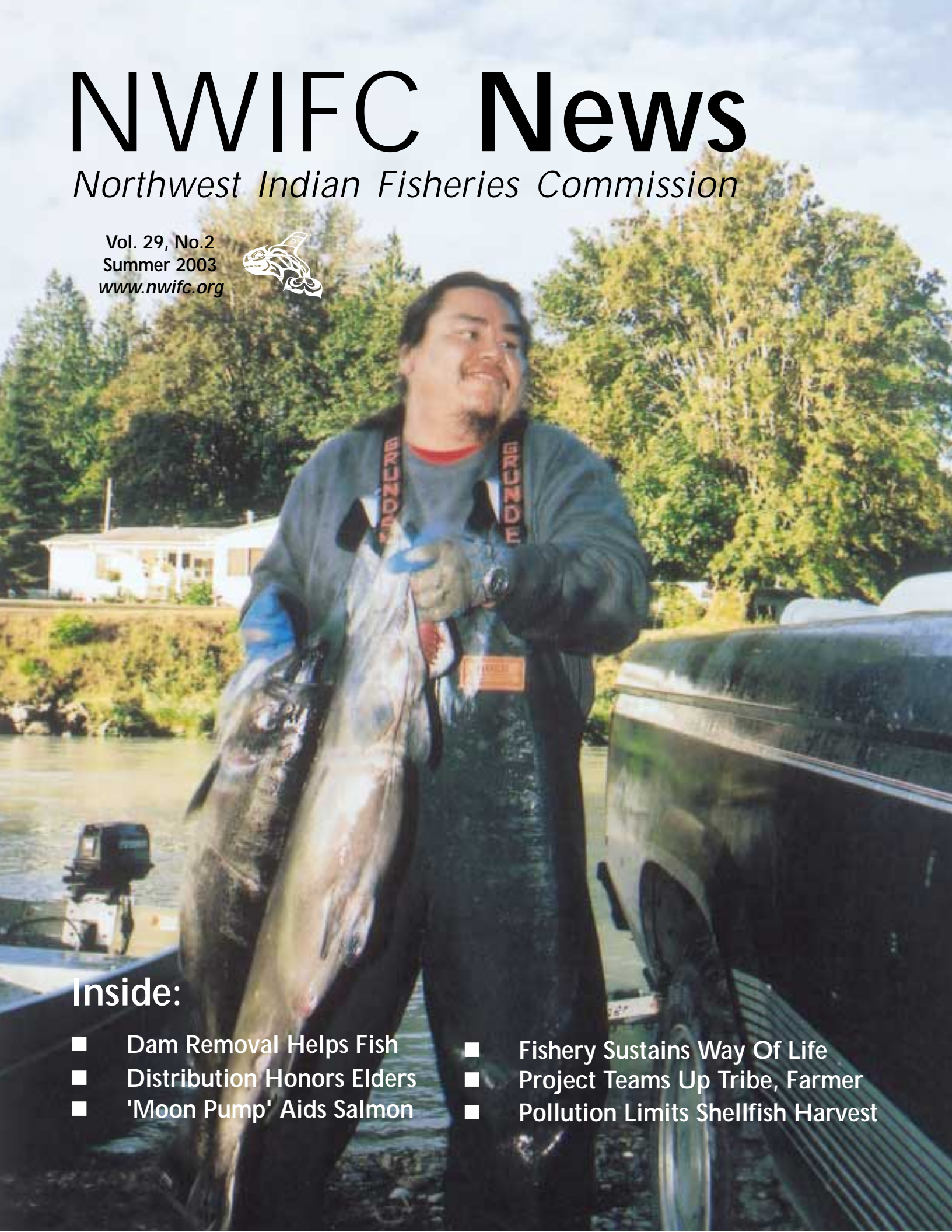


NWIFC News

Northwest Indian Fisheries Commission

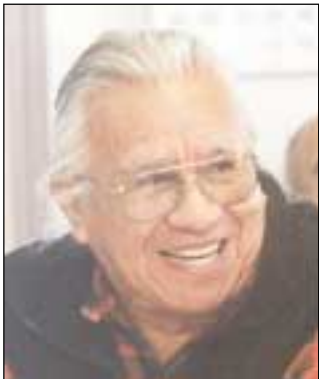
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Who We Are



For many years, the tribes of the Pacific Northwest have advocated positive relations with the non-Indian community. It's an historical fact that the footholds established by European and American settlers here would not have succeeded without our help. Our desire to be good neighbors continued through the years. People today are often amazed when they realize the level of pain tribes have received in return for their neighborly ways. But we're still here, and although we fight if

cornered, positive and effective government-to-government relations remains one of our top priorities.

That's just who we are.

Two centuries ago, we fed those who came seeking fortunes in pelts, minerals and other natural resources, even though their descendants would ultimately cut up our lands. We brought fish to fledgling farmers, even though the industries they developed would ultimately dam our rivers and leach poison into the sea. We brought clams and venison to the budding merchants, even though their government took our children away and their cities soon crowded us off our traditional homelands.

That's just who we are.

In my lifetime, I was arrested many times for exercising rights guaranteed by treaty with the government of the United States, yet I served as a U.S. Marine in the Korean War. Tribal members have sacrificed more lives and limbs per capita in U.S. foreign wars than any other ethnic group.

Today, my message to you is the same. I open my arms to you on behalf of my people and on behalf of the salmon and other resources that sustain us. I come to you with many concerns, and I do it with an open heart. It is time for you, whoever you are, to look around you and to realize that the ability of this land to sustain the continued onslaught of manifest destiny is at an end. The population has grown too much. The conversion of natural areas into concrete roads and cities is taking too large a toll. The poisons in the water are too lethal. The impacts of wanton takings are too severe. The footsteps of western society on this land are too heavy of a burden for it to bear.

That doesn't mean we want you to go away. You are here now and that makes you part of the land. But the time is now to look beyond your cars and houses and realize that your home is your watershed; your responsibility is to respect and care for it, as you would your mother. Meaningful responses to overuse and pollution, climate change and salmon decline are limited only by our ability to work together toward common solutions.

In the words of a great chief, we are all connected. Our arms, as always, are open to you. We want to be good neighbors. Now, as always, we value the spirit of humanity – and that is who we all are.

Northwest Indian Fisheries Commission News

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On The Cover: Mike Sanders, a Nisqually tribal fisherman, hefts a pair of chinook into the back of his pickup. Good ocean conditions led to better than normal returns of salmon this year.

Photo: E. O'Connell

Makahs Remove Dam To Help Fish

You can hear Wa'atch Creek flowing again after more than 50 years of silence. That's because the Makah Tribe removed a fish-blocking dam on its reservation that will open about a mile of salmon habitat on the stream near Neah Bay and offer a template for those who want to remove small dams inexpensively.

