have been better spent protecting and rebuilding the resource.

After a difficult first decade, we found a way to work together built on mutual respect and consideration for each other's needs. Co-management took giant steps forward.

In 1984 the tribes and state started the annual joint season-setting process called North of Falcon. In 1985 the tribes and state worked together to develop the Pacific Salmon Treaty that governs shared U.S. and Canadian salmon fisheries. In 1986 came the Timber/Fish/Wildlife Agreement that provided protection for fish and wildlife on private timberlands while also ensuring a healthy timber industry. Next came the 1989 Centennial Accord that further cemented the government-to-government relationship between the tribes and state.

All of these accomplishments clearly show the great things that can be done when we choose to work together. We can't afford to lose that.

That doesn't mean we agree on everything. We don't. Sometimes, no matter how hard we try, we can't come to an agreement. The case of fish-blocking culverts is a good example.

After many months of negotiations failed, the tribes were forced as a last resort in 2001 to file a lawsuit against the state to fix fish-blocking culverts under state roads that closed access to hundreds of miles of salmon habitat. The federal court agreed that culverts blocking fish passage violate tribal treaty fishing rights, and gave the state 17 years to fix the problem.

While we are disappointed that the state has appealed the ruling, we will continue to work together for the health of the salmon and all of our natural resources. That's because we know cooperation is the way forward. It always has been and always will be.

## NWIFC News

**Northwest Indian Fisheries Commission**
**6730 Martin Way E.**
**Olympia, WA 98516**
**(360) 438-1180**

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**NWIFC Member Tribes:** Hoh, Jamestown S'Klallam, Lower Elwha Klallam, Lummi Nation, Makah, Muckleshoot, Nisqually, Nooksack, Port Gamble S'Klallam, Puyallup, Quileute, Quinault Indian Nation, Sauk-Suiattle, Skokomish, Squaxin Island, Stillaguamish, Suquamish, Swinomish, Tulalip and Upper Skagit

Tribal contact information is available under Member Tribes at *nwifc.org*.

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**On the cover:** Left: Billy Frank Jr. fishes near Frank's Landing in Olympia in 1973. *Photo: T. Thompson.* Right: Frank, now chairman of the NWIFC, speaks at Boldt 40, an event marking four decades of *U.S. v. Washington,* also known as the Boldt decision. The photo behind Frank shows Judge George Boldt, who upheld the tribes' treaty rights in *U.S. v. Washington. Photo: D. Preston*

# Sea Star Wasting Syndrome Perplexes Scientists

## Puyallup Tribe Observes Disease Affecting Sea Stars

E. O'Connell (2)

As part of its regular crab population monitoring, the Puyallup Tribe of Indians is tracking the impact of a mysterious ailment that is killing sea stars.

An outbreak of sea star wasting syndrome was first noticed last fall in British Columbia. The syndrome starts as small lesions and eventually the infected sea stars disintegrate. Since symptoms were first noticed, the syndrome has quickly spread throughout the Salish Sea and along the Pacific coast.

While there have been previously documented outbreaks, nothing on this scale has ever been recorded. There is no known cause.

"After we started conducting crab surveys in April last year, we started seeing a lot of sea star bycatch," said George Stearns, the tribe's shellfish biologist. "One pot near the north point of Vashon Island was full of sea stars."

The tribe regularly monitors eight stations between the north end of Vashon Island and the Tacoma Narrows. Each station includes nine crab pots.

During the tribe's early surveys, the sea star population seemed healthy. But Puyallup tribal scientists recorded a sharp die-off in October.

"We saw one monitoring site go from four sea stars per pot in April to 12 in September to zero in October," Stearns said.

When a diseased sea star catches a ride on a tribal crab pot, it deflates quickly. Within a few minutes, a normally rigid sea star will be hanging on the pot like a wet rag.

"Some of the sea stars we are finding are literally melting in front of us," Stearns said.

*– E. O'Connell*

Above: George Stearns, shellfish biologist for the Puyallup Tribe, inspects a sick sea star caught during the tribe's crab monitoring study. Top right: A sea star deflates after being taken out of the water.

### Tribe Narrowing Locations Where Crabs Molt

The Puyallup Tribe monitors crab to pinpoint exactly when the shellfish in the tribe's harvest area molt, or shed their shells.

"Crabbing during the middle of molting, which makes them soft and vulnerable, can increase the handling mortality," said George Stearns, the tribe's shellfish biologist. "It's a common practice to shut down harvest during the molt. But we've only had a general idea of when that occurs down here."

The data collected will also help the fisheries managers put together a more complete picture of crab populations in South Sound.

"We GPS the locations so we're at the same spots and put the pots in for the same length of time," Stearns said. "So we know we're comparing apples to apples each month."

*– E. O'Connell*

# Tribes Recovering from Geoduck Ban

Western Washington tribes are quickly recovering from a sudden ban in December 2013 on selling geoduck to China.

The Asian country claimed it received a shipment of geoduck from Ketchikan, Alaska, that had high levels of paralytic shellfish poisoning, and a shipment from Poverty Bay in Puyallup, Wash., that had high levels of arsenic.

As a result, China announced it was banning all imports of bivalve shellfish from Washington, Oregon, Alaska and Northern California. This was just before the Chinese New Year, a lucrative time for harvesters and buyers, when geoducks are traditionally served.

"It was bad at the beginning because we didn't know what was going on," said Tony Forsman, general manager of the Suquamish Tribe's Suquamish Seafoods, which regularly ships shellfish internationally. "China didn't tell us for two weeks they were doing this."

Officials from the National Oceanic and Atmospheric Administration have been working with Chinese officials to determine how they came to their conclusions and have been in close communication with Washington Department of Health and western Washington tribal officials about the progress.

The shellfish in question from Poverty Bay passed all the rigorous tests needed to be exported to China, said David Fyfe, shellfish biologist for Northwest Indian Fisheries Commission.

