



Northwest Indian Fisheries Commission

NWIFC News

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The Legacy of Billy Frank Jr.

by Lorraine Loomis
NWIFC Chair



It has been a long year since Billy Frank Jr. walked on from this world on May 5, 2014. We deeply miss our longtime leader and good friend. We will continue to stay on the course he set for us as sovereign

nations with treaty-reserved rights who co-manage the natural resources given to us by the Creator.

During this past year, Billy's life as a champion of tribal sovereignty, treaty rights and natural resources has been honored widely by tribal, state and federal governments, conservation organizations and others.

His March 9 birthday has been declared a holiday by many of the treaty Indian tribes in western Washington. At the Squaxin Island Tribe, a street leading to the tribe's natural resources building has been named Billy Frank Jr. Way.

The state of Washington gave Billy a Medal of Merit to honor his lifetime of service to all of the people of Washington. The award recognizes that Billy's "courage, determination and leadership resulted in unique and meaningful contributions to our state and helped make Washington a better place to live," said Washington Gov. Jay Inslee.

The state Senate passed a resolution recognizing his legacy. "Through his lifetime of kinship with the natural world, Billy Frank Jr. helped create a healthy environment that can sustain salmon, achieved change, and brought diverse communities together around shared desires through nonviolent means," according to the resolution.

Watch a video of leaders from the Kuskokwim River Inter-tribal Fish Commission and NWIFC speaking about the lasting influence of Billy Frank Jr. at go.nwifc.org/kritfc.

At the federal level, a bill to rename the Nisqually National Wildlife Refuge for Billy has been introduced by U.S. Rep. Denny Heck. The bill also would create a national historic site at the refuge to mark the place where the Medicine Creek Treaty was signed in 1854.

There is no question that all of these awards and honors are sincere and well-deserved. They are important because they help us remember Billy and what he stood for: the protection of tribal cultures, sovereignty, treaty rights and the natural resources that sustain Indian people.

But it is a recent event in Alaska that is perhaps the best example of Billy's legacy.

When the indigenous Yupik people of southwestern Alaska were being denied their right to harvest salmon by state and federal fisheries managers, they called Billy. He visited several times to provide encouragement and help the Yupik achieve their dream of co-managing their shared natural resources.

On May 5, the first anniversary of Billy's passing, 33 Yupik villages on the river came together to create the Kuskokwim River Inter-tribal Fish Commission. Through the KRITFC, the Yupik will no longer serve only in an advisory role, but will work as co-managers with state and federal fisheries managers.

"It was a great day for the Yupik people," said Mike Williams, who was elected as the first chairman of KRITFC. "The legacy of Billy Frank is stronger now than ever before, and will get stronger."

We will continue to honor that legacy by carrying on Billy's work to recover salmon and safeguard our treaty-reserved rights as co-managers of the natural resources that have always sustained us.



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On the cover: Doyle Foster, resource technician for the Squaxin Island Tribe, moves juvenile manila clams from the tribe's FLUPSY on Oakland Bay. See story on page 10.
Photo: E. O'Connell

Salmon Bacon: It's What's For Breakfast



K. Neumeyer



Swinomish Fish Co.

Left: Made from tribally caught salmon, Native Catch brand salmon bacon will be available in stores this summer. Above: Everette Anderson, vice president of marketing and sales for the Swinomish Fish Co., presents salmon bacon at the 2015 National Restaurant Association Show in Chicago.

The Swinomish Fish Co. has found a purpose for the meat left on a salmon's frame after it is filleted.

Salmon bacon.

The tribally owned company is smoking and packaging the remaining meat into a new ready-to-eat product. The Native Catch brand salmon bacon should be in stores by mid-June, along with new sockeye salmon jerky.

"We suspect that bacon is going to be a big seller out of the gates," said Everette Anderson, vice president of marketing and sales for the company.

Other products in the works are snack sticks (think salmon Slim Jims) and salmon hot dogs.

"We're producing from wild harvested raw material – and using what was typically considered scraps – some clever, tasty and unique products," Anderson said.

The fish company has expanded since the tribe

took over operations about five years ago. The cannery has been around since the late '60s, but the renovated 60,000-square-foot building now processes fresh fish and caviar. A larger dock accommodates more boats than before, and another extension may be built in the next year or so, Anderson said.

Chuck Gerttula, smoke-house operator for the fish company, is in charge of developing the new products, making sure that no salmon goes to waste.

"We're recovering as much meat as possible," Gerttula said. "Nobody is making this salmon jerky quite the way we are."

"Salmon means so much to tribal fishermen," said Lorraine Loomis, Swinomish fisheries manager. "It's part of our culture to use the entire

fish."

Already the Swinomish Fish Co. sells caviar to Asian, European and American markets, and recently opened up a market to sell milt to companies in Taiwan.

Chum roe makes a superb caviar, Anderson said.

"Our process creates a flavor profile that is very well received by our customers," he added.

To keep up with the increasing demand, the company buys from other native fishermen in the region, Alaska and First Nations in British Columbia.

The plant also intends to explore what is required to process more Dungeness crab.

"We work with local retailers who say they want our crab specifically, if we cook it a certain way," Anderson said.

One of those retailers is Bell-

ingham-based grocer Haggen, which recently acquired 146 additional stores in Washington, California, Oregon, Arizona and Nevada.

"Haggen's customers understand local and hyper-local, and we look forward to continuing to build on that relationship," Anderson said.