The dam was built in 1958 by the U.S. Air Force to increase the water supply to the base. Sediment from a logging operation above the dam filled the reservoir shortly before the Air Force abandoned the Neah Bay base in the late 1980s.

"In addition to adding instream habitat for fish, removing this dam will open several acres of wetlands important for juvenile fish rearing," said Andy Ritchie, biologist for the Makah Tribe.

The 25-foot dam was removed at a cost of about \$150,000. Winney Logging of Forks, the contractor selected to remove the dam, placed large logs in the stream bed below the dam and in the reservoir behind the dam to act as sediment filters. The area along the stream has few large trees that can be incorporated into the creek once it starts flowing.

"The idea is to provide nature with the tools to do its own healing," said Ritchie. "Wood creates micro-habitats that allow fish to thrive."

The logs are being used in an innovative approach to control the inevitable sediment flow downstream once the dam is removed. "I'm using natural systems as my inspiration for this project," said Ritchie. "We've also learned a lot about how wood functions in streams from observing engineered log jams we have installed to restore natural function to the Sekiu River."

The trees will create small mini-dams in the old reservoir and farther downstream, trapping sediment and slowing the river's flow. While the creek's flow adjusted following the dam's removal, some of the native fish and plants were temporarily moved until the stream stabilizes.

Chinook, coho and steelhead are all expected to benefit from the re-opened habitat. Removing the reservoir will also enhance fish habitat by reducing water temperatures known to harm fish.

The stream has been intensely monitored preceding the dam's removal and monitoring will continue for several years. Additionally, the tribe is monitoring an adjacent stream in



The Makah Tribe removed a 25-foot dam on Wa'atch Creek to improve fish habitat. *Photo: D. Preston*

the watershed to provide a comparison. "It will help us see what events are part of the stream's adjustment and what things may be climate-driven," said Jeff Shellberg, the tribe's hydrologist. How the stream establishes a channel once the dam is removed will be a primary focus of the monitoring.

"There are hundreds, maybe thousands of dams like this in the nation that aren't serving any purpose right now. I hope this provides inspiration that they can be removed with little cost and great benefit to fish. – D. Preston

Makah Tribe Signs Lease With Wave Energy Company

The Makah Tribe has signed a five-year agreement with AquaEnergy Group Ltd., a Mercer Island company, to work toward wave energy for the future.

The agreement permits the company to run a cable from their wave energy demonstration project 3.2 miles off Neah Bay to a utility pole on the reservation.

“This project could potentially benefit everyone,” said Nathan Tyler, Makah tribal chairman. “It has the possibility of giving us an additional inexpensive energy source.”

When AquaEnergy completes the extensive permitting process, they will produce a maximum of 1,500 kilowatts of energy per year for two years, as stipulated in an agreement with Clallam County Public Utility District. It would be enough energy to power 150 homes.

– D. Preston

Rescue Tug Begins Five-Year Seasonal Stint In Neah Bay

The rescue tugboat *Barbara Foss* began its first day of duty for the 2003-2004 winter season recently.

Unlike past arrangements, the Neah Bay-based tug’s funding is firm for the next five years. “This is a great step – to have the commitment from the state for multi-years and with bi-partisan support,” said Nathan Tyler, Makah tribal chairman. “We are very grateful for that support and we hope to get the federal support to have that protection year-round, not just in the winter months.”

Since 1998, a rescue tug has been stationed in Neah Bay from late fall through early spring. It has been called on more than 20 times to assist ships, while scores of near misses have been docu-

mented in ship logs.

The rescue tug stationed at Neah Bay also provides job training and employment opportunity for tribal members.

– D. Preston

Threat To Razor Clam Season Floats Off Washington Coast

Tribal members up and down the Washington coast are hoping marine toxin levels in razor clams don’t skyrocket again this year, further shortening an already limited harvest season.

Domoic acid, a naturally occurring toxin that can cause illness or death in humans, rose to historic levels in the clams last fall on all beaches on the coast. Recent readings had finally moved below minimum safety level of 20 parts per million (ppm), down from readings of more than 100 ppm. That respite allowed a one-day harvest in September on Kalaloch Beach south of Forks and a few days of harvest near Taholah.

“We had good readings – and then they jumped up dramatically on the first day of the dig and we had to shut down,” said Joe Schumacker, marine biologist for the Quinault Indian Nation. “We got about four days here near Taholah before the levels started going up.”

The Quinault Indian Nation and Quileute Tribe are testing the domoic acid levels weekly. Scientists are still working to understand what conditions lead to high levels of domoic acid in shellfish. The source of the toxin is *Pseudonitzschia*, an algae that grows in seawater and is fed upon by clams and is also found in Dungeness crabs. Eating shellfish with high levels of domoic acid causes amnesic shellfish poisoning. Severe symptoms include permanent short-term memory loss and coma. Less severe symptoms include nausea and vomiting.

The most worrisome development is the amount of *Pseudonitzschia* being seen by research boats off the coast. “If conditions for an onshore flow develop just right we could be in for another year like last year, where the levels go really high and we won’t have much of a season, if any season at all,” said Schumacker. “Past experience tells us that if we manage to escape the rest of September without a dramatic rise in levels, we might be able to salvage part of the season.”

– D. Preston

Sauk-Suiattle Tribe Gets \$1.1 Million Enforcement Grant

Treaty Indian tribes in Washington state are already leaders in fisheries enforcement. Now, the Sauk-Suiattle Tribe is taking those existing anti-poaching efforts to the next level.

In September, the Sauk-Suiattle Tribe received a more than \$1.1 million Community Oriented Policing Services (COPS) tribal resources grant from the U.S. Department of Justice. The money will allow Sauk-Suiattle to add four new natural resources officers, three full-time and one part-time, to the tribe’s enforcement staff – and purchase vehicles and technology needed to make a difference in the fight against poaching.

“Enforcement is one important piece in the responsible fisheries management puzzle,” said Jason L. Joseph, chairman of the Sauk-Suiattle Tribe. “In our area, we have a lot of territory to cover, and the new officers and vehicles will make a big difference.”

The new officers will supplement a strong and growing regional tribal enforcement team. In addition to the entire Skagit River system, including the tribe’s namesake Sauk and Suiattle rivers, the enforcement officers will monitor areas of the Stillaguamish River as well. – J. Shaw

Stillaguamish Tribe Targets 'Ghost Nets'

Sometimes called “ghost nets,” the abandoned fishing gear lurking in Northwest waters lives up to the nickname: derelict gillnets and crab pots are both hard to see and scary for scuba divers, boaters and fishermen. Floating freely, nets can trap and drown divers, foul propellers and otherwise threaten human safety.

The Stillaguamish Tribe is working to remove those threats. A new effort by the tribe will identify and remove derelict nets and other gear in the Port Susan area.