"We're working with China to figure out why we suddenly don't meet their standards," he said.

In the meantime, harvesters and buyers are continuing to send their catches to other Asian countries, including Vietnam. U.S. officials are asking China to reduce the ban area from the West Coast to just the two original areas of concern. – *T. Royal*


*T. Royal*

Suquamish Seafoods employee Terry Ellis counts and weighs geoduck for shipping overseas.

# Counting Wildlife on Kukutali Preserve

*Peter McBride, Swinomish*

During a wildlife survey of Kukutali Preserve, the smallest mammal found was a masked shrew.

The Swinomish Tribe is conducting a terrestrial wildlife inventory on the Kukutali Preserve, which it has jointly managed with the state of Washington since 2010.

The nearly 100-acre preserve includes Kiket Island, as well as the smaller Flagstaff Island and an adjacent portion of Fidalgo Island on the Swinomish reservation.

During the first year of a two-year survey, Swinomish wildlife biologist Peter McBride discovered one priority species – a Townsend's big-eared bat – but was surprised to not yet observe certain common species such as chipmunks, possums and skunks.

If it turns out overall terrestrial species diversity is low on Kukutali, it could be due to very limited fresh water in the preserve.

The inventory was conducted using direct observation, wildlife cameras and live traps.

"With a wildlife inventory, you cast a wide net, using multiple techniques," McBride said. "The local distribution of many species remains poorly documented, and you can expect a few surprises among a long list of plausible if not necessarily likely species for an area. This is the nature – and indeed, a primary motive – of inventory work in a preserve."

Among the 15 non-marine mammals documented during the first year of the survey, McBride noted three non-native species that pose potential concerns for the wildlife preserve.

"Domestic dogs and cats are significant predators," he said. The cats appear to be feral, but McBride said that efforts to exclude these animals from Kukutali should be considered.

Black-tailed deer made numerous appearances on the wildlife cameras. In the future, McBride hopes to trap and fit the deer with global positioning system collars to determine their home ranges, seasonal habitat preferences, fawning grounds and causes of mortality. – *K. Neumeyer*

Submitted photo

A cow elk waits in a collapsible trap, while others in her herd graze on the apple bait. The cow was released after tribal staffers fitted her with a GPS collar that will transmit data about her location.

# Tribes Monitor Elk Herds with Tracking Collars

Point Elliott Treaty tribes are expanding efforts to monitor the Nooksack elk herd in hopes of resolving ongoing damage and safety problems in Skagit and Whatcom counties.

The Upper Skagit, Sauk-Suiattle, Swinomish, Stillaguamish, Suquamish and Tulalip tribes are trapping elk using collapsible traps baited with apples and monitored with wildlife cameras. Since 2012, tribal and state wildlife co-managers have collared at least 10 cow elk with very high frequency (VHF) collars. These collars help estimate the population during annual aerial surveys of the North Cascade elk herd.

To get more precise information about the herd's movements, the Stillaguamish Tribe's Natural Resources Department acquired global positioning system (GPS) collars that transmit point location data every 85 minutes. This is a cost-shared project with the Tulalip Tribes. So far, with support from Suquamish, Sauk-Suiattle and Upper Skagit, they have collared five animals and plan to collar four more.

"The main focus of the project is tracking the movement and seasonal habitat use of the lowland elk that frequent the Skagit River Valley and Acme areas," said Jennifer Sevigny, wildlife biologist for the Stillaguamish Tribe. "These data are important for our future elk management decisions."

Because of an increasing number of collisions between elk and vehicles, the state Department of Transportation (DOT) is partnering with the tribes to deploy three GPS collars to determine where and when elk are crossing Highway 20. These GPS collars will be programmed to record location points at closer time intervals to detect more precise crossing locations along the highway.

"The GPS collars are more expensive, but they give exact information on where the elk have been," said Chris Madsen, wildlife biologist for the Northwest Indian Fisheries Commission.

"Up to 50 elk a year may get hit by vehicles along Highway 20," said Scott Schuyler, natural resources director for the Upper Skagit Tribe.

DOT recently set up flashing elk crossing signs along Highway 20 in response to the increased elk mortality. – *K. Neumeyer*

Dave Manson, Lower Elwha Klallam Tribe

## Elwha Snoozer

A resident otter of the Elwha River is found relaxing on the banks of the river this winter. Since 2011, the Lower Elwha Klallam Tribe has been studying how river otters and American dippers use the Elwha River during the deconstruction of the river's two fish-blocking dams, the Elwha and Glines Canyon. The work has included studying their diets and migrations throughout the river valley. The study is expected to wrap up this year.

E. O'Connell

Blake Smith, enhancement manager for the Puyallup Tribe, inspects a newly constructed logjam protecting a series of acclimation ponds on Wilkeson Creek.

PUYALLUP TRIBE OF INDIANS

# Rootwads for Steelhead

The Puyallup Tribe of Indians is using fish-friendly methods to help protect property they plan to turn into steelhead acclimation ponds to help save the local run from extinction.

"Heavy winter floods from a few years ago washed away almost 2 acres," said Blake Smith, the tribe's enhancement manager. "We needed to find a way to protect what was left of the site, but also help protect the fish we're trying to save."

The new facility on Wilkeson Creek has been in the planning stages since the tribe bought the site of a former trout hatchery in the mid-1990s.

The tribe will use hundreds of rootwads, logs and trunks to build several dozen logjams along the bank of the creek. Traditional flood protection techniques, such as riprap, can be harmful to fish.

"Dumping boulders along a bank can be cheap and easy flood protection, but it ends up making flooding worse for people downstream because it makes the water move faster," Smith said.

"Fast-moving water also washes away any salmon eggs that might have been laid nearby," Smith said. "Because rocks remove any habitat features that fish might have used, riprapped streams are pretty barren of fish."

