



*Northwest Indian Fisheries Commission*

# NWIFC News

Summer 2009

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# Cooperation Leads the Way

By Billy Frank Jr.  
NWIFC Chairman

For years, Skagit County has been a battleground between fishermen and farmers. After a recent court victory, the Swinomish Tribe is finding a way for the once warring sides to come together for the good of salmon habitat.

A few years back, the Swinomish Tribe sued Skagit County Dike District No. 22 for building tide gates without the permits they needed from the U.S. Army Corps of Engineers. Last September, a federal judge ruled that the district had violated both the Clean Water Act and the Endangered Species Act.

With the judge's ruling on their side, the Swinomish Tribe took the issue out of the courtroom. Instead of forcing the district to pay federal fines, the tribe suggested that the two become partners in restoring 200 acres of estuary in the Skagit delta.

It's too bad that people sometimes need a court-ordered push to do the right thing.

Last winter, the tribe and the dike district filed their formal plan about how they're going to restore that estuary habitat. The 200 acres of land proposed for restoration is owned by the state Department of Fish and Wildlife and for now, provides food for over-wintering waterfowl.

Decades ago, at great cost to vital salmon habitat, most of the estuary was diked and drained to create farmland. Now, the salmon recovery effort is working to undo that damage and restore tidal flow so young salmon have a place to rear before heading to sea and adult salmon have somewhere to rest before returning home to spawn.

To protect farmland, tide gates let excess water drain from the fields to Skagit Bay, but keep salt water from getting in when the tides turn. Skagit County Dike District No. 22 is responsible for the construction, maintenance and operation of the system of dikes and tide gates on Fir Island, between the two forks of the Skagit River.

When three tide gates needed replacing in 2002 and 2006, the dike district moved ahead without getting permits from the Corps of Engineers. That was a violation of the Clean Water Act.

The new tide gates also prevented juvenile salmon from reaching their rearing habitat. That was a violation of the federal Endangered Species Act (ESA).

Chinook salmon in Puget Sound have been listed as "threatened" under the ESA since 1999. In the Skagit, the biggest obstacle standing in the way of their recovery is a shortage of estuary habitat.

Tribes like Swinomish haven't been able to fish like they used to, because of the collapse of so many Puget Sound salmon populations. The tribe's harvest of chinook has dropped 94 percent since 1975, and they haven't fished a full season for more than 20 years.

Thanks to the federal judge's decision in this case, the Swinomish Tribe and the dike district can put their differences aside and work together.

This is the spirit of cooperation that guides natural resources co-management in this area and will eventually be the reason we're able to bring salmon back.



T. Meyer

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

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**On the cover:** Swinomish tribal members Clay Day (left), Hawk Wilbur and Joe McDonald prepare to release the remains of a wild Skagit River chinook back to the water. The quiet moment near Deception Pass culminated the tribe's annual Blessing of the Salmon Fleet and First Salmon Ceremony in May. See story next page. *Photo: K. Neumeyer*



K. Neumeyer

Lummi Nation's Swan Clan Dancers perform at the tribe's First Salmon Ceremony at Lummi Nation School in May.



K. Neumeyer

Swinomish tribal member John Cayou Jr. sings a Shaker blessing during the Upper Skagit Tribe's Blessing of the Fleet.

## *Time to Bless Fishermen, Welcome First Salmon*

When the winter snow has melted and cottonwood fluff is in the air, chinook salmon make their way home to western Washington rivers. Treaty tribal fishermen return to the water as well, and the tribes celebrate the season with blessings of the fleet and first salmon ceremonies, to protect tribal fishermen and honor the salmon that sustain them.

The cultural events include a feast of traditional food such as salmon, halibut, shellfish, prawns and crab – usually caught and prepared by tribal fishermen.

At the Lummi Nation ceremony in May, tribal elder Jack Cagey led drummers and a procession of students carrying paddles and cedar branches through a crowd of about 600 people gathered in the school gymnasium.

“It feels good in my heart to have this ceremony done at the Lummi Nation School,” said Cliff Cultee, a tribal fisherman and Lummi Natural Resources Commission secretary. “It’s really important for the kids to learn our culture.”

The ceremonies also educate the tribal and non-tribal community about salmon recovery and the role fishing plays in tribal culture.

Puget Sound chinook are listed as “threatened” under the federal Endangered Species Act (ESA), posing a challenge to tribal fishermen, noted Merle Jefferson, the tribe’s natural resources director.

“The habitat is going to take many years to fix,” he said.

Swinomish fisheries manager Lorraine Loomis, vice chair of the Northwest Indian Fisheries Commission, shared her thoughts as a witness at the Lummi ceremony.

“ESA is hard for the tribes,” she said. “It is hard when we have to throw back the chinook. It’s hard for me to work all year and come home to say we have no fishery.”

The Swinomish Tribe held its Blessing of the Fleet and First Salmon Ceremony the following week along the Swinomish Channel in La Conner. Four young tribal members carried the remains of wild Skagit River chinook, wrapped in cedar boughs and decorated with prawns, crab legs and berries. After blessings from the Catholic, Pentecostal and Shaker faiths, the young men returned the fish remains to the water. (Listen to a podcast about the Swinomish blessing at [www.nwifc.org/section/podcasts](http://www.nwifc.org/section/podcasts).)

The Upper Skagit Tribe held its blessing on the bank of the Skagit River. Rev. Pat Twohy and Larry Campbell of the Swinomish Tribe blessed each fisherman individually with a cedar bough.

The blessing was significant to the Upper Skagit Tribe because this was only the second time in many years that the tribe had a commercial spring chinook fishery for its members.

“We provide for the overall community needs of the tribe with ceremonial fisheries conducted by our natural resources department,” said Scott Schuyler, the Up-

per Skagit Tribe’s natural resources director. “Ideally, we also have a fishery for our general membership so they can meet their individual needs and either put away fish or sell it to support their families.”

– K. Neumeyer



### **NWIFC Officers Re-elected**

At the annual election in May, NWIFC Chairman Billy Frank Jr. received a unanimous vote of confidence from the Board of Commissioners to continue in his long-time role as chairman. Frank, a Nisqually tribal member, was re-elected in 2007 to a three-year term.

The board also re-elected Swinomish fisheries manager Lorraine Loomis (above left) as vice chair and Quinault Indian Nation policy representative Ed Johnstone (above right) as treasurer. Both officers hold one-year terms.

# Good Fisheries Planning Renews Harvest



K. Neumeyer

A Skagit River chinook cools on ice during the Upper Skagit Tribe's spring fishery.

## Ceremonial Fishery First Since 1985

This summer, the Stillaguamish Tribe is holding its first ceremonial and subsistence chinook fishery since 1985. The tribe plans to catch 20 North Fork Stillaguamish River chinook and host a first salmon ceremony on July 25.

The tribe stopped fishing in the 1980s because Stillaguamish River chinook were struggling. For years, tribal and state co-managers structured all the other fisheries in the region to protect the weak populations of Stillaguamish River chinook.