“My main concerns are the amount of wildlife killed in derelict nets and the risks this poses for people using Port Susan, like fishermen,” said Jen Sevigny, a wildlife biologist coordinating the project for the Stillaguamish Tribe. “This is a serious issue for all wildlife, but especially for threatened bird species such as the marbled murrelet and threatened fish species like chinook salmon.”

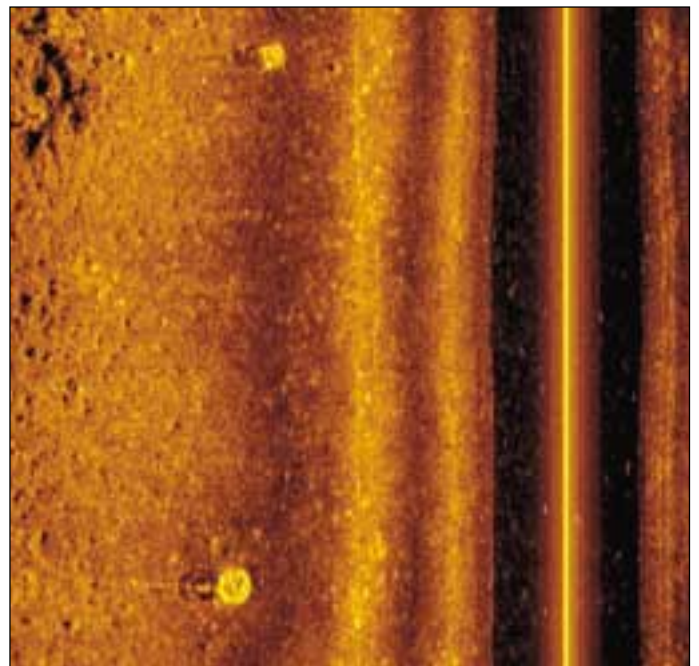
Protecting those resources becomes all the more important when species, such as the murrelet and chinook, are federally protected. Both species are listed as “threatened” under the Endangered Species Act.

The project will use advanced technology to catalog where the gear exists: high-resolution “side scan” sonar produces detailed images of the underwater environment, showing precisely where the ghost nets rest.

“The data gathered from these efforts will be valuable in two ways,” said Pat Stevenson, environmental director with the Stillaguamish Tribe. “First, the sonar information will give us a clearer picture of the types of habitat in Port Susan. Also, any species killed by these nets represent mortality that fisheries planners aren’t able to plan for. Finding out what impacts derelict gear causes in Port Susan will only help our fisheries management efforts.” – *J. Shaw*



The torpedo-shaped “tow fish” sends out a sonar signal that allows researchers to see abandoned fishing gear beneath the water’s surface. *Photo: J. Shaw*



This sonar image shows a commercial crab pot (lower rounded image); the upper square image is a recreational crab pot. *Photo: Courtesy Natural Resources Consultants*

Tulalips Receive Award For Net Recovery Effort

The Tulalip Tribes received a prestigious award recognizing their leading contributions toward eliminating derelict fishing gear from the Puget Sound area. Tulalip, along with its partners in the Northwest Straits Commission, sponsored a comprehensive program designed to clean up the dangerous abandoned gear beginning in 2002. In recognition of this effort, the Coastal American Project honored the cooperating agencies recently with a National Coastal America Award.

“We’ve been working with the Northwest Straits Commission to identify where derelict gear is located, fund its removal, and develop safety protocols to ensure that no

one gets hurt in the process,” said Daryl Williams, environmental liaison with the Tulalip Tribes. “This award is very gratifying, because it says that our work is paying off.”

The Tulalips provided funding for last year’s pilot project and helped develop safety procedures aimed at protecting the scuba divers charged with removing lost nets and crab pots. The multifaceted pilot project consisted of gear surveys, where derelict equipment was located, photographed and mapped; development of operational guidelines and training in all-important safety procedures; studies of the damage derelict gear can cause; and removal of problem nets, pots and other fisheries tools. – *J. Shaw*

Excavated Dirt From Jimmycomelately Restoration Project 'Put To Good Use'

Excavated dirt from a creek restoration project not only will improve salmon habitat, it also will benefit Sequim scenery.

Piles of dirt dug from Jimmycomelately Creek in Blyn are being used to landscape a stretch of highway in the Sequim area. The dirt is the byproduct of the Jamestown S'Klallam Tribe and the Clallam Conservation District's continuing habitat improvement project, which is designed to return the creek and estuary back to a healthy wetland for fish and wildlife.

The creek's new meandering channel will restore habitat important to Hood Canal/Eastern Strait of Juan de Fuca summer chum, which are listed as "threatened" under the federal Endangered Species Act. The creek also is home to steelhead and cutthroat trout, along with coho salmon. A new bridge for Highway 101 also will be built over the restored creek. A \$1.3 million grant from the state Salmon Recovery Funding Board was approved this year for the bridge project. The entire restoration project's price tag is about \$6 million, with the bridge accounting for 25 percent of the total cost. The project is mostly funded by state and federal grants.

– *D. Friedel*

Nisqually Stewards Learn The Ropes Of Salmon Recovery

It's fitting that one of the first classes for new Nisqually River habitat restoration volunteers would be held at a glacier high up on Mount Rainier, where the river itself begins.

Over two months, the Nisqually Tribe will train about 20 new volunteers for their Stream Stewards program. "The Stream Stewards are the muscle for habitat restoration projects up and down the Nisqually River," said Ann Marie Finan, volunteer coordinator for the Nisqually Tribe. "The knowledge they take from their training will hopefully add a level of understanding to their habitat restoration work."

Stream Stewards volunteers take part in habitat restoration projects throughout the Nisqually River watershed – helping remove invasive grass from creek channels, planting trees and distributing salmon carcasses, among other projects. "For me personally, I like having more information on the river and salmon," said volunteer Stacy Daniel of Eatonville. "This training has been really good. It's like I'm seeing the Nisqually River for the first time."

"The salmon recovery work that has been done here in the past few years would have been much more expensive without the Stream Stewards pitching in," said Finan. Last fall, for example, the Stream Stewards participated in a habitat restoration project in Roy, planting trees along the banks

of Muck Creek. Trees had to be planted to help prevent invasive grasses that had blocked salmon access from growing back. "If they had to hire people to plant trees, most likely the project would not have been done," said Finan. – *E. O'Connell*

Jamestown S'Klallam Tribe Publishes Book On 'Restoring The Dungeness'

The Jamestown S'Klallam Tribe has put together a new book entitled "Restoring the Dungeness: An overview of the Dungeness River Restoration Strategy."

"This publication summarizes what the Jamestown Tribe, the Dungeness River Management Team, and other community and regional partners have done over the past decade toward salmon recovery in the Dungeness watershed," said Ann Seiter, natural resources director for the Jamestown S'Klallam Tribe.

The publication looks at the Dungeness watershed's history, the status of Dungeness River salmon, the restoration strategy for the river's habitat and salmon, and citizen and technical involvement in the process. Funding for the publication came primarily from the Pacific Coastal Salmon Recovery Fund.