Instead, the series of wood structures along the bank will deflect the creek's flow while also providing juvenile salmon with a place to hide and feed. The logjam also will create a side channel with additional rearing and spawning areas for salmon.

"When this area was surrounded by mature forest, there were trees regularly being washed into the creek, and floods certainly didn't have the destructive force they do now," Smith said. – *E. O'Connell*

# Pond Supports Juvenile Steelhead Population

The Puyallup Tribe of Indians is releasing young steelhead from an acclimation pond in the upper White River to help restore a weak run of the federally protected fish.

"Acclimation ponds help ensure there are juvenile steelhead in the river each year to take advantage of the available habitat," said Blake Smith, enhancement manager for the Puyallup Tribe. The fish will be released into a pond on Huckleberry Creek, a tributary to the White River in the Puyallup watershed.

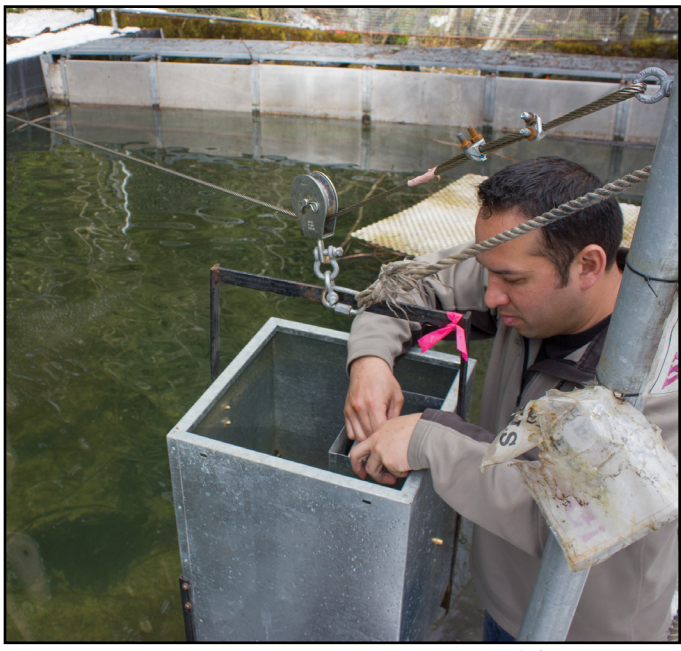
To help restore the declining run, the Muckleshoot and Puyallup tribes started a steelhead broodstock program in 2006. Each year, the partners spawn up to 25 wild steelhead taken from an adult trap on the White River.

The project usually releases 20,000-50,000 juvenile steelhead each year from the Muckleshoot Tribe's White River hatchery. This will be the first release of hatchery steelhead from the pond program. Steelhead returns from the broodstock program have ranged from 210 to 359 adults each year.

"It's encouraging to see this many steelhead come back, given the low release numbers," Smith said.

Puyallup watershed steelhead stocks have been crashing for the past decade. Puyallup steelhead are also a part of a larger Puget Sound stock that is listed as "threatened" under the federal Endangered Species Act.

"No one is sure why steelhead populations in the Puyallup and the rest of South Sound have dropped so much in recent years," Smith said. "By getting these fish up into the upper watershed, we can continue to help them hold on." – *E. O'Connell*



E. O'Connell

Terry Sebastian, biologist for the Puyallup Tribe, loads an automatic feeder at the tribe's Huckleberry Creek acclimation pond.

# Upper Skagit Explores Steelhead Survival

The Upper Skagit Indian Tribe is tagging juvenile steelhead to estimate freshwater productivity and learn more about smolt-to-adult survival in the Skagit River.

Steelhead have a complex life history, making it hard for salmon managers to forecast returns. Juvenile steelhead can leave freshwater habitat between their first and fourth year of life, and return from the salt water after one to five years. In addition, steelhead are repeat spawners, unlike other species of salmon, so they can return to salt water before coming back to fresh water to spawn again.

Compared to other river systems in Puget Sound, the Skagit River still has an abundance of wild steelhead.

"We estimate how many adult steelhead come back to the Skagit River based on spawning ground surveys," said Jon-Paul Shannahan, biologist for the Upper Skagit Tribe. "Right now, we don't know how many juvenile steelhead leave the watershed."

The tribe has partnered with the state Department of Fish and Wildlife to collect steelhead smolts using screw traps in Hansen and Illabot creeks. The smolts are tagged with passive integrated transponder (PIT) tags that will provide data when the steelhead leave and return to the two tributaries. These PIT-tagged steelhead can also be monitored for encounters in other research or harvest sampling.

This spring, the Upper Skagit Natural Resources Department plans to install a PIT tag antenna array in Hansen Creek that will record information when tagged fish swim over the antennas. If funding is secured, another antenna array will be installed in Illabot Creek next year.

*Clayton Kinsel, WDFW*

A fish weir guides juvenile steelhead into a trap in Hansen Creek. The steelhead are tagged with PIT tags to help fisheries managers learn more about smolt-to-adult survival in the Skagit River.

Previous data has shown that steelhead out-migrate from the upper Skagit watershed at an older age compared to fish in the lower watershed. Illabot Creek is near Rockport in the upper watershed, and Hansen Creek is in the lower watershed near the tribe's Sedro-Woolley reservation.

"These two creeks represent a tiny sliver of the available habitat," Shannahan said. "We picked these two productive tributaries as initial sites to represent the age diversity of the smolts and the habitat conditions from the entire basin. We have decent adult return data, some decent habitat and flow data, and plan to expand this data to get a picture of the entire basin productivity. "

*– K. Neumeyer*

# Even Small Streams Are Important for Juvenile Habitat

The Tulalip Tribes and Skagit River System Cooperative (SRSC) recently completed a six-year study of juvenile chinook salmon use of small coastal streams in the Whidbey basin.