Meanwhile, the tribe has supplemented the North Fork population with a hatchery program. Now, 1,000 fish or more return to spawn each year.

"We've worked hard to recover these salmon, and the payoff is the opportunity to carry on our cultural traditions," said Stillaguamish Chairman Shawn Yanity.

— K. Neumeyer

## Skagit River Tribes, Sport Fishermen Share Summer/Fall Chinook Fishery

For the first time in 16 years, recreational fishermen will be able to fish for Skagit River summer and fall chinook, thanks to a plan developed by tribal and state co-managers.

Each spring, the co-managers set fishing seasons that are designed to protect weak wild runs while providing limited harvest for treaty tribal and state sport and commercial fisheries.

"The tribes are committed to working together with non-Indian fishermen for the benefit of the salmon resource," said Lorraine Loomis, Swinomish fisheries manager and the tribal coordinator for the salmon setting process. "This harvest opportunity on the Skagit River is the outcome of strong salmon management allowing us to share the resource."

This summer, tribal and sport fishermen will divide the week equally, with each fishing for three-and-a-half days.

The Skagit River is the largest producer of wild chinook in the region. More than 23,000 summer and fall chinook are expected to return to the Skagit. The next largest runs of chinook to any Puget Sound river are fewer than 10,000 fish.

Recreational fishing on the summer/fall run has been closed since 1993. A key factor to lasting salmon recovery is habitat restoration, Loomis said. "The largest reason for the decline of salmon is the loss and degradation of habitat," she said. "The only way to lasting salmon recovery is to repair that damage."

Restoration projects by the Upper Skagit, Swinomish and Sauk-Suiattle tribes so far have improved hundreds of acres of chinook rearing habitat in freshwater banks, backwaters, estuary channels and pocket estuaries. — K. Neumeyer



K. Neumeyer

Stillaguamish natural resources technicians Kate Konoski (left), Charlotte Scofield and Jody Pope seine for juvenile chinook salmon.



K. Neumeyer

A juvenile chinook salmon swims in its "fish condo" at the Stillaguamish Tribe's hatchery.

## Stillaguamish Tribe Collects Juveniles, Expands Hatchery Program

While chinook returns to the North Fork Stillaguamish River have recovered enough to allow for a small tribal harvest, returns to the South Fork have declined to fewer than 100 fish. The Stillaguamish tribe is working to recreate the success of the North Fork hatchery program on the South Fork, where chinook are genetically distinct and always have been smaller in number.

Hatchery supplementation is not a substitute for habitat restoration — it is considered genetic maintenance.

"Starting a hatchery broodstock pro-

gram in the South Fork is the best way to keep the population from going extinct until the habitat can be restored," said Stillaguamish Chairman Shawn Yanity.

To maintain genetic diversity, the tribe needs to use at least 15 male and 15 female adult chinook. The extensive effort to collect broodstock last summer and fall included snorkel surveys and an attempted helicopter retrieval, but there weren't enough adult chinook salmon to be found.

Now, the natural resources department is trying something different: beach seining for juvenile salmon to hold in captivity

until they are old enough to spawn. The tribe has collected about 30 juvenile chinook from the South Fork Stillaguamish River to test the feasibility of implementing a captive brood program. Efforts to collect adults will continue later this year.

A similar captive broodstock program already is under way for South Fork Nooksack River spring chinook, which also have declined severely. The Lummi Nation and Nooksack Tribe have collected more than 800 juveniles that are being raised to adulthood in hatcheries. — K. Neumeyer

# Will Recovery Plan Bring Help for Ozette Sockeye?

The Makah Tribe welcomed the recent release of a recovery plan for threatened Lake Ozette sockeye salmon as a signal that more help is coming with their decades of work to restore a cultural icon to a harvestable population.

Lake Ozette sockeye salmon were listed as “threatened” under the Endangered Species Act (ESA) in 1999. The Makah Tribe has been working since the 1970s to return Lake Ozette sockeye to numbers that will allow it again to be part of the Makah diet.

“When I was a child, I learned about Lake Ozette through my great-grandfather, grandmother, uncles and aunts,” said Russ Svec, Makah tribal fisheries program manager. “It was common for my generation to know about the traditional resources available to us at Lake Ozette.”

The tribe has not fished commercially for Ozette sockeye since the 1970s.

“With the recovery plan finished, we are more optimistic about the resources that will be available to assist us with our work to restore this fish and an area, altered by extensive land use practices, that is critical to the viability of Lake Ozette sockeye,” Svec said.

The recovery plan calls for a range of actions, including improvement to habitat by

placing large woody debris along streambanks and replacing invasive, non-native species along streams with native plants.

The plan’s biological recovery goals were developed by the National Oceanic and Atmospheric Administration Fisheries Service technical recovery team with active participation from the Lake Ozette Steering Committee, made up of tribal representatives, local citizens, forest managers, and biologists from several county, state and federal entities.

Although the Fisheries Service is required under the ESA to produce a recovery plan, its implementation is voluntary.

“We understand that the recovery plan is not legally binding,” Svec said. “But it does provide us with a road map to recovering Lake Ozette sockeye. With our continued efforts and the help of other partners, we look forward to the day that Lake Ozette sockeye are recovered and we can return to our traditional practices.” – *D. Preston*



Joe Hinton, Makah’s Hoko Hatchery manager, prepares to release an adult sockeye with identification tags back to Umbrella Creek. *D. Preston*

## The Makah Tribe’s decades of work to recover sockeye populations includes:

- Mapping the instream habitat of the entire Ozette watershed.
- Improving spawning habitat by adding wood that traps important spawning gravel.
- Monitoring water quality at all the major tributaries to the lake.
- Annual sockeye spawning surveys that have been expanded to accurately assess the extent of the sockeye spawning population.
- Enhancement of the population through the Makah Tribe’s Hoko Hatchery.

## Floods, Habitat Loss Hurt Puyallup River Chinook

Fewer juvenile wild chinook are migrating out of the Puyallup River this year, likely because winter floods washed away chinook redds before the fish had a chance to emerge from the gravel nests.

The Puyallup Tribe of Indians counts outgoing chinook with a smolt trap in the lower Puyallup River. The trap allows young salmon to be safely captured and released, providing an estimate of the watershed’s productivity.

In early May, more than halfway through the outmigration season, only 34 chinook had been caught in the trap. That’s down from 2,500 chinook last

year. A mild winter in 2007 resulted in the largest wild chinook outmigration ever recorded in the river: 89,000 wild chinook.

“It is possible that we’re seeing just a very late outmigration, but it’s much more likely that the chinook were killed during the winter floods,” said Russ Ladley, resource protection manager for the tribe.

A flood in 2006 had a similar impact on the outmigrating chinook population. After analysis, the tribe determined that only 10,000 chinook left the watershed that year, down from a peak of 60,000 fish in 2005.