The Dungeness River supports chinook, chum, pink and coho salmon, along with steelhead and bull trout. Dungeness chinook, summer chum and bull trout are all listed as "threatened" under the federal Endangered Species Act.

For more information on the publication, contact the Jamestown S'Klallam Tribe at (360) 681-4643. – *D. Friedel*

Tribe Looks At Relocating Salmon Hatchery

The Lower Elwha Klallam Tribe is examining the possibility of relocating its Lower Elwha Hatchery because of an expected rise in Elwha River water levels resulting from the removal of two dams in 2007.

"There is a lot of uncertainty as to where the water level on the lower reach of the river is going to end up after the dams are removed," said Larry Ward, hatchery manager for the Lower Elwha Klallam Tribe. "We are looking into how this will affect hatchery operations and if the facility needs to be relocated."

The Elwha and Glines Canyon dams on the Elwha River are scheduled to be removed in 2007. The massive project is expected to take up to three years to complete. The dams were built illegally in the early 1900s without fish passage, cutting off a large portion of salmon spawning and rearing habitat on the Elwha River. Before the dams were built, the Elwha River produced healthy runs of all five salmon species, including legendary 100-pound chinook. – *D. Friedel*

Salmon Distribution Honors Elders

Upper Skagit tribal elder Verne McLeod has been a fisherman for 40 years. In that time, he's gone after all types of salmon, especially the succulent sockeye. This is a man who knows his fish.

"And tonight," laughs McLeod, holding up a cooler filled with Baker River sockeye, "I'm going to get to know *these* salmon up close and personal."

The Upper Skagit Tribe has honored its elders, who continue to play a central role in the community, since before anyone can remember. While honoring elders takes many forms, one of the most important involves food. It has always been the duty of younger tribal members, especially fishermen, to provide for the previous generation.

On July 23, the Upper Skagit Fisheries Department continued this ancient tradition by delivering fresh Baker River sockeye salmon to local tribal elders. Besides providing a valuable food source for older native people, many of whom are unable to fish for themselves, this is an act of supreme cultural significance that signifies the importance of elders.

"Our tribal members have always eaten salmon. Culturally and spiritually, our elders have a fundamental bond with the fish," said Scott Schuyler, Upper Skagit natural resources policy coordinator. "This is a way of maintaining that bond, while at the same time showing respect for the elders."

The elders responded to that respect, coming out for their share of fish. Among those arriving at the Upper Skagit tribal center early to pick up the traditional food was Henry "Smokey" Lyle, at 90, the tribe's oldest member.

In the past, salmon runs were plentiful. Today's dwindling salmon runs,



Upper Skagit elder Imogene Bowen accepts a Baker River sockeye from Larry Peterson, tribal fisheries technician. *Photo: J. Shaw*

though, deprive elders of an ancient source of nourishment.

"When you grow up eating certain food – food that your people have eaten for centuries – your body adapts to the nutrition it provides," said Schuyler. "Salmon is perfect food for Indian people, and the decline of salmon runs has caused health problems among us, especially our elders, to skyrocket."

A less traditional diet, higher in sugar and saturated fats, is a major reason for extremely high rates of diabetes in Indian

Country – where the rate of diabetes deaths is 420 percent the rate of the gen-

eral population. Failing health also prevents many older natives from getting out into the community or fishing for themselves, Schuyler said.

"Some of our elders are unable to fish for themselves, so distributing fish like this is important," he said.

There's a second problem with the local fishing economy, though. While many salmon runs are threatened and unfishable, the rise of cheaper and lower-quality Atlantic salmon has driven prices down. This stops many tribal fishermen from making a living.

Because of tribes' ancient bond with the salmon, fishing as a cultural act remains crucially important. Tribal fishermen always fulfill their traditional responsibility of feeding the elders. When buyers are scarce, the tribe donates fish to needy families – tribal and non-tribal alike. In 2002, the Upper Skagit distributed over 12,000 pounds of salmon to community food distribution organizations.

"We catch salmon because it is a way of life. That way of life fills the community smokehouses and allows us to distribute plenty of fish to hungry people," said Schuyler. "Whenever we have the chance to help those in need, the Upper Skagit Tribe does so." – *J. Shaw*



Upper Skagit elder Henry 'Smokey' Lyle, the tribe's oldest member, holds up a Baker River sockeye. *Photo: J. Shaw*

'One-Lung Moon Pump' Aids Salmon

A one-of-a-kind cooperative project backed by the Stillaguamish Tribe and the Stillaguamish Flood Control District is protecting wild salmon – and has already saved taxpayers hundreds of thousands of dollars.

By installing a flow-control device in the Old Stillaguamish Channel, a remnant channel that was once the main channel of the Stillaguamish River, the tribe and the district will prevent a two-mile “dead zone” for fish from developing during summer months. The project was five years in the making and made its first test run in September.

“This is a perfect example of tribes, community organizations and individuals working together for a worthy cause,” said Pat Stevenson, environmental director with the Stillaguamish Tribe. “Through cooperation, we improved important fish habitat in an efficient and cost-effective manner.”

The channel is filled by each tide with an average of 5.6 million gallons of both fresh and brackish water. In the dry season, though, almost all of that water recedes as the tide changes. The shallow water left lacks oxygen and overheats, becoming inhospitable to fish. Chinook and coho rely on the channel, while chum and pink salmon are also found there; char and sea-run cutthroat use the area as well.

Originally, local agencies were working with the U.S. Army Corps of Engineers, but the remedy the corps proposed was costly and overkill from the local perspective.

“They were trying to build the Ballard Locks, and we didn’t need that,” said Chuck Hazleton, chair of the Stillaguamish Flood Control District.



Pat Stevenson, environmental director with the Stillaguamish Tribe, checks out a flow control device that is helping fish in the Old Stillaguamish Channel. *Photo: J. Shaw*

Since only minor contract work was required, the tribe and the district were able to keep the effort to a shoestring budget. Building the device cost around \$95,000, and most of the project’s total cost came in the form of donated staff time, equipment and materials.

A state Salmon Recovery Funding Board grant of \$250,000 secured by the tribe and the district, originally intended to help provide matching funds for the Army Corps project, instead ended up funding the entire effort.

The result: an innovative device that works like a traditional tide gate – but in reverse, keeping salt water in instead of keeping it out. When the tide comes in, flap-like gates made of plastic and plywood become buoyant and push open. When the water tries to flow back out, the flaps close, trapping the water. At slack tide, they re-open, allowing water to move in and out, flushing stagnant water from the channel. The device will be in place from June through September, the months when the “dead zone” is created.

Because of the unconventional design and function of the device, the tribe and the district shy away from referring to it as a “tide gate.” The proper terminology, though, is still under discussion. Is it a “flow-maintenance structure”? A “flow enhancement structure”? A “tide control valve”? Or, perhaps most descriptive, a “reverse tide gate”?