"Small coastal streams are often overlooked as potential salmon habitat because many flow seasonally and do not provide spawning habitat," said Todd Zackey, the marine and nearshore program manager for Tulalip who obtained grant funding for the research.

The researchers electrofished 63 streams in the Whidbey basin and found juvenile chinook using more than half of them. The migrant fry originated from the three nearby rivers: Skagit, Snohomish and Stillaguamish.

"Juvenile chinook salmon are not just present in these small streams, but they are actively rearing and growing," said Eric Beamer, research director for SRSC, the natural resources extension of the Swinomish and Sauk-Suiattle tribes. "They appear to be using the streams as a nursery, much like they use natal and pocket estuaries."

The results of the study suggest that better mapping is needed to improve the protection of small stream habitat.

"The streams are small enough that the habitat can easily be degraded through direct actions such as channel straightening, armoring, removal of riparian vegetation, and culverting," Beamer said. *– K. Neumeyer*

*Derek Marks, Tulalip*

Todd Zackey electrofishes Hibulb Creek to determine whether there are juvenile chinook using the small coastal stream.

# *Tribes Celebrate 40 Years of U.S. v. Wash*

Treaty Indian tribes in western Washington marked the 40th anniversary of Judge George Boldt's ruling in *U.S. v. Washington* on Feb. 5, 2014. The daylong celebration included speakers who fought on the riverbanks, in the courtroom and elsewhere to reaffirm the tribes' reserved rights to harvest salmon in their traditional fishing areas. The ruling established the tribes as co-managers of the salmon resource with the right to half of the harvestable salmon returning to Washington annually.

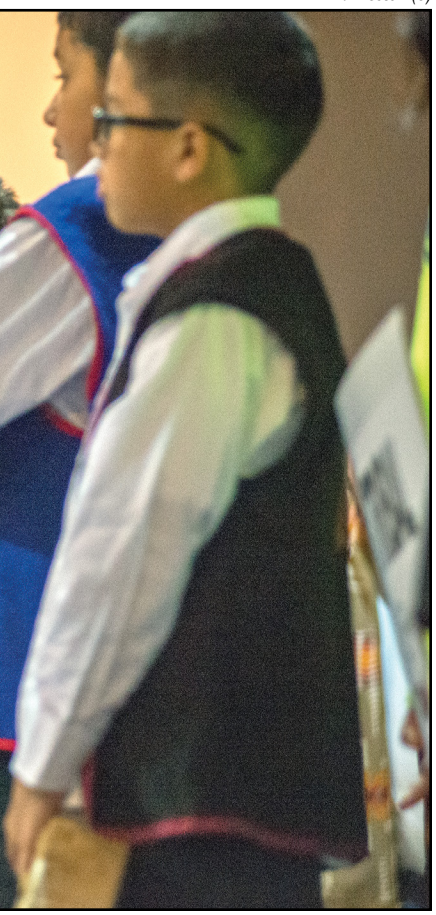
"You're the next generation to take the fight on for your culture and your way of life. You're an Indian, and you gotta be proud – proud of who you are," NWIFC Chairman Billy Frank Jr. told tribal youth who witnessed the proceedings.

Far right, clockwise: Puyallup tribal elder and former chairwoman Ramona Bennett speaks to the crowd about the Fishing Wars of the 1970s. Tahahawat Payne-Sablan, Quileute Tribe, and Jeremiah George, Squaxin Island Tribe, prepare to join the procession that opened the event. Makah tribal member Dale Johnson, one of the first commissioners of the NWIFC, is honored with a blanket. Virginia Riedinger, daughter of Judge George Boldt, talks about her father and his work. Joe McGimpsey, Makah tribal member, drums and sings during the procession.

More photos, stories about the event and videos of speakers are available at *boldt40.org*. Footage can also be found under the hashtag #boldt40 on Facebook and Twitter.

# ington

D. Preston (6)



D. Friedel

A crew cleans up after a December 2003 spill of nearly 5,000 gallons of oil on *Doe Kag Wats*, a beach important to the Suquamish Tribe.

# Decade After Oil Spill, *Doe Kag Wats* Is Healing

On a blustery and wet evening in December 2003, nearly 5,000 gallons of oil came ashore on the natural beachfront known as *Doe Kag Wats* to the Suquamish people.

Now that a decade of healing has passed, the 400-acre area is recovering better than the tribe had hoped.

The initial spill response and cleanup took several months during the winter of 2004. A resource damage assessment led to the development of the Point Wells Oil Spill Restoration Plan, named for the pier where the spill started.

"We've done just a few restoration projects to help the area, but basically through self-restoration, it's at pre-spill conditions now," said Tom Ostrom, the tribe's environmental planner.

When 4,800 gallons of oil overflowed from a barge across Puget Sound near Edmonds, winds and tides quickly pushed the oil spill into the 5 acres of estuary near Indianola, on the Port Madison Indian Reservation.

"Around the time of the spill, there were no rules requiring booms to be deployed during fuel transfer," Ostrom said. "Since then, the Legislature has moved to require them."

Projects related to the restoration plan included removing invasive species such as spartina, and restoring a small estuary at the nearby Indianola Waterfront Preserve. The preserve was historically restricted by an undersized culvert and past dredge spoil deposits.

A major project in 2011 at *Doe Kag Wats* removed tons of creosote-treated debris left over from decades of projects around Puget Sound where treated pilings were used to construct docks, piers, bulkheads and other structures.

"Regardless of the spill, the projects we've done have benefited the estuary overall," Ostrom said. "Removing the 300 tons of creosote logs from the marsh meant removing a constant source of contamination."

Meaning "place of deer," *Doe Kag Wats* has been used by members for harvesting and ceremonies. The oil spill polluted important nearshore habitat used by forage fish and salmon, and damaged shellfish beds.