“Because of habitat degradation, spawning and rearing habitat throughout the Puyallup watershed is limited,” Ladley said. “One flood can do a lot of damage.”

Historically, floods in the Puyallup watershed were not as dangerous to salmon. “The nature of the watershed has changed dramatically, with dikes being built up right next to the river. An increase in impervious surfaces such as parking lots make stormwater all the more destructive,” Ladley said.

Low numbers of juvenile chinook migrating out to the ocean this year will mean even



The Puyallup Tribe measures juvenile salmon from a smolt trap. Smolts are salmon undergoing “smoltification,” a physiological process that allows them to survive their transition from fresh to salt water. *E. O’Connell*

fewer adult chinook returning three or four years from now, and that will mean restricted fisheries. – *E. O’Connell*

# Upper Skagit Comes Together for Clam Dig

A day before her 87th birthday, Upper Skagit tribal member Vi Fernando watched her children and grandchildren dig for clams.

This was the first time Fernando found herself unable to dig. Last year, fellow elders watched in surprise as she got on the boat bound for the shellfish beds, instead of waiting on the beach for a bucket of clams to be brought to her.

"This is a community clam dig. Nobody just digs for themselves," said Scott Schuyler, natural resources director for the Upper Skagit Tribe and one of Fernando's grandsons. "It's never one person digging, or one family. We're digging for everyone."

The Upper Skagit Tribe held the community clam dig at Cama Beach State Park in May. The beach on Camano Island is part of the tribe's usual and accustomed shellfishing area. In July, the tribe will have a dig at its other traditional site, which is now part of the U.S. Naval Air Station Whidbey Island.

"It's important for our members to get out there exercising our treaty rights," Schuyler said. "Our ancestors gave everything up for our treaty rights. We'd be doing them a disservice not to exercise those rights."

This year, a sore foot prevented Fernando from being able to step on a clam fork to dislodge the shellfish from beneath the sand and gravel. She got a few digs in, with the help of her daughter Carmella Fernando, who stepped on the clam fork for her.

"They're allowed to take 5-gallon buckets for whoever they're digging for. That's a lot of clams," Vi Fernando said. "That's what we used to live on a long time ago. My



K. Neumeyer

Upper Skagit tribal elder Vi Fernando supervises Tamara Sam (left), Linnette Hernandez and Carmella Fernando during a community clam dig at Cama Beach.

great-grandmother used to have them hung up in the smokehouse where she smoked the fish."

The tribal members filled up buckets of butter clams, usually leaving behind the larger horse clams, which aren't as tasty.

"They're just mostly stomach," Fernando said. "Butter clams have a lot more meat on them than a horse clam does. I'd keep the big horse clams – they've got big necks, so they make good chowder." – K. Neumeyer

## Shellfish Agreement Leads to Public Beach Enhancement

The first clam seeding stemming from the historic 2007 shellfish agreement brought together a group of nearly 30 folks from all over Puget Sound to Twanoh State Park on Hood Canal in April.

Representatives from the Skokomish Tribe, Taylor Shellfish and state agencies, plus volunteers from as far away as Spanaway, scattered approximately 500,000 juvenile manila clams on the park's beach.

The project is the result of an agreement that resolved lingering issues from a 1994 federal court ruling that upheld the treaty tribes' right to harvest shellfish on public and private tidelands. Under the \$33 million agreement settled in 2007, treaty tribes agreed to forgo harvesting naturally occurring shellfish on commercial growers' farms. The tribes are using the settlement funding for shellfish enhancement on reservation beaches and others designated for their ex-

clusive use. As part of the agreement, the growers are providing \$50,000 annually to enhance shellfish on public beaches of the state's choosing for the next decade.

"We need more enhancement opportunities like today to provide more harvest opportunities throughout Hood Canal," said Randy Lumper, the Skokomish Tribe's aquatic resources enhancement biologist.

The tiny clams are expected to grow to legal harvest size in several years.

"The tribes and the state have been enhancing public beaches with clams and oysters for years, but our budgets are limited," said Brady Blake, Washington Department of Fish and Wildlife shellfish enhancement biologist. "Grower-funded seeding will really bump up recreational opportunity on beaches like this over the next decade or so." – T. Royal



T. Royal

Skokomish Tribe natural resources technician Shane Miller spreads manila clam seed at Twanoh State Park.

# Concern Grows over Harmful Algal Blooms

The Jamestown S’Klallam Tribe is on the hunt for harmful algal blooms this summer in Sequim Bay, to get a better picture of how the explosions of microorganisms affect the bay.

“We’re looking at the effects of these blooms on factors such as water quality and toxins in shellfish,” said Chris Whitehead, tribal shellfish biologist. “We also hope that the information will help contribute to the development of a harmful algal bloom early warning system.”

Harmful algal blooms occur when water temperatures rise or when there are excess nutrients in the water. The blooms can cause toxins such as domoic acid to develop in shellfish. While not harmful to the bivalves, the toxins can sicken humans who eat them.

The tribe is sampling shellfish and water at four sites at the same time each week through September 2009.

The Washington Department of Health (DOH) and National Oceanic and Atmospheric Administration (NOAA) have been conducting studies of the bay to determine when toxins are in the water. But the tribe, which uses the bay for a wide range of cultural and economic uses, believes more information is needed to get a better grasp of the bay’s overall health.

“There seems to be a gap in the data collected by DOH and NOAA, since they’re not collected at the same time or at the same location,” Whitehead said. “That makes it difficult to link water toxin levels and algae counts with toxin levels in shellfish.”

Funding for the study comes from the U.S. Environmental Protection Agency. The University of Washington also is collaborating on the project.

– T. Royal

Jamestown S’Klallam tribal biologist Lorna O’Rourke samples water in Sequim Bay. *T. Royal*



Suquamish shellfish biologist Paul Williams shows Jean Walat, volunteer coordinator for the Port Townsend Marine Science Center, how to catch juvenile crabs with a bag of mesh scrubbers. *T. Royal*

## Capturing Wide-eyed Baby Crab to Understand Population Decline

The instrument is simple – attach a bag filled with mesh kitchen scrubbers to a small buoy and place the contraption in Puget Sound. Pull the buoy 24 hours later and there should be dozens of Dungeness crab larvae attached.

Biologists are placing these scrubbers along the nearshore to capture a subsample of crab washing toward the shore. When post-larval crabs are ready to settle, they grab the first thing with enough texture for them to hold onto. Shellfish biologists Paul Williams, with the Suquamish Tribe, and Leif Rasmuson, with the Skokomish Tribe, are recruiting tribes, state and county agencies, and volunteer groups to collect the native crustaceans throughout Puget Sound.

“By collecting crab larvae, shellfish managers hope to find out where they came from,” Williams said. “In their last larval stage, they are called megalops due to their huge eyes. We just put the scrubbers in their path and they grab on. Having collection stations throughout the region will bring in extensive data about the region’s fluctuating crab population and help us better manage the harvest.”