“I’ll tell you what it is: it’s a one-lung pump run by the moon,” said Hazleton.

“That’s an uncommon name for an uncommon device,” said Stevenson, “And it fits, because the project was brought about by uncommon cooperation.” – *J. Shaw*

'That's an uncommon name for an uncommon device...brought about by uncommon cooperation.'

– Pat Stevenson
Environmental Director
Stillaguamish Tribe

The corps’ proposal carried a \$436,000 price tag, which would have also required local agencies to supply substantial matching funds. Instead, the flood control district did the design and construction themselves, working with local retired engineer Max Albert, one of the project’s most vocal advocates.

Tribes Help In Salmon Rescue Effort

When the City of Tacoma decided it wanted to remove a concrete pipeline casing that for years has injured adult salmon returning to the White River, the top priority was getting those migrating fish out of the way – so they called on the best fish handlers in the area, the Muckleshoot and Puyallup tribes.

“Everyone’s biggest concern was to make sure no fish were left in the part of the river that had to be dewatered to remove the pipeline casing,” said Russ Ladley, resource protection manager for the Puyallup Tribe of Indians. “Getting the fish out of the area is a pretty simple procedure, but it means that you have to be in the river working constantly until the job is done.”

The six-foot-high concrete pipeline shell was built in 1912, located about 23 miles above the river’s mouth to protect a utility crossing from the river’s erosive action. Over the years the protective shell has eroded substantially, exposing steel reinforcement rods that tear into migrating salmon.

'We needed to be ready for anything.'

– *Richard Johnson
Hatchery Manager
Muckleshoot Tribe*

In addition to the Puyallup and Muckleshoot tribes, several state and federal agencies, the City of Tacoma and other local groups contributed to the late August “fish haul” in advance of the pipeline casing’s removal. Two temporary dams were built at either end of the 300 yard long work area, as crews began rescuing adult salmon that had been holding in deeper pools. As



Eric Marks, Puyallup tribal biologist, works with other fish rescuers to pull a seine across a section of the White River. *Photo: E. O'Connell*

the work area was being dewatered, Puyallup tribal crews pulled seine nets across the riverbed, hoping to push out whatever fish were in that stretch of river.

Muckleshoot tribal staff from the White River Hatchery sorted and counted all of the adult salmon. The adult salmon were either released above the work area, or in the case of hatchery chinook, were taken to the White River hatchery. By the end of the three day effort, the crews had rescued 33 adult chinook, coho, and pink salmon and more than 250 juvenile salmon.

The White River, true to its name, carries tons of glacial sediment this time of year, so crews trying to save fish weren’t sure how many were there when work began. “There could have been thousands of salmon in there; there could have been just a handful,” said Richard Johnson, White River Hatchery manager for the Muckleshoot Tribe. “We needed to be ready for anything.”

The real success will occur when the removal of the pipeline cap is complete in late September. The water pipeline

will be reburied deep enough that the river is not likely to damage it. “This was a minor structure on the White River in terms of its size, but it had an effect on salmon runs that went well beyond its relative bulk,” said Ladley.

Every year, about half of the adult salmon coming back to a fish trap just upstream of the pipeline crossing had injuries that were thought to be caused by the steel reinforcement rods. “By the time adult salmon get this far up the White River they have already taken a pounding,” said Johnson. “But these injuries are pretty distinctive: Fresh, deep wounds near the jaw aren’t typical to adult salmon. We used to see a lot of those types of injuries.”

In 1999 the Puyallup Tribe and the City of Tacoma removed much of the rebar that was sticking out of the structure. That turned out to be a temporary solution at best, since the pipeline shell continued to erode, exposing more steel reinforcement rods. “We always knew that it would have to come out of the river,” said Ladley. “It was just a matter of finding the money and finding the time.” – *E. O'Connell*

Tribes, Farmer Launch Salmon Recovery Project

The latest salmon recovery project from the Swinomish Tribe and the Skagit System Cooperative (SSC) isn't just critical for fish; it's a positive step, across daunting barriers, toward cooperative environmental work in the Skagit basin.

SSC, the natural resources consortium of the Swinomish, Upper Skagit and Sauk-Suiattle tribes, is collaborating with local farmer Gail Thulen on a comprehensive habitat restoration plan for 300 acres of Swinomish tribal land – which Thulen leases to grow wheat, peas and potatoes.

“This project is crucially important because a huge amount of habitat that isn't currently accessible to *any* salmon species will be made accessible to *all* salmon species,” said Lorraine Loomis, fisheries manager with the Swinomish Tribe. “But it also shows that the tribes' salmon recovery agenda applies to our own land, too – and that we want to work cooperatively. We'll do whatever we have to do to save these fish.”

The cooperation with Thulen is noteworthy because disputes between tribes and the agricultural community often grab headlines – but SSC always pursues mutually beneficial solutions first.

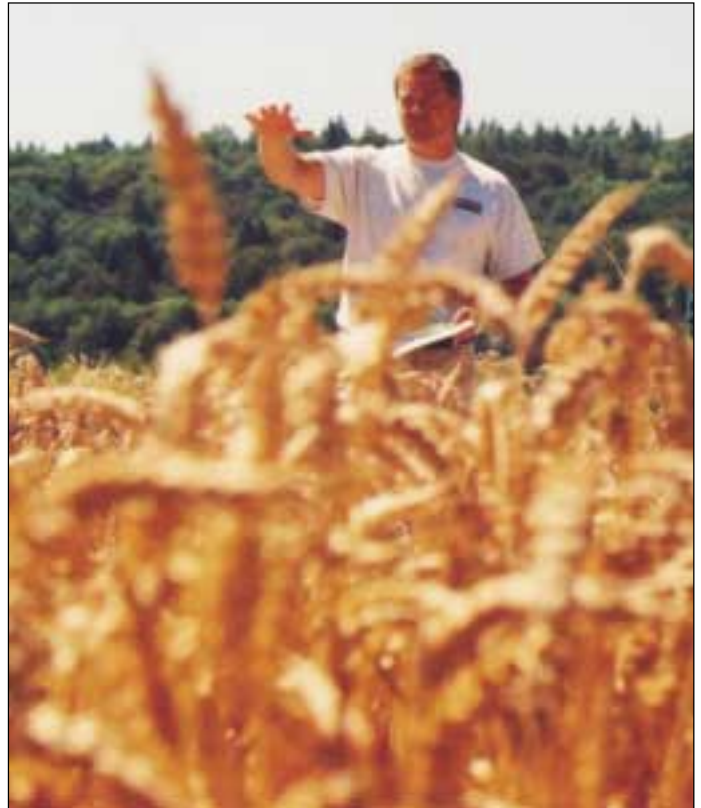
“Farms and fish can co-exist – we just have to work together and find creative solutions,” said Loomis. “The work we're doing shows that cooperation is possible, and that we can bring back our wild salmon runs without seriously impacting agriculture.”