The tribe is developing a monitoring plan and expects to remove more contaminated wood from portions of the estuary this fall. – *T. Royal*

**Habitat Restoration**

# *Sandy Elwha Beaches Attract Marine Life*

With thousands of cubic yards of sediment forming new beaches at the mouth of the Elwha River, marine life that's been missing for decades is showing up again.

Before the recent deconstruction of the Elwha and Glines Canyon dams, the beaches at the mouth of the river were mostly cobblestone, which is suitable for a limited type of shellfish, including red rock crab, horse clams and urchins.

After the dams started to come down in 2011, sediment started flowing heavily downriver, and the cobblestones have been covered up with soft gray sand. As a result, scientists started seeing more marine life, such as Dungeness crab, make use of the new beach.

"We have always looked forward to a more sand-dominated substrate adjacent to the river mouth, once the dams were removed and trapped sediments were washed downstream," said Doug Morrill, the Lower Elwha Klallam Tribe's shellfish biologist and natural resources manager.

The sand habitat attracts hardshell clams such as butter clams and littlenecks, plus Dungeness crab.

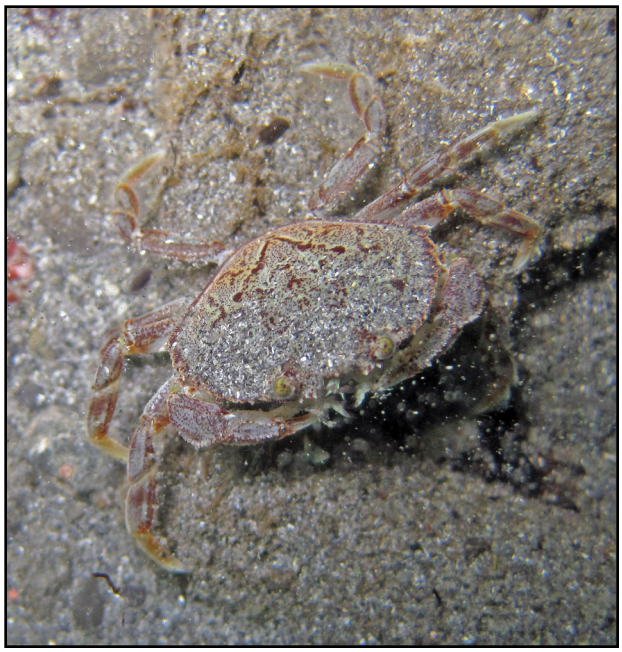
"A whole new habitat has formed," said Mike McHenry, the tribe's habitat program manager. "Since dam removal, we have witnessed the transformation of rocky inter- and sub-tidal habitats to those dominated by sand. During last summer's dive surveys, we observed many juvenile crabs on the floor off the river mouth."

Fishermen have noticed changes too.

"Now there are crab pots being set near the mouth of the river," said Lower Elwha Klallam Tribe fisherman Joe Luce. "This hasn't happened for years since there were no sandy beaches for the shellfish at the mouth of the river."

*– T. Royal*

A juvenile crab explores the soft gray sand of newly restored habitat in the Elwha basin.



Steve Rubin, USGS

# *Watching Trees Grow to Plan for the Future*

E. O'Connell

Cathy Sampselle, a biologist for the Nisqually Tribe, notes the health of cedar and spruce trees during a survey in the Ohop Creek valley.

The Nisqually Indian Tribe is taking a close look at cedar and spruce trees that were planted three years ago as part of a major habitat restoration project.

"We're tracking the growth of these trees so we can do a better job planning future restoration work," said Cathy Sampselle, the tribe's habitat restoration biologist.

The tribe is in the last year of a three-year study looking at the growth of a restoration planting along Ohop Creek, a tributary to the Nisqually River.

"Typically, you would plant cedar and spruce after other species like alder had a chance to establish themselves. Cedars especially prefer shade early on," Sampselle said. "But we planted everything all at once because initial funding was available and future funding was unlikely. We have also seen cedars succeed on other exposed sites given adequate soil moisture."

"One of the limiting factors to salmon recovery work is that you never know how much funding you have upfront," said David Troutt, Nisqually's natural resources director. "In this case, we knew we'd have money for planting one year, but not necessarily the next."

Most planting projects don't get this sort of intensive monitoring, which was made possible by a Tribal Wildlife Grant through the U.S. Fish and Wildlife Service.

The planting is part of a much larger salmon habitat restoration project by the tribe, the South Puget Sound Salmon Enhancement Group and the Nisqually Land Trust. The project included digging a new 1-mile channel for Ohop Creek, which meant better quality habitat for salmon.

"Getting the most out the money you have to spend on any particular project is important in salmon restoration," Troutt said. "Every year there is less and less money available for these vital projects, so when we can stretch a dollar, we do the best we can."

*– E. O'Connell*

# Tribe, Town Partner to Reduce Flooding Impacts

E. O'Connell

Eatonville resident Myrna Lopas inspects a rain garden she helped construct in 2009 at the Eatonville Library.

The town of Eatonville recently approved a new stormwater plan that will reduce pollution and protect salmon.

The Nisqually Indian Tribe funded the update as part of a broader project to protect salmon habitat by better managing the water that flows out of town.

Eatonville is bordered by Ohop Creek and the Mashel River, two priority salmon streams in the watershed.

"Much of how salmon succeed or fail in this part of the watershed will be determined by how well we manage growth in Eatonville," said Doug Beagle, town administrator.

The plan identifies potential areas of flooding around town and water quality problems caused by stormwater runoff. The plan also lists possible improvements to the town's stormwater system and ranks them by importance.

"In addition to hurting salmon, flooding has harmed homeowners around the city," Beagle said. "We hope this plan will show us how to not only prevent property damage, but clean up local streams and protect salmon."

The tribe hopes to foster creative, low-impact development solutions like rain gardens that allow water to move more naturally as it makes its way to the river. Rain gardens replace impervious hard surfaces such as blacktop, letting water slowly seep into the ground.