The focus of the project is the declining Dungeness crab population in Hood Canal. In 2008, crab catch in the area dropped 75 percent, down from 700,000 pounds in 2005.

The tribes want to know if the crab found in Hood Canal originated there or if it came from the Pacific Coast or other parts of Puget Sound.

“This project will allow managers to gain insight into the early life stages of this commercially important species and help to determine how fluid populations are throughout the state,” said Rasmuson, who wrote the project proposal.

When crab eggs hatch, the larvae drift with tidal currents for up to six months before settling down to mature into adults in estuaries and other nearshore areas.

While this study is looking at the natural fluctuation of larvae coming from outside Puget Sound, a number of factors may contribute to the decline including overfishing, low dissolved oxygen and disease.

Williams and Rasmuson are looking for volunteers in Hood Canal, the Strait of Juan de Fuca, Admiralty Inlet, the San Juan Islands and Whidbey Basin.

More information can be found at <http://sites.google.com/site/megaloposite>.

– T. Royal



A crab larva, known as a megalop for its large eyes, is shown under a microscope. *Submitted photo*

# Tribal Programs Preserve Steelh

Puget Sound steelhead are listed as “threatened” under the federal Endangered Species Act, along with Puget Sound chinook, Lake Ozette sockeye and Hood Canal summer chum. Treaty tribes in western Washington are preserving the genetic traits of steelhead at hatcheries while exploring ways to restore lost and degraded habitat.

## Live Spawning Operation Moves to Tribal Hatchery



E. O’Connell

Above: Terry Sebastian, Puyallup fisheries biologist, holds an adult steelhead at a fish trap on the White River. The steelhead will contribute to a broodstock program operated jointly by the Puyallup and Muckleshoot tribes and the state of Washington. Below: Air is pumped into a female steelhead to release the eggs during live spawning.



E. O’Connell

The Puyallup Tribe of Indians is rescuing a wild steelhead broodstock program threatened by the closure of the state’s Voights Creek hatchery, which was heavily damaged by winter floods.

“If steelhead native to this watershed can’t thrive in the wild, the only option is to raise some of them in a hatchery to ensure their survival and make sure their genetic traits aren’t lost,” said Blake Smith, enhancement biologist with the tribe. “Certain conditions, such as water temperature, can be controlled in a hatchery, so fish show a higher rate of survival there than they do in the wild.”

Offspring of wild Puyallup steelhead broodstock are raised at a handful of state and tribal hatcheries in the Puyallup River watershed to safeguard the population from extinction.

With the temporary closure of the Voights Creek hatchery, the tribe is continuing the steelhead recovery effort at its Diru Creek Hatchery near Puyallup. It’s there that some of the threatened, ESA-listed steelhead are undergoing a hand-spawning technique that allows them to be released back into the river after their eggs or milt (sperm) are collected.

“Unlike other salmon that always die soon after they spawn, a portion of steelhead return more than once to spawn,” Smith said.

Typically, eggs and milt are taken from salmon after they are killed. In the live spawning process, female fish are injected with air to push out some of their eggs. Male fish are spawned in a traditional manner – hand-squeezing milt – but are anesthetized instead

of killed beforehand.

“By not killing the fish to spawn them in the hatchery, we are allowing the fish to take their natural course,” Smith said. “Hopefully, now that they have a chance to come back, they’ll come back and spawn again.”

Historic low runs of Puyallup River steelhead have become common in recent years.

“With a stock on the brink, every little bit helps,” Smith said.

For the past three years, adult steelhead have been collected in a trap on the White River – a tributary to the Puyallup – and held at Voights Creek until they were spawned. Their offspring also were raised at Voights until they were transported to the Puyallup tribal facility at Diru Creek and finally to the Muckleshoot Tribe’s White River hatchery for release. With Voights Creek offline for at least this year, the fish will be spawned and raised at Diru until they are transported to White River.

“Doing the spawning and rearing at Diru will keep the program going for at least this year, but the best long-term solution is to get Voights Creek back up and running,” Smith said. After flirting with closing Voights Creek permanently, the state legislature allocated some funds to repair the facility.

“A program like this broodstock effort is just a stop-gap measure until we can solve the habitat issues that are keeping this population from sustaining itself,” Smith said. “We hope we can hold on to this stock until we know what exactly is happening to them.”

– E. O’Connell



Lower Elwha Klallam tribe has been raised

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# Head Populations



T. Royal

hatchery technician Keith Lauderback prepares to spawn a captive-raised steelhead. The spawning broodstock to protect the Elwha River steelhead run.

## Spawning Steelhead Before Dam Removal

Setup looks complicated. Two tables with data sheets, laptops, glass slides, scale and instruments for taking samples are set up next to the Lower Klamath Tribe's hatchery ponds. Steelhead are pulled from the ponds and weighed, measured, sampled and spawned. Each of the dozen people have a specific job in this organized chaos to help spawn nearly 150 steelhead.

Steelhead aren't hatchery returns as part of the tribe's captive steelhead stock program. The tribe started the program in 2005 to ensure that the remaining Elwha River steelhead aren't wiped out by the 2011 deconstruction of the Elwha Dam. The 210-foot Glines Canyon Dam and the 110-foot Elwha Dam.

Currently, fish cannot get past the dams and are only in the lower five miles of the river.

Since the summer of 2005, the tribe has collected steelhead fry from the river and raised them in its hatchery. The fry collected are expected to be remnants of the river's natu-

rally spawning stock. Fry collected in 2005 were spawned this spring as 4-year-olds; their progeny are expected to be released as 2-year-olds in 2011.

"We've found that wild steelhead tend to emigrate to the ocean as 2-year-olds, so we'll try to rear them to that age before we release them," said Larry Ward, a fisheries biologist and hatchery manager for the tribe. "We've been successful at raising the 2005 stock to spawning maturity, so things are going well so far."

The tribe collected blood and scale samples, and kept track of the genetic makeup of each fish. Two or three males were spawned for every female and the fertilized eggs are incubating in the tribe's hatchery. More than 250,000 eggs were taken and fertilized this spring.

Collaborators on the project include the National Oceanic and Atmospheric Administration, Washington Department of Fish and Wildlife and U.S. Fish and Wildlife. Funding for the project comes from the Pacific Coastal Salmon Recovery Fund. — T. Royal

## Mapping Redds to Maximize Restoration

The Puyallup Tribe of Indians keeps a close eye on steelhead returning to Boise Creek because it's one of the most popular steelhead spawning spots in the Puyallup River watershed.

Two tribal biologists survey Boise Creek every 10 days from March to May, counting every steelhead they see. They also map each steelhead redd location with Global Positioning System (GPS) technology.

"The GPS data gives us an almost exact location, within a few feet, of where steelhead lay their eggs," said Russ Ladley, resource protection manager for the tribe. "With that information, we have another tool for habitat and stock protection." Tribal surveyors counted 29 redds in 2008, up from 15 the year before, but down from 88 in 2006.