Known as the Smokehouse flood plain, the site on the Swinomish Tribe's reservation near La Conner extends north up to the Highway 20 Bridge. In addition to essential habitat improvements throughout the site's 300 acres, SSC work will open access to five miles of the Swinomish channel network currently unavailable to salmon.

Immediate benefits are expected for sockeye, pink and chum salmon, which should use the area in high numbers; coho and threatened chinook will also get a boost. Of particular importance will be SSC's restoration of marsh habitat, which is in short supply and critical to salmon production in the Skagit basin.

Highlights of the restoration plan include:

- Replacement of failing, fish-blocking tide gates;
- Re-planting 50 streamside acres with native vegetation; and
- Improving connections between the flood plain's creeks, sloughs and channels – which will enhance the site's natural habitat functions.



Steve Hinton, director of restoration for the Skagit System Cooperative (SSC), stands in a wheat field owned by the Swinomish Tribe and leased to a local farmer. The tribe, SSC and the farmer are collaborating on a major salmon recovery effort. *Photo: J. Shaw*

While performing the extensive restoration work necessary, the tribes will take great care to minimize any risk to Thulen's crops. After dredging sediment from the sloughs to improve habitat connectivity, tribal crews will use that material to shape berms designed to protect the adjacent agricultural land from salt water intrusion. Finally, for each acre of land impacted by the project, either by decreased productivity or exclusion from tilling, the tribe will financially compensate Thulen.

“For the past 150 years, tribal people have watched fish runs being depleted by habitat destruction. We know what it's like to watch your livelihood, your food source, disappear,” said Loomis. “That's why the last thing we want to do is cause unnecessary problems for agriculture, and why we're taking every imaginable precaution.”

Funding has come from multiple sources: the Wetland Reserve Program through Natural Resources Conservation Service supported the riparian planting; the state Salmon Recovery Funding board supplied money for tide gate replacement and monitoring; and the Bureau of Indian Affairs provided funds for the initial investigations into the project. The restoration work is set to begin in 2004.

“We hope this serves as a model for future environmental restoration,” said Loomis. “If we work together, we can find projects that are acceptable to everyone – and that's the best way to save the salmon.” – *J. Shaw*

Fishery Sustains Tribes' Way Of Life

Each summer, fishermen are lured to one of the most popular fisheries in western Washington. The goal is the same for everyone: catch coho salmon making their way back to the Big Quilcene River. But while most anglers come out for the sport, others are fishing primarily for a meal.

For several treaty Indian tribes, the Quilcene hatchery coho fishery provides a source of food for families living on reservations, where unemployment can range as high as 80 percent. Harvested salmon also play a big role in the tribes' traditional ceremonies.

"This subsistence fishery is vital to the tribes. Harvested coho salmon from the Big Quilcene provide food for tribal members, from the youngest to the oldest. And, most importantly, this fishery preserves the tribes' culture," said Randy Harder, executive director of the Point No Point Treaty Council. The council is a natural resource management agency that serves the Port Gamble S'Klallam, Jamestown S'Klallam and Lower Elwha Klallam tribes.

Recreational anglers and tribal fishermen share the same stretch of river during the coho sport fishery, which runs



Skokomish tribal fishermen harvest coho during a subsistence fishery on the Big Quilcene River. *Photo: D. Friedel.*

from Aug. 16 to Oct. 15. Hundreds of sport anglers licensed by the State of Washington fish the river each day. However, tribal participation during the Big Quilcene subsistence fishery is much smaller – about a dozen tribal members. Because there are only a few tribal fishermen, collectively taking only a small part of the total coho harvest, there is no limit on the number of coho they can catch daily.

"It's important to remember that these tribal fishermen are not out there for the sport of catching a coho salmon, they are out there to provide a meal for their families," Harder said. "And with so few subsistence fishermen on the river at one time, they barely make a dent in the hatchery coho run, so there are more than enough coho salmon for everyone."

Occasionally, when runs are large enough, the Treaty Council may authorize net fisheries, in which tribal fishermen primarily use dip nets, on surplus coho returning to the U.S. Fish and Wildlife Service's Quilcene National Fish Hatchery. The commercial fisheries, if any, are limited to the vicinity of the hatchery outfall, upstream of the U.S. Highway 101 crossing, away from the area open to recreational fishermen. Like the hook-and-line tribal subsistence fishery, the surplus harvest does not affect the recreational fishery or impact threatened Hood Canal summer chum salmon.

Over the past several years, the tribes have worked hard to help Hood Canal summer chum recover. The tribes and the State of Washington have in place a comprehensive summer chum recovery plan, which addresses harvest and hatchery management, as well as habitat protection and restoration measures.

– D. Friedel

Generations



Annie Leslie Fredrick, Squaxin Island Tribe, lands her canoe while fellow tribal members Willie John (left) and John John try out a new dugout canoe on southern Puget Sound in a photo taken in the early 1900s.

Photo: Courtesy Squaxin Island Tribe

Pollution Halts Dungeness Bay Shellfish Harvest



Dungeness Bay tidelands will be closed to shellfish harvesting this winter because of high pollution levels. Photo: D. Friedel

All of Dungeness Bay will be closed to shellfish harvesting this upcoming winter, eliminating oyster and clam gathering opportunities for Indian and non-Indian harvesters. The Washington Department of Health officially closed the bay to tribal and non-tribal shellfish harvests from November through January, when water quality fails state and federal standards.

That's a big blow to the Jamestown S'Klallam Tribe, which has always depended on the bay for shellfish. Not only does the tribe harvest clams and oysters along the beach for ceremonial and subsistence purposes, the tribe also operates a commercial shellfish farm in the bay. During the three-month closure, which coincides with the holiday season when clams and oysters are in high demand, the tribe misses out on much-needed revenue.

'We have this big problem of a polluted bay and the first weapon against it is information.'

*– Lyn Muench
Natural Resources Planner
Jamestown S'Klallam Tribe*

In recent years, portions of the bay have been closed to recreational and commercial shellfish harvesting because of high levels of fecal coliform. Because oysters and clams filter food from water, fecal coliform sometimes ends up in the tissue of shellfish, making people sick if eaten. Over time, however, shellfish will flush the pollutants from their system.

“The pollution problem is tough for the tribe as well as other residents in the area,” said Lyn Muench, natural resources planner for the Jamestown S'Klallam Tribe. “We've had to work with different groups and try different things to identify the problems and get the word out about what can be done. The pollution in the bay is ‘non-point,’ meaning that it comes from numerous scattered small sources. We have this big problem of a polluted bay and the first weapon against it is information.”

Since 1997 – when water samples began showing signs of pollution – the tribe has taken part in a coordinated effort to clean up the water in and around Dungeness Bay.