"Growth is going to happen in the rural Nisqually watershed just like it's happened all over Puget Sound," said David Troutt, Nisqually's natural resources director. "That growth has usually meant less habitat and lower water quality for salmon, but it doesn't have to."

Poor stormwater management leads to high flows in the winter and low flows in the summer. The Mashel River already is too low and too warm for fish as they pass through Eatonville. Low flows in the Mashel typically occur just as adult chinook salmon are making their way back to spawn.

The tribe and other local organizations have restored salmon habitat in both the Mashel River and Ohop Creek. Follow-up monitoring has revealed young salmon are using newly restored habitat.

*– E. O'Connell*

# Dock Upgrade Essential to Makah Fishermen


D. Preston

A crew replaces a 65-year-old fishing dock in Neah Bay, where more than 50 percent of Makah tribal members rely on fishing income.

The Makah Tribe is replacing a 65-year-old dock in Neah Bay where nearly all the tribe's fishing catch lands.

"More than 50 percent of the people in our village rely on the income from fishing in some way," said Michael Lawrence, Makah commercial dock operations manager. Lawrence, a lifelong fisherman himself as well as a past Makah tribal council chairman, said the $13.8 million replacement of the 400-foot-long dock has been needed for some time.

"We had been planning for the replacement by putting aside money for the project, but it became enough of a safety concern that we had to expedite it."

A typical timeline for obtaining all the federal, state and local permits to do such a project is about two years. The tribe did it in 90 days.

The demolition and removal of the old dock was completed in record time following the award to contractor Manson Construction Inc. on Dec. 3. The construction is on target for completion by July 4.

"It's a bit cutting edge as well because we're one of the first to meet new tsunami standards for docks," said Norm Down, the Makah Tribe's representative for the project.

Down has worked with the tribe for 41 years including a stint as the tribe's economic development director, and was part of creating the tribe's modern marina.

The dock must be able to withstand the uplift forces of a magnitude 9 earthquake – the highest known scale for the Juan de Fuca plate subduction zone – as well as a 15-foot tsunami wave.

To meet those standards, some of the beams are sunk more than 130 feet into the substrate of Neah Bay and are full of rebar and concrete.

The new dock will still be 400 feet long, but wider to allow the passage of two large trucks side by side. Space at the end of the dock will accommodate two fish buyers at a time and a 100-ton capacity ice machine.

The tribe contributed $10.5 million toward the project, including a tribal loan with grants rounding out the budget.

"If you think about the value of our fishery being about $7 to $10 million a year and run that over the 80-year life of this dock, it pays itself off pretty quickly," Lawrence said. – *D. Preston*

# Tribes Protect Lands From Coastal Winter Storms

Coastal tribal communities are struggling to protect both ancient village sites and reservation infrastructure from rising seas and increasingly ferocious winter storms.

The Hoh Tribe recently received funds from the U.S. Army Corps of Engineers to protect an ancient village site at the mouth of the Hoh River.

On the eve of a dangerous storm in January, crews from local contractors, the Army Corps, Olympic Corrections Center and the Hoh Tribe worked through the night to place 750 tons of riprap on the beachfront adjacent to the mouth of the Hoh River. Only spray and foam vaulted the new barrier when the storm peaked at midmorning the following day.

"The lower village was the site of many important ceremonies in our history, as well as where our longhouse was built and where we hope to build a longhouse again," said Maria Lopez, Hoh tribal chairman.

During that same January storm, the Quinault Indian Nation (QIN) received 800 tons of rock to create a secondary seawall after the village of Taholah's primary seawall was breached in several places. The secondary berm was successful in protecting tribal homes.

The Makah and Quileute tribes rely on jetties to protect their homes and marinas in Neah Bay and LaPush.

Tribes continue to be at the forefront of anticipating and planning for the changes, such as sea rise, that climate change is bringing to their traditional homelands.

"We can't just take our treaty rights and move someplace else," said Ed Johnstone, QIN fisheries policy representative.

– *D. Preston*

Riprap is placed along the Hoh River. The Hoh Tribe has moved most of its homes and offices from the increasingly flood-prone lower village, but hopes to preserve this original longhouse and home site.

D. Preston

# Skokomish Film Heralds Partnerships

North40 Productions

Skokomish Tribe's habitat program manager Alex Gouley walks along the Skokomish River with his parents Diane and Tom Gouley.

The Skokomish Tribe and the Skokomish Watershed Action Team (SWAT) have released a short film that highlights restoration accomplishments in the watershed.

"In an economy where collaborations are more necessary than ever to get things done, this film shows how everyone with a vested interest in the Skokomish watershed has successfully worked together, with results to show," said Mike Anderson, SWAT coordinator.

SWAT is a loosely organized group that includes the tribe, federal, state and local agencies, businesses, nonprofits and private citizens.

The tribe and North40 Productions produced the 14-minute *Coming Back: Restoring the Skokomish Watershed* with a grant provided by The Laird Norton Family Foundation.

Since 2005, members of SWAT have implemented projects to restore the health of the Skokomish River watershed. The area has been harmed by logging, farming and development from the mouth of the river to its headwaters in the Olympic Mountains.

Recent restoration efforts have improved water quality, forest stands and habitat for multiple species, including salmon. Projects have included dike and culvert removal from the Skokomish tidelands, road decommissioning, road stabilization, correction of fish passage barriers, installation of wood structures in the river and forest thinning.

"What happens in the upper watershed affects what happens to our tribal community at the mouth of the river," said Alex Gouley, Skokomish Tribe's habitat program manager. "Actions in the lower river and watershed help inform decisions and actions in the upper watershed. Being open about what everyone else is doing and seeing how we can support each other has been instrumental in helping restore salmon habitat in the Skokomish River."