The data is helping the tribe write a habitat restoration plan for Boise Creek. The tribe and the city of Enumclaw received a \$120,000 grant from the state Salmon Recovery Funding Board to explore how Boise Creek could be made more hospitable to juvenile salmon and steelhead.

"Even though a lot of steelhead and chinook return to Boise Creek, it doesn't mean that the creek produces a lot of juvenile fish," Ladley said. "Right now there is a lack of quality habitat in a large section of the creek. We're going to take a close look at what we might be able to do to give salmon the biggest bang for the buck."

Biologists catalog the mapping data in an "Annual Salmon, Steelhead and Char Report" — the most comprehensive report on salmon populations in the Puyallup system. The tribe collects population data on all species of salmon during its survey season, which begins in mid-August, continues through the winter and ends in mid-June. The most recent report is available online at: <http://go.nwifc.org/hrw6y8>. — E. O'Connell



E. O'Connell

Puyallup biologist Terry Sebastian surveys Boise Creek for spawning steelhead.

# Skagit Nearshore Studies Crucial to Salmon Recovery

Nearly every day from spring through early fall, somewhere in the Skagit basin and San Juan Islands, a crew from the Skagit River System Cooperative (SRSC) is sampling fish populations.

Rain or shine, in smooth waters or blustery wind, the crew pulls beach seines and sets fyke traps to count and measure fish before returning them to the water. Crew members also record water temperature,



*K. Neumeyer*  
SRSC technicians Jason Boome (left), Upper Skagit, and Jeremy Cayou Jr., Swinomish, look for juvenile salmon in a beach seine in the Swinomish Channel.

salinity, depth, velocity and observe the substrate and vegetation. As a result, SRSC, the natural resources arm of the Swinomish and Sauk-Suiattle tribes, has a 15-year (and counting) comprehensive database of the way fish use nearshore habitat.

The nearshore is a nursery for a variety of fish including sculpins, perch, smelt, herring and salmon. Puget Sound chinook salmon, listed as “threatened” under the federal Endangered Species Act, depend on estuaries for extended rearing during outmigration.

Monitoring is a crucial, yet often underfunded, aspect of the salmon recovery effort, said Eric Beamer, SRSC’s research director. Without it, nobody knows whether a restoration project did what it was supposed to do.

“Restoration science is rather new and the designs used are often untested and unique by site,” Beamer said. “It is critical to learn what actually happens at sites. The restoration might work better than predicted, worse than predicted, or just different than predicted. If we monitor, we can find out what actually happens and often take corrective action.”

SRSC’s best example of funding to monitor the effectiveness of a project was \$50,000 from the U.S. Army Corps of En-

gineers for the Deepwater Slough restoration. At the time of completion in 2000, it was the largest estuarine project on the West Coast. But \$50,000 was only 2 percent of the total project cost and it wasn’t enough, Beamer said.

Beyond measuring the effectiveness of a particular project, long-term monitoring on a larger scale is essential to understanding and maintaining salmon recovery.

“It’s nice when monitoring confirms what we think is happening,” Beamer said. “But monitoring results are especially important when things don’t go exactly as planned.” – *K. Neumeyer*

**SRSC intends to monitor whether chinook populations are increasing or decreasing in response to multiple factors including:**

- **Habitat restoration that has occurred.**
- **Existing habitat that is or is not protected.**
- **Environmental changes such as global climate change, which could alter flooding, sea levels and marine survival conditions for salmon.**

## Shellfish Remain Safe Despite Dioxin in Oakland Bay Sediment

Preliminary data released recently by the state Department of Ecology has identified dioxin in sediment throughout Oakland Bay.

Outside of Shelton Harbor, the dioxin is distributed uniformly with an average concentration of 35 parts per trillion (ppt). Dioxins are a byproduct of industrial processes, such as papermaking or metal smelting, but are also produced naturally in small amounts. Dioxins can cause cancer, thyroid disorders and damage the immune system.

“At first glance, the distribution pattern suggests the dioxin may be a historical legacy,” said John Konovsky, Squaxin Island Tribe’s environmental program manager.

Oakland Bay is a productive shellfish growing area. Studies elsewhere suggest there is little connection between dioxin concentrations found in sediment and contamination in shellfish:

- In a 2008 Ecology report on neighboring Budd Inlet, sediment samples showed dioxin concentrations ranging from 3 to 60 ppt, but concentrations in littleneck/manila clam samples averaged 0.5 ppt.

*‘The tribe is committed to do whatever is necessary to clean up the bay.’*

**ANDY WHITENER,**  
natural resources director,  
Squaxin Island Tribe

- In Similk, Fidalgo and Padilla bays, a 2006 study by the Swinomish Tribe identified a range of concentrations of organic compounds including dioxin in sediment, but levels in shellfish from those same sites were more uniform and much lower. The report also suggested that health risks from sediment exposure – such as digging for clams – are even lower than eating shellfish.

- A 2007 Humboldt Bay study concluded that dioxin concentrations in shellfish tissue were independent of dioxin levels in sediment. All the tissue directly tested and most reported in the worldwide literature was below concentrations considered to be a risk to human health.

Without continual industrial output, dioxin levels in sediment and shellfish decline over time. “It’s not surprising that shellfish accumulate very little dioxin and are safe to eat,” Konovsky said. “This is because dioxin builds up in fatty tissue and shellfish have a very low fat content.”

Scientists from the state Department of Health also believe that dioxin in the sediment of Oakland Bay does not pose a public health concern for shellfish consumers. When discovered in sediments elsewhere around Puget Sound, dioxin in shellfish has never been found at levels of public health concern.

“Oakland Bay has always been a favorite spot for tribal members to dig clams,” said Andy Whitener, the tribe’s natural resources director. “The tribe is committed to working with state and federal governments to do whatever is necessary to clean up the bay. We want to absolutely guarantee the health of our tribal members and the entire community.” – *E. O’Connell*

# Donated Trees Add to Fish Habitat

More than 100 trees that have fallen into the reservoir behind Alder Dam will be put to use in engineered logjams to create salmon habitat on Ohop Creek.



*E. O'Connell*

Florian Leischner, restoration biologist with the Nisqually Tribe, marks a log recently removed from Alder Lake to be used in a restoration project.

“Trees that wash into the lake from the river and get stuck behind the dam need to be removed before they become a nuisance,” said David Troutt, natural resources manager for the Nisqually Tribe, which is spearheading the effort to gather the logs. “We’re just taking them out and putting them to good use.”