The tribe has:

- Helped monitor water quality in the bay, as well as the Dungeness River and its tributaries.
- Worked with Clallam County to put together a clean water district, which includes the entire Dungeness watershed.
- Conducted two water circulation studies that identified where pollution was coming from and how it flowed throughout the bay each day.

The tribe, along with Clallam County, the Clallam Conservation District, the Department of Ecology, and other state agencies, also has worked to educate the public about the pollution problem by hosting workshops and seminars for residents living in or near the Dungeness watershed.

Because there are numerous sources

of pollution located throughout the watershed, fixing the problem isn't easy. And as the Dungeness Valley's population continues to grow – having tripled in the last 25 years – the pollution problem could grow with it.

Some progress, however, has been made. The Clallam Conservation District has helped some local farmers by sharing the cost to put up fences to keep livestock away from the river and its tributaries. The tribe has passed through some of its water quality funds from federal sources to the Conservation District and the county to extend this cost-share concept to such projects as manure composting, and inspection and repair of septic systems. The tribe also has sponsored a series of workshops at the Dungeness River Audubon Center, which it manages in partnership with several non-profit organizations.

“It's a creative use of our water quality funding to try and get at resolving this complicated problem in the valley,” Muench said. “Working with these other organizations helps address the problem and get the word out about what people can do to help. Harvesting clams and oysters in Dungeness Bay is important to the tribe. We will continue to work hard to solve this problem, because we want to ensure that the entire community can gather shellfish in this bay and not have to worry about pollution. But there is still a lot of work that needs to be done.”

– D. Friedel

Salt Creek Habitat Focus Of Survey

In the late 1940s, low water levels in Salt Creek left juvenile coho salmon marooned along a stretch of the stream running through John McFall's property. Using buckets and a wheelbarrow, McFall scooped up the small salmon and transferred them to a nearby tributary flowing with water.

"Three years later, I started seeing salmon return to the tributary where I placed those fish," said McFall, whose family has owned and worked land in the Salt Creek watershed for about a century. "To this day, I can take you up there around Thanksgiving time and show you spawning salmon."

Over the past several decades, McFall has done his part to help salmon and restore habitat on his property along Salt Creek. But elsewhere throughout the watershed, which is about 15 miles west of Port Angeles, more work is needed. With the help of local landowners, the Lower Elwha Klallam Tribe and the North Olympic Salmon Coalition (NOSC) are taking on the task of identifying what can be done to improve fish habitat. The two groups have teamed up to survey the Salt Creek watershed this summer and develop a list of restoration projects to improve salmon habitat. They will then seek funding for the projects on that list, and work with local property owners to make those improvements.

"Salt Creek is a watershed that we know very little about," said Mike McHenry, habitat biologist for the Lower Elwha Klallam Tribe. "We need all the help we can get from local landowners in the area. We want their input and we want to work with them because they are the ones that know the watershed better than anyone else. The more landowners that are willing to work with us, the more complete our assessment will be of the watershed, and the better our chances of restoring the habitat and bringing back the fish."

'When it comes to salmon restoration, the biggest thing is to get out there and really look at the watershed, and take the time to talk to the landowners.'

*– Mike McHenry
Habitat Biologist
Lower Elwha Klallam Tribe*

So far, the tribe and NOSC have found correctable problems along many of the streams in the watershed. Some fish blocking culverts need to be fixed, and the addition of woody



Lower Elwha Klallam tribal fisheries technician Raymond Moses, Nez Perce, takes measurements near a culvert in the Salt Creek watershed near Port Angeles. *Photo: D. Friedel*

debris and streamside vegetation will improve spawning and rearing habitat. Woody debris in the stream provides protection for fish from predators, while vegetation along the creek provides shade that cools the water and keeps it at an ideal temperature for salmon.

"The hope is to categorize these projects that need to be done, seek grants for the projects and then work with the local landowners to fix the problems," said Craig Isenberg, outreach coordinator for NOSC. The Port Townsend-based coalition is a private, nonprofit organization dedicated to restoring and enhancing salmon habitat in Clallam and Jefferson counties. "So far, we are pleased with the response we have gotten from some of the local landowners. We have had a greater response than expected, but we haven't heard from everyone in the area yet."

About 25 miles of streams are accessible to fish in the Salt Creek watershed, which produces coho salmon, along with steelhead and cutthroat trout. Before non-Indian settlement, Lower Elwha Klallam tribal members harvested salmon at the mouth of Salt Creek in Crescent Bay. Today, the area is dotted with state and industrial forestland, rural residences and farms. Settlement of the area has taken a toll on salmon and trout populations, which are significantly smaller than they were in the past.

"When it comes to salmon restoration, the biggest thing is to get out there and really look at the watershed, and take the time to talk to the landowners," McHenry said. "That helps us figure out what the restoration priorities are, why salmon and trout numbers are fluctuating, and what we can do to help those fish populations become abundant and remain healthy." – *D. Friedel*

Nearshore Areas Critical For Salmon

Salmon born in streams draining to the calm inland sea of Puget Sound have a unique opportunity to live their early lives in a protected saltwater environment. “The Puget Sound nearshore is unique in terms of salmon habitat,” said Scott Steltzner, fisheries biologist for the Squaxin Island Tribe. “How well that nearshore environment provides a place for young salmon to feed and avoid predators is critical to their future development.”

The Squaxin Island Tribe started seine netting several beaches this summer looking for juvenile salmon and hoping to get an idea of what kind of habitats they use most. “The fish we are seeing will have the opportunity to hang out inside Puget Sound before they have to face the open ocean, where they will grow into adulthood,” said Steltzner. “We are studying how the life cycle of salmon is related to the nearshore environment of deep southern Puget Sound.” This year’s seining project is a pilot for a more thorough study planned for next summer. Both are part of a much broader investigation by the tribe into nearshore salmon habitat.

In other studies connected to the larger effort, the tribe has mapped spawning sites for forage fish, the favorite food for juvenile and adult salmon. They have also studied the makeup of marine vegetation. “By studying as much as we can about the salmon life cycle and how it relates to the South Sound nearshore, we can make better decisions on what habitat is most necessary to protect or restore,” said Michelle Stevie, habitat biologist with the Squaxin Island Tribe.

With help from the National Marine Fisheries Service (NMFS), next summer’s beach seining study will move into deeper water. The federal agency will likely be tow netting the deep south sound. Tow netting is accomplished by a large net literally towed behind a vessel. The possible tow netting will give the tribe an opportunity to see a species they haven’t seen much of yet during beach seining.



Squaxin Island Tribe fisheries staff seine nearshore habitat as part of an examination of its importance in the salmon life cycle. *Photo: E. O’Connell*

“Because the tribe operates a coho net pen facility and juvenile coho are often seen in freshwater studies, we expected to see a lot of coho salmon. We’re seeing a lot of chinook and some chum, but only a few coho,” said Steltzner.