*– T. Royal*

**Watch the film at *go.nwifc.org/restoreskok*. For a DVD, contact Tiffany Royal at *troyal@nwifc.org*.**

# *Tribes Partner to Survey Forestlands with LIDAR*

The Stillaguamish and Tulalip tribes have partnered with the state Department of Natural Resources and three private timber companies to map forestlands in the Stillaguamish and Skykomish basins.

LIDAR, which stands for Light Distance and Ranging, uses an airborne laser to survey topography.

"The laser pulses from the plane are reflected back to record billions of points of light that measure elevation," said Derek Marks, Timber/Fish/Wildlife biologist for Tulalip.

Elevation data was collected on working forestlands and a large area of Mount Baker-Snoqualmie National Forest. The result is a high-resolution model that enables natural resources managers to identify resources and potential risks, such as landslides.

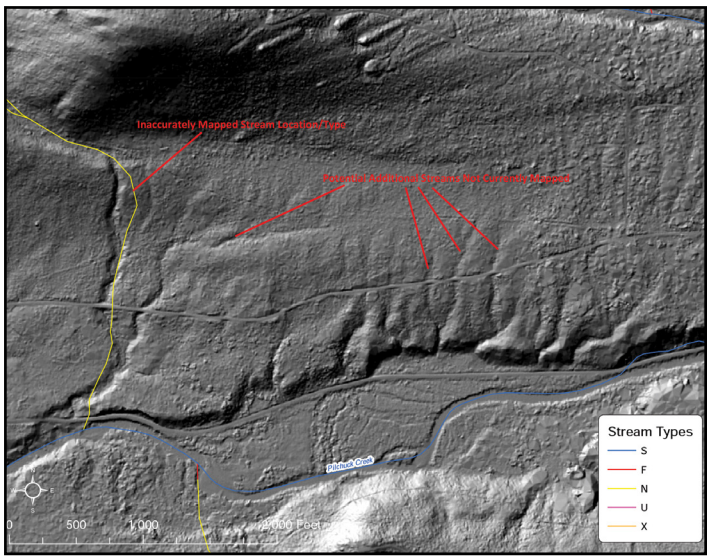
"We can save many hours with high-resolution models," Marks said. "We don't have to walk the hillside; a forester would have to traverse the area to know where the streams are."

The new LIDAR surveys covered an area that previously had not been mapped, where the forest canopy covers streams. The models will guide environmental permit reviews for logging and road proposals.

"We're also reflying the entire North Fork Stillaguamish corridor to compare the data with LIDAR from 2003, to see what's changed in a 10-year period," said Scott Rockwell, Timber/Fish/Wildlife biologist for Stillaguamish.

The surveys were coordinated by the Puget Sound LIDAR Consortium, an informal group of federal and local agencies that acts as a clearinghouse for the high-resolution topographic models, making the data available to the public.

*– K. Neumeyer*




*Tulalip Tribes Natural Resources Department*

A LIDAR model of Pilchuck Creek shows streams that can't be seen from aerial photos.

# NOPAD Boosts Egg Capacity at Tribal Hatchery

With the influx of chum salmon last fall, the Port Gamble S'Klallam Tribe was able to take twice as many eggs as usual, up to 1.2 million.

In anticipation of the large run, natural resources director Paul McCollum brought in an idea from his time working in Alaska fisheries – a NOPAD incubator, a tower of six 4-foot by 4-foot by 15-inch aluminum trays that can accommodate up to 1.5 million eggs.

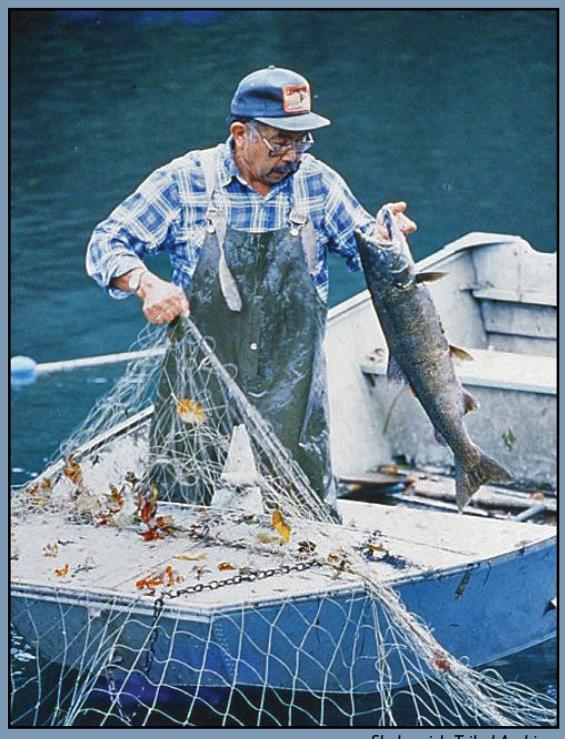
"The small tray incubation system, or Heath tray system, we have been using for decades can only hold up to 600,000 eggs total," McCollum said. "The NOPAD has only been around since the 1970s and is commonly used in Alaska. One of the NOPAD trays can hold 45 smaller trays' worth of eggs."

The tribe is maxed out with the old system, McCollum said, so the NOPAD trays will help increase its chum production without using much additional water or floor space.

"Most of our chum will go into our raceways, as we've always done, but now we'll have more to put in the net pens, which, in the end, will result in bigger fish at release," he said. "The survival rate is a little more beneficial with the NOPAD. Our main focus is on increasing production for better returns." – *T. Royal*

*T. Royal (2)*

Left: Little Boston Hatchery technician Jeff Fulton transfers eggs from the tribe's NOPAD incubator. Right: Tim Seachord, hatchery manager, prepares eggs from the NOPAD incubator for treatment.



*Skokomish Tribal Archives*

## Generations

Skokomish fisherman Bert Wilbur fishes in his favorite eddy in the Skokomish River in 1991. The fishing spot is near the mouth of the river where it enters Hood Canal.