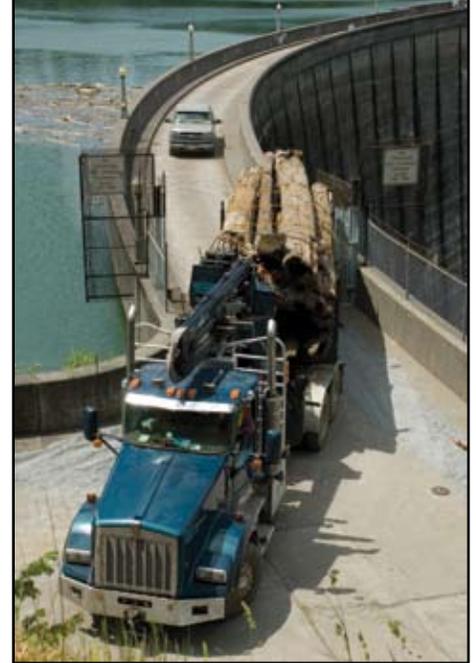
Juvenile salmon find both food and shelter within logjams. The structures also slow the flow of the creek, easing adult salmon migration.

“We know logjams benefit salmon because we’ve been monitoring other restoration projects. We really see a difference in the sections of river with logjams and those without,” Troutt said. “There are a lot more salmon around the logjams.”

The lake and dam are owned by Tacoma Power, which is turning the trees over to the tribe for free, to use in the restoration project. The tribe only has to pay for transporting them to a storage site.

To restore Ohop Creek, the tribe and the South Puget Sound Salmon Enhancement Group will dig a new mile-long creek channel and build logjams.

“Ohop right now is basically a long straight ditch, which is not a very good place for salmon,” said Kim Gridley, project manager for the enhancement group. “The project will create a richer, more varied habitat for salmon.”



*E. O'Connell*

A truck carrying logs for a nearby habitat restoration project negotiates a tight turn on the Alder Lake dam.

Restoring Ohop Creek is important because it is one of only two tributaries to the Nisqually River that produce chinook.

“If some catastrophic event – for example a devastating flood – were to wipe out the entire population of chinook along the mainstem, salmon from Ohop Creek would be able to repopulate the rest of the river,” Troutt said. “By having separate populations in different rivers and creeks within the same watershed, you strengthen the entire population.” – *E. O'Connell*

## Tribal Voice

### Hoh Tribe: A New Direction



Hoh Tribal Chair Walter Ward

A study of the Hoh River’s migrating main channel shows that it will be running right through our tribal center within the next 25 years. The river already has whittled our 640-

acre reservation to about 450 acres and much of the remaining land floods annually.

We, as Hoh people, had a choice: Build expensive dikes or other structures – which can protect the riverbank but hurt fish habitat – or move out of harm’s way. Salmon are the lifeblood of our people, and we didn’t want to do anything that would hurt them. We rely on fishing both culturally and economically on a reservation where unemployment exceeds 70 percent. We have decided to move rather than hurt the salmon.

We are encouraged by the help we are receiving to move

our tribal center and housing out of the path of the river. So far, we have acquired 160 acres from the state Department of Natural Resources and 270 acres from private landowners about a mile outside the reservation and the Hoh River’s floodplain. But the parcels are separated from the reservation by 37 acres of former timberlands now owned by Olympic National Park (ONP). The only road to the reservation already crosses this sliver of land.

We have worked with ONP to develop an agreement to transfer title of the 37 acres to the tribe. Logging, hunting and construction would be prohib-

ited under the agreement. We are now waiting for approval from Congress.

In the meantime, we plan to begin construction on a new public safety building this summer on some of the newly purchased land. This will be a valuable resource for both tribal and local public safety officers.

Our decision was difficult, but we believe this is a good solution for the people, the river and the salmon.

*Walter Ward is the Hoh tribal chairman.*

# Logjams Prove Their Worth on Quinault



Larry Workman/Quinault Indian Nation

Quinault tribal member Kurtis Eckersley plants trees on one of 13 engineered logjams on the upper Quinault River while a backhoe digs a hole deep enough to keep cottonwood roots in water through the long summer.

Nearly one year after completion, the Quinault Indian Nation's (QIN) pilot restoration of the upper Quinault River is protecting critical sockeye spawning habitat and re-establishing river channel stability.

Thirteen engineered logjams (ELJs) installed last summer in the river above Lake Quinault subtly deflected high river flows away from an Alder Creek side channel, one of the few remaining areas used by sockeye, or blueback, salmon for spawning. Sockeye are culturally and economically vital to the QIN.

## QIN Fixes Culverts for Fish

A small-scale "bridge to nowhere" on a tributary to the Quinault River illustrates one of the many forest road problems the Quinault Indian Nation (QIN) is trying to fix.

A bridge that once spanned the creek now sits on the streambed after several years of high winter streamflows. Vehicles crossing the creek actually drive through the stream, possibly damaging salmon egg nests (redds).

QIN is halfway through a two-year survey of more than 2,000 miles of roads on its reservation, to identify, prioritize and fix problems.

"These roads were constructed when the federal Bureau of Indian Affairs and their contractors ran large, multi-decade timber sale contracts on the Quinault reservation," said Nicole Kaiser, tribal fish habitat biologist. "There are a lot of undersized culverts that either partially or completely block

Land use practices in the upper Quinault River valley removed most of the mature forests and large wood from the river and its floodplain, destabilizing the river. Side-channel salmon habitat has been disappearing from the upper Quinault as the river channel moves rapidly across its floodplain. There once were more than 55 miles of sockeye spawning side-channel habitat along the river; now there are fewer than 5 miles.

The timing of the pilot project couldn't have been better.

"The river has responded to the engineered logjams in the way we expected," said Bill Armstrong, salmon resources scientist for the QIN. "The primary objectives of the project were to protect the entrance of this important side channel used by sockeye for spawning and to re-establish new surfaces for floodplain reforestation planting. We have met those objectives. It was also the first time that a net loss of sockeye salmon spawning habitat was avoided in this watershed – it is a very exciting time."

Protecting salmon habitat wasn't the only successful outcome of the pilot project. Just as important was successfully demonstrating the upper Quinault River restoration strategy and QIN's ability to

fish access to prime habitat." The nation is partnering with other agencies such as the Natural Resources Conservation Service and Salmon Recovery Funding Board to fix the highest priority blockages first.

The "bridge to nowhere" is one such project slated for repair this summer. The bridge will be relocated, and the road eventually decommissioned. A pond created by a clan of beavers will be kept to provide over-wintering habitat for salmon, particularly young coho.

Kaiser likens the search for the culverts and other problems to an odd treasure hunt, because the reservation contains approximately 2,250 miles of roads, many of which have not been visited for more than 40 years. A certified surveyor and technician from Lewis County Conservation District is conducting the culvert inventory.

As the survey nears completion next year, the nation will establish a timeline

get the job done. "Because of the success of the pilot project, we have secured significant support from the local Quinault Valley community and other stakeholders for future projects in the watershed, setting the stage for a collaborative restoration effort," Armstrong said.