We are hypothesizing that because coho salmon are much larger than other salmon when they enter the saltwater, they swim deeper than chinook or chum salmon. “It’s not easy to catch deep swimming fish with a beach seine. If NMFS expands their research this far south, we can get a more complete look of not only juvenile salmon usage of the nearshore, but also of almost the entire inland saltwater,” he said.

“To understand how we can protect salmon and restore their habitat, we need to first understand how they use the nearshore habitat,” said Jim Peters, natural resources director for the Squaxin Island Tribe. “We have a much better handle on how salmon use their freshwater habitat than saltwater, even though salmon spend much more of their life in the ocean. We need to find out what happens out there.” – *E. O’Connell*

Puget Sound Fast Facts

- Puget Sound was named by Capt. George Vancouver for Lt. Peter Puget, who examined the southern part of the sound in May of 1792. His name originally was given to the waters south of Vashon Island, but has since been extended to most of the great inland sea of western Washington.
- Puget Sound extends about 83 miles south from Point Wilson near Port Townsend to Budd Inlet.
- Puget Sound is an estuary – a semi-enclosed, glacial fjord where saltwater is mixed with freshwater draining from more than 10,000 streams and rivers.
- Puget Sound is surrounded by 2,500 miles of shoreline.
- Made up of a series of underwater valleys and ridges, Puget Sound has an average depth of 450 feet.

Program Offers Teens Jobs, Focus For Future

Makah tribal member Daleena Lyons, 17, seemed unfazed as she scooped up a pile of river otter feces with a gloved hand. “Cool. I can see an otolith (fish ear bone) in this one,” she said, carefully placing the scat in a plastic collection bag.

Lyons and co-worker Saxon Parker were walking a remote section of Lake Ozette shoreline near Neah Bay searching for otter scat as part of their summer work. It might seem unusual to find teens excited about such work, but that’s part of the design of the Makah Marine and Environmental Sciences Youth Development Program. The program provides employment for tribal youth and instills enthusiasm about the sciences, giving them work skills for careers later on. The program is geared specifically toward students who plan some kind of post-high school education, including college or a trade school.

Teens collected more than 300 samples of otter scat the past two summers to learn more about river otter and seal predation on Lake Ozette sockeye, listed as threatened under the Endangered Species Act. The group prepared the scat for analysis and sent them to the National Oceanic and Atmospheric Administration (NOAA) lab in Seattle to determine if sockeye are a part of the river otter diet.

“We’ve also looked for signs of harbor seals in the lake for the past two years,” said Bill Monette, a teacher at Neah Bay High School who helped create the youth program. “We’ve seen them in the river, but not in the lake.”



Makah tribal youth collect river otter scat from a rock in Lake Ozette as part of a tribal youth environmental education program. *Photo: D. Preston*

About 20 Makah students were employed in the program this summer. Divided into teams, the youths participated in a variety of tasks, including performing necropsies (dissections) on several porpoises that washed ashore, a 13-foot squid caught by a fisherman, a seal and an adult whale that washed up on Shi Shi Beach.

“I really learned a lot from doing the necropsies –and it was really interesting,” said MaryJane Ides, 19. The students helped obtain samples from the carcasses under the supervision of Pat Gearin, a NOAA marine biologist. “We worked to determine cause of death, sent skin samples in for genetic work, took blubber and muscle samples, and in some cases, sent samples in to be screened for contaminants,” said Gearin.

Ides and six of her fellow students are attending Peninsula College in Port Angeles and said their experience will help them in their career choices. “I’m working on my two-year degree to be a teacher and then I will transfer to a four-year college,” said Samantha Moniz, 19. “Doing these kinds of hands-on projects gives me ideas about how to make classes interesting for my students.”

Students also interviewed some of the Makah elders as part of their work, learning about traditional uses of marine mammals, such as whales and seals as well as clams and groundfish, and documented those interviews. They also pulled 20 sections of old fishing nets from the Sooes River, and assisted with a dam removal on Wa’atch Creek, among other activities.

The project was funded by the tribe, NOAA, Washington State Sea Grant, and a large grant from the U.S. Environmental Protection Agency (EPA). Students presented reports on their projects to EPA officials and a large community gathering at the end of summer.

“This was a good job – a fun job. I hope to do it next year,” said Saxon Parker. “I liked hiking around, being outside and being on the water. It gives me options to think about for college.” – *D. Preston*



Saxon Parker and Daleena Lyons examine a large fallen cedar along the shore of Lake Ozette. *Photo: D. Preston*

Coho Fishery Protects Wild Stock

On a sunny morning, Squaxin Island tribal fishermen stretch a net from the beach out into Zangle Cove, just north of Olympia. Bob and Karen Farr are setting a beach seine for coho salmon; this will be their second pull of the day.

“We’re looking for bubbles or ripples, any sort of sign that there are fish in there,” said Bob Farr. “Once they’re there, we can pull the net.” The coho will follow the outgoing tide into the net, he said. It looks more like hunting than fishing.

Suddenly, three coho break the surface inside the net, and dive back down. Bob Farr pulls the net, closing the circle on the trapped salmon. The Farris are two of dozens of Squaxin Island tribal fishermen that harvest coho salmon in the South Sound. Most of the salmon are coming from the tribe’s net pen facility in Peale Passage, which provides sus-

tainable treaty and sports fisheries in southern Puget Sound.

“This fishery on net pen coho is a good example of a harvest opportunity being made available, while a relatively weak wild salmon stock is protected,” said Joe Peters, tribal fisheries biologist. In recent years the tribe studied catches in the South Sound beach seine fishery and discovered that because of location, timing and gear restrictions up to 97 percent of the fish tribal fishermen were harvesting were hatchery fish.

The tribe’s Peale Passage facility releases 1.8 million juvenile coho a year. “We were pleased to discover that virtually all the fish being caught were hatchery fish,” said Peters.

“Squaxin fishermen are simply not fishing where wild coho are, so they rarely see them,” said Peters. Because net pen salmon have no river or stream to return to, they mill around the area close to Peale Passage. Wild coho, on the other hand, don’t linger in the outside passages, and head to nearby inlets where Squaxin Island fishers are not allowed.

Since the 1970s, the tribe has seen decreasing numbers of wild coho returning to the streams in the South Sound. “The harvest impacts on wild coho stocks are very limited,” said Peters. “The reason wild coho are having a hard time is because habitat is being lost and degraded.” Creating sustainable fisheries without impacting weak wild stocks alone won’t rescue imperiled salmon stocks.

“In addition to strong harvest and hatchery management, there needs to be dedication to habitat protection and restoration,” he said. “Solving the habitat question is the most important aspect to ensure these salmon will always keep returning.” – *E. O’Connell*



Squaxin Island tribal fisherman Bob Farr hauls in a beach seine at Zangle Cove north of Olympia. *Photo: E. O’Connell*

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