Wilbur pulled a canoe at Potlatch State Park in 2008 during the tribe's *Tuwaduq* Days. He told his daughter, Darlyn Warren, that he hadn't done that since he was in school and when he spearfished with his grandfather.

He walked on in January 2009.

# *Sleepover Links Makah Youth to Tribal Culture*

D. Preston

Storyteller Yvonne Wilkie tells Makah third-graders traditional stories during the tribe's museum sleepover.

Inside the darkness of the longhouse at the Makah Cultural and Research Center, a young Makah boy covered his eyes as Yvonne Wilkie, Makah storyteller, shared the fable of an ogress, *ʔiškis*, who snatches up children who have wandered off, puts them in her basket and carries them away.

The story was part of "A Night at the Museum," which included a sleepover for third-graders in the longhouse. Organizer Polly McCarty, a tribal member who works at the cultural and research center, dreamed up the idea as a way to better connect children with the museum.

"The idea was to try to get the younger children to know and feel like this is their museum – it's important that children realize that," McCarty said.

The evening included a dinner followed by storytelling and learning the bone game, which has been around for thousands of years. Drumming and singing are used to disrupt concentration by players who must guess which hand holds the unmarked bone. The evening also included a screening of the movie *A Night at the Museum*, starring Ben Stiller.

Children put on cedar hats and vests or blankets and posed with spears in front of a diorama of a sea lion. All the items were fashioned after artifacts found in the Makah Tribe's excavation of the tribe's Ozette village near Neah Bay.

A short exercise program helped settle everyone before bedding down in the longhouse for the night.

"We even had someone lose a tooth, so we had to alert the Tooth Fairy," McCarty said with a chuckle.

"We had 15 kids and they all seemed to enjoy it. I hope to do it again next year and use some of what I learned to make it better," McCarty said. "The kids were really excited about being the first group ever to sleep over at the museum."

*– D. Preston*

# *Makah, Lower Elwha Teens Win Science Prize*

The Feiro Marine Life Center in Port Angeles recognized two North Olympic Peninsula tribal youth as the co-winners of the Art D. Feiro Science Student of the Year at the annual Fish on the Fence fundraiser in February.

Makah tribal member Alex Wise and Lower Elwha Klallam tribal member Karsten Turrey each received the award.

Wise, 17, was nominated by Jonathan Scordino, marine mammal biologist for the Makah Tribe, for his work on a project to see if historic halibut hooks could reduce bycatch in the halibut fishery.

Wise is finishing the project by writing up how the catch of halibut and bycatch compared between the historical halibut hook, or *čibu·d*, and modern-day circle hooks during the study.

"It was an interesting project," Wise said. "I have always been interested in fisheries and it just seemed like the right choice for me."

Turrey, 17, was nominated by Karlyn Langjahr, manager of the Olympic Coast Discovery Center and Dan Lieberman of the North Olympic Peninsula Skills Center.

Turrey is home-schooled and plans to graduate in April. He interns with Washington SeaGrant, the North Olympic Peninsula Skills Center and the Lower Elwha Klallam Tribe natural resources department's wildlife division, where he helps track otters.

"I'd like to go to college and get a job in natural resources," he said. "I don't know what field yet though – every field I've done so far has been fun."

*– D. Preston and T. Royal*



D. Preston (2)

Makah tribal member Alex Wise, left, discusses his halibut hook project with Jacqueline Laverdure, education specialist for Olympic Coast Marine Sanctuary prior to receiving a Student Scientist award from the Feiro Marine Life Center. Wise shared the award with Lower Elwha Klallam tribal member Karsten Turrey, right.

## Walking On

### Hazel M. Sampson

Klallam tribal elder Hazel M. Sampson died Feb. 4 in Port Angeles. She was 103.

Sampson was born May 26, 1910 in Jamestown to William Hall and Ida Balch Hall. Sampson was the granddaughter of the founder of Jamestown, Lord James Balch.

She was married to Edward C. Sampson for 75 years until his death in 1995. She and her husband, also a Klallam tribal member, moved from Jamestown to Port Angeles in 1934 and were among the original 13 families to own land on the Lower Elwha Klallam reservation.

Sampson was a native Klallam speaker. She was known as one of the last to have spoken the language from birth and the eldest tribal member among the Klallam tribes.

### Larry Rutter

Larry Gene Rutter, 61, died of pancreatic cancer on Feb. 20.

Rutter was born in Duluth, Minn. He graduated from South Kitsap High School and earned a degree in fisheries biology from the University of Washington.

He had a successful career in salmon management policy, working for the Point No Point Treaty Council, the Northwest Indian Fisheries Commission and NOAA Fisheries. He served on the Pacific Salmon Commission and led the negotiations for the salmon fishing treaty between the United States and Canada.

He was known for his intelligence, wit, self-reliance, hard work, sense of fun and ability to make the most of whatever he was doing.

He is survived by his wife, Deborah Shawver, and his son, Derek Rutter.

Long Live the Kings (*lltk.org*) has established the Larry Rutter Legacy Fund to support the Salish Sea Marine Survival Project, for which Rutter was instrumental in building support.

### Barbara Lane

Barbara Lane, an expert in First Nations anthropology and treaty rights, passed away Dec. 31, 2013 in Arlington, Wash.

Lane produced expert reports and testimony in more than 40 court cases.

The Supreme Court referenced her findings in affirming *U.S. v. Washington* (Boldt decision).

Lane was a member of the Society for Applied Anthropology, the Canadian Sociological and Anthropological Association and the American Ethnological Society. She received an A.B. and master's degree from the University of Michigan in the late 1940s and earned a doctorate from the University of Washington in 1953.

As director for the Quinault Indian Bicentennial Project from 1976-1977, she provided guidance and direction for creating a historical record for the Quinault Indian Nation. Her home and office was located in Victoria, British Columbia, for many years. Lane is survived by a son, two daughters and one grandchild.