*'It was also the first time that a net loss of sockeye salmon spawning habitat was avoided in this watershed.'*

**BILL ARMSTRONG,**  
salmon resources scientist,  
Quinault Indian Nation

QIN also is returning the forest to 12 miles of barren floodplain in the upper Quinault River watershed, in one of the most ambitious river restoration plans in the lower 48 states. More than 1,000 species of sitka spruce, Douglas fir, red alder and black cottonwood poles were planted at the site this spring. Care was taken to ensure roots were put deep enough to receive water even in the summer months.

The second phase of the project involves building more than 100 ELJs over two years in a section of river below the first project site. Engineers are now designing those projects. Work should begin this summer. – D. Preston



D. Preston

Nicole Kaiser, QIN habitat biologist, stands on a "bridge to nowhere" on a tributary to the Quinault River.

and full priority list for repairing problems. "There are so many simple fixes that do big things for fish habitat," Kaiser said.

– D. Preston

# Lorraine Loomis: Hard Work Brings Results

Cooperative co-management continues to point the way to wild salmon recovery in western Washington. “If we didn’t truly believe we can rebuild these stocks, we wouldn’t be working as hard as we do,” said Lorraine Loomis, Swinomish tribal fisheries manager.

This year marks the 25th anniversary of the North of Falcon (NOF) cooperative salmon season setting process for treaty and non-treaty fisheries in western Washington. Loomis has coordinated tribal participation in NOF since the beginning.

“There wasn’t a lot of trust at first,” she said. “The tribes and state would develop their fisheries management data separately.” Loomis credits Bill Wilkerson, then director of the Washington Department of Fisheries, with helping to ignite change.

Tribal and state biologists began working together to develop a unified set of fisheries management data that all parties could accept. “Developing agreed-upon data was a real turning point,” she said.

Another was a shift to inside-out fisheries management. “We began to develop outside (ocean) fisheries for treaty and non-treaty fishermen to ensure that inside (Puget Sound) rivers reach escapement. Everyone began sharing the burden of conservation and benefits of harvest,” she said.

Something else happened, too. “Bill asked me what my needs were on the Skagit River. I was baffled,” Loomis said. “No one from the state had ever asked me that question.”

Accelerated by the changes – fostered under *Hoh v. Baldrige*, a feder-

al court ruling that required fisheries management on a river-by-river basis – the tribes and state began to look at meeting each other’s needs while still recovering salmon.

Since its early days, NOF has been driven by the need to protect the weakest salmon stocks. “We still have those weak stocks,” Loomis said. “It’s difficult to recover them without recovering their habitat at the same time.”

Still, Loomis is optimistic. “The Skagit is doing better,” she said. “We are doing a lot of habitat work, as much as we can. We are also monitoring these projects for their benefits to salmon.”

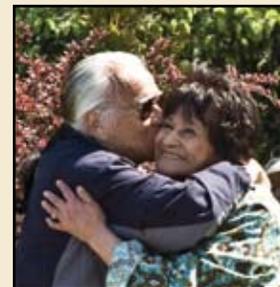
Much NOF work lies ahead. New fishery models are needed, especially in light of expanded catch and release mark-selective sport fisheries, she said, adding that state budget cutbacks are especially troubling.

At 25, NOF remains a difficult process, but there isn’t a better one, Loomis said.

“This is our process. It is co-management, sharing conservation and sharing the benefits.” She encourages anyone with an interest in fisheries to get involved in NOF.

“It is a good process, and the only one we have,” she said. “We have to make it work.” – *T. Meyer*

Born and raised on the Swinomish reservation, Lorraine Loomis grew up fishing with her brothers Claude, Tandy Jr., Vince and Marv. All of her children fish as well. Her father, Tandy Wilbur Sr., was general manager of the tribe for more than 40 years. Her mother, Laura, served on the tribal senate for more than 50 years.



*K. Neumeyer*

Lorraine Loomis greets NWIFC Chairman Billy Frank Jr. at the Swinomish Blessing of the Fleet and First Salmon Ceremony.

Her career in fisheries management started at the tribe’s fish processing plant. From cleaning to smoking and freezing fish, she did it all, working her way up to assistant manager of the plant.

Then, just after the 1974 Boldt decision that re-affirmed tribes’ treaty-reserved fishing rights, Swinomish tribal leaders asked if she would serve as fisheries manager. “I thought it was going to be easier, but it wasn’t,” she said. “I’m still working 14 hours some days, but I find it rewarding. I just love working with fish, anything to do with fish.”

While fish and shellfish management has filled her plate over the past several decades, Loomis also was called on to negotiate the tribe’s gaming compact with the state of Washington.

She serves as U.S. chair of the bilateral Fraser River Panel that manages sockeye under the U.S./Canada Pacific Salmon Treaty. She is secretary of the Skagit River System Cooperative board of directors. The cooperative is the natural resources management arm of the Swinomish and Sauk-Suiattle tribes. In addition, Loomis has served for more than 30 years as a commissioner for the Northwest Indian Fisheries Commission, most of them as vice-chair. She recently was re-elected to another term.



*D. Preston*

## Bee Camas Aware

Camas blooms on a small prairie south of Forks. Pacific Northwest tribes have used camas culturally and for food for millennia. Stories abound regarding Lewis and Clark learning to eat camas from Northwest tribes.

However, camas prairies are disappearing throughout western Washington, due to urbanization. Some tribes are investigating ways to return camas prairies by burning and seeding appropriate areas to re-introduce the plant where it once grew.

# Deer, Elk Continue to Sustain Tribal Culture

Makah tribal member Jeremiah Johnson remembers as a boy hunting with his uncle. “I started hunting when I was 12 years old,” Johnson said. “I learned from my family members. This is traditional knowledge passed on from generation to generation.”

Learning from their ancestors and gaining intimate knowledge of their homelands is part of subsistence hunting for all Makah tribal hunters. The Makah Tribe always has relied on elk and deer to sustain them and used all parts of the animal for tools and regalia. Only elk antlers were used to make harpoon barbs for whaling. Today, deer and elk meat help feed families in the remote village of Neah Bay while contributing to cultural and spiritual life.

The tribe is conducting several research projects to better understand the numbers of elk calves and black-tail deer fawns born each year and how many of them survive to maturity.

“Without this kind of specific knowledge, it can be easy to overestimate the expected rate of increase in a population and make mistakes in harvest management plans,” said Rob McCoy, wildlife division manager for the Makah Tribe.

Radio-tracking collars are placed on elk calves, allowing Makah wildlife biologists and technicians to record how many survive the first year, the cause of death for

*D. Preston*



*Rob McCoy/Makah Tribe*

An elk calf models his radio-tracking collar during a study conducted by the Makah Tribe.

those that don’t survive, and the number of males and females to reach adulthood in each herd.

Johnson, one of the technicians, loves being a part of managing the resource that is so important to him and his tribe.

“People in the village are always asking me questions about the research we’re doing and how it helps us,” Johnson said. “It’s important work.”

This is the first year of the elk calf study and the fourth year of a black-tail deer study. “We put 20 elk calf collars out this spring and we have a grant pending to continue this study for two more years,” McCoy said. As the calves mature, they are recaptured and fitted with larger collars.

The tribe already has conducted several studies about the elk populations on and around their reservation. One of the studies looked at the quantity and quality of forage and how it affects reproduction rates. Limited and poor quality forage tends to limit elk calf births to every other year.

“To make an informed decision about harvest levels, we need this information,” McCoy said.

Long-term partnerships with the Washington Department of Fish and Wildlife and volunteers from KBH Archers in Bremerton have assisted greatly in the effort to protect and enhance wildlife resources.

“We couldn’t do this important research without the volunteers,” McCoy said. “We’re grateful for the assistance we’ve received over the years.” – *D. Preston*

Jeremiah Johnson, Makah wildlife technician, helps put up a temporary net used to catch 1-year-old black-tail deer.



# Faster Response to Stranded Marine Mammals

Makah tribal member Seraphina Peters peers through binoculars at a rock covered with seals and sea lions near Neah Bay. Her boat bobbing in the ocean waves, she notes the type and number of each and records them.

As marine mammal stranding coordinator for the tribe, Peters' primary duty is to monitor the tribe's 24-hour hotline to dispatch rescuers to marine mammals stranded on nearby beaches. Peters also assists with research such as marine mammal surveys within the Makah treaty-reserved fishing areas.



*D. Preston*

Two sea otters frolic near Neah Bay in the Strait of Juan de Fuca. Biologists count otters and photograph them when possible to identify individual animals by their nose scars.

“Having Seraphina available really helps improve our response time to marine mammals on the beach,” said Jonathan Scordino, marine mammal biologist for the Makah Tribe.

Marine mammals such as seals can carry diseases fatal to humans and dogs visiting local beaches.

“Better response time improves protection of human and canine health,” he said. “By getting to these sick marine mammals sooner, we can minimize the potential of the spread of these diseases.”

Sea lions, for instance, may carry leptospirosis, a disease that affects the kidneys and is frequently fatal. If humans or dogs come into close contact with a sick sea lion or its feces, that infection may spread.

Scordino was forced once to euthanize a sea otter that was clearly unhealthy. The otter carried wounds indicating that he'd had a fight with a dog on the beach. The otter was later found to have canine distemper, a disease often fatal to dogs.

Layers of fat that insulate marine mammals from the ocean's cold water causes them to overheat when they become stranded on a beach. Once a marine mammal has died, the insulation of the fat also traps heat within the body, causing animal's organs to decompose quickly. The decomposition makes determining the cause of death almost impossible, Scordino said.

“Getting to these animals in a timely manner allows us to perform necropsies to determine the cause of death and gives us clues to trends in marine mammal populations,” Scordino said.

Peters, a veteran of the tribe's fisheries program, already has responded to a stranding. A several-hundred-pound elephant seal was on the beach to molt. Elephant seals come ashore to shed



*D. Preston*

Seraphina Peters, Makah marine mammal stranding coordinator, uses binoculars to get a better look at seals and sea lions.

their hair annually, as well as to breed and give birth. Peters kept other people away until the seal ambled back into the water.

“It was exciting,” she said. “This is really interesting work.” To report a marine mammal stranding in the area, call (360) 640-0569. – *D. Preston*

## Generations

In this photo from the 1920s, Makah tribal member Lighthouse Jim stands next to his whaling canoe in Neah Bay, holding a harpoon. A seal float is visible in the canoe.



*Courtesy of Makah Cultural and Research Center via the Washington State Historical Society*

## Walking On



### Bea Charles

Lower Elwha Klallam tribal elder Bea Charles (Auntie Bea), passed away April 20 at her home on the Lower Elwha Klallam reservation, at the age of 89.

She was born May 14, 1919 in Pysht and was raised by her great-grandfather and other elders who were alive at treaty time in 1855. As a direct link to the past, she helped hand down her tribe's oral traditions and history, as well as the native language.

"Losing Bea was a big loss for our tribe," said great-grandniece Wendy Sampson. "She had a lot of knowledge left to give and she gave a lot through all her years."

Charles was devoted to passing the Klallam language to future generations, by transcribing taped recordings made in the 1950s and 1960s to help preserve the tribal stories, oral history and language.

"We spent many, many hours hunched over tape recorders; she was very dedicated to reviving the language and keeping the culture alive," said Timothy Montler, professor of linguistics at the

University of North Texas. Since 1992, he worked with Charles and her aunt, Adeline Smith, 91, to help compile the tribe's first dictionary and transcribe the tapes. Their work led to the development of Klallam language programs in the area. Charles also was a source of history and language for the Jamestown S'Klallam and Port Gamble S'Klallam tribes.

She also helped defend the tribe's treaty fishing rights in *United States v. Washington*, leading to the 1974 Boldt decision. She spoke before Congress to support removal of the dams on the Elwha River. She was heavily involved in education in the Port Angeles schools and on the reservation, serving as the chairperson for the tribe's Indian Education program. She also served on several organizations, including the National Indian Health Board, and championed domestic violence awareness.

In addition to Smith, Charles is survived by sister Bernice Anderson at Lower Elwha; son Chuck Williams in Tacoma; daughter Lorna Mike in Olympia; grandchildren, great-grandchildren, nieces and nephews. She was preceded in death by husbands Elmer Charles of Lower Elwha and Chuck Williams of Duncan, B.C., and by sons Carl Charles and Gordon Sampson, both of Lower Elwha.

### Bernie Gobin Kai-Kai

Esteemed Tulalip tribal elder and leader Bernie "Kai-Kai" Gobin passed away May 4 at the age of 78.

One of the original commissioners on the Northwest Indian Fisheries Commission, Gobin actively fought for the 1974 Boldt decision ruling, which guaranteed tribes' rights to fish in their usual and accustomed areas.

Gobin was born in Darrington, to Joseph and Ruth Gobin. He learned to fish and hunt at an early age.

At 15, Gobin forged his birth certificate and ran away to Fort Lewis to enlist in the U.S. Army.

He married Delores Young at the age of 20, and they started their family of six children.

Gobin served on the Tulalip Tribes Board of Directors for 22 years, at times as chairman and vice chairman. He was the tribes' fisheries director for many years. In recognition of his lifetime of advocacy for tribal fishing rights and fishery resource management, the Tulalip fish hatchery was renamed the Bernie "Kai-Kai" Gobin Hatchery in 2000.

He was an active supporter of the Tulalip elders who revived the First Salmon Ceremony in the mid-1970s, and remained a leader in the ceremony. He also was a lifelong member of the Church of God.

Gobin was preceded in death by his parents; brother Thomas Gobin; sisters Harriet Erickson, Lavon Schneeheagen, Violet "Speedy" Parks and Ida Schlosser; daughter Cherie Ann Gobin; and grandchild Joseph Albert Gobin Jr. Bernie is survived by his wife of 58 years, Delores; numerous children, grandchildren and great-grandchildren.