The fish company completed its British Retail Consortium certification last fall, passing with an "A" rating for its canning operation. The certification is a requirement by retailers in 123 countries, recognizing that the plant meets quality, safety and operational standards.

Swinomish Fish Co. also meets the Marine Stewardship Council Chain of Custody Standard, which means that it is certified as an environmentally sustainable fishery with full traceability.

– K. Neumeyer

Tribe to Sell Seafood Directly to Consumers

The Suquamish Tribe has constructed a new seafood plant to increase the variety of products offered to consumers.

“With the new plant, we have the ability to deliver fresh clams, crab and salmon to our commercial customers,” said Suquamish Seafoods general manager Tony Forsman. “We also plan to develop our product lines further, making them available directly to the consumer.”

The new 16,000-square-foot building includes a flash freezer with a holding capacity of up to 28,000 pounds of Dungeness crab.

A new pump system will bring in salt water from Agate Pass, so the facility will have the ability to hold live seafood for retail sale.

The warehouse’s open floor plan allows for salmon and geoduck to be processed and packed more efficiently.

“Our business plans say that oysters and clams are going to be the backbone of our seafood business,” Forsman said. “We’re going to move forward in that direction. Salmon runs are declining and we need to do what we can with what little we have.”

“This very much is a dream come true for the Suquamish Tribe,” he said. “We’ve wanted a state-of-the-art



T. Royal

Members of Suquamish Seafoods’ staff and Suquamish Tribal Council celebrate the opening of the new production facility.

facility for some time now. It is the future of the tribe’s business and marketing endeavors.”

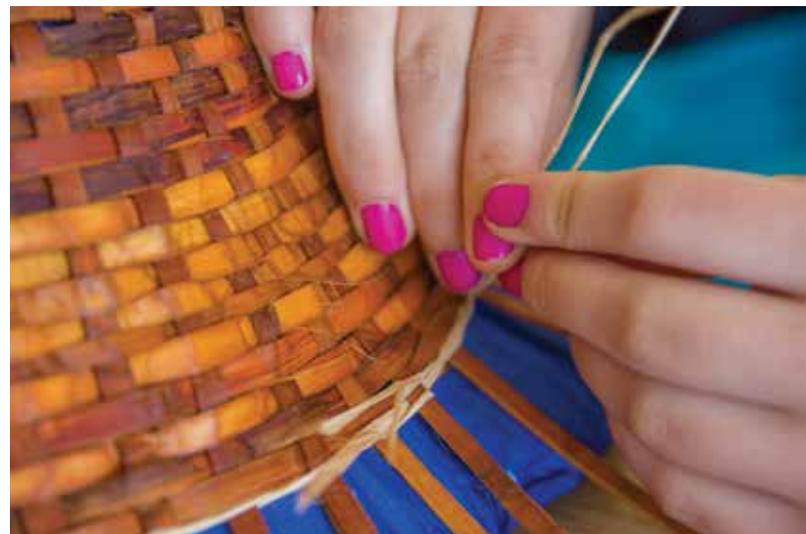
Not everyone wants to work in the casino or hotel, Forsman said. He’s been working with the youth at the tribe’s Chief Kitsap Academy to explore career options that give back to the tribe.

“We’ve had a few kids working here, as well as doing internships,” he said. “For me, it’s one of the most rewarding parts of this job.” – T. Royal



Traditional Art of Weaving

Left: Suquamish community member Mel George shows Lyreland Lawson, a student in Chief Kitsap Academy’s Lushootseed Language class, how to make a cedar hat. Below: Strips of cedar are woven to make a traditional Coast Salish hat.



T. Royal (2)

Marine Toxins Close Razor Clam Harvest

Both the Quinault Indian Nation (QIN) and the state Department of Health closed razor clam harvest for the Washington coast indefinitely because levels of a natural marine toxin called domoic acid were high enough to sicken or harm humans.

QIN personnel have been collecting razor samples and monitoring ocean water for the algae that is thought to produce the toxin in shellfish. Levels of both algae and the toxin remain high.

Ocean temperatures are also unseasonably high, nearly 4 degrees above normal. The water off Astoria, Oregon, normally hovers around 60 degrees in early June. It has been averaging closer to 64 degrees this year. Those temperatures are usually found in July or August. Higher water temperatures accelerate the growth of algae.

While there are some disagreements in the scientific community about whether the “warm water blob” off the Washington coast is a result of global warming, all agree that warm water is not good for many ocean organisms. With less upwelling bringing up nutrient-rich waters from the depths of the ocean, there is less food for many seabirds and other species. Large die-offs of some sea bird populations occurred last year.

For QIN tribal members, the loss of the final month of razor clam harvest means losing the chance to fill their freezers for the upcoming year. It also means the loss of income that tribal commercial digs provide for families that have not yet started other seasonal jobs. Additionally, the communities on the coast depend on recreational clambers to provide tourism revenue.

QIN will continue to monitor changes in dissolved oxygen levels that might indicate impending fish-kills. In 2006 QIN tribal members saw thousands of fish wash up on their beaches because of low oxygen levels offshore. – D. Preston



D. Preston

Scott Mazzone, marine biologist for the Quinault Indian Nation, digs a razor clam to sample marine biotoxins.

GENERATIONS



Quinault Indian Tribe

In this undated photograph, Quinault women stand in front of the Quinault School with woven baskets. Front row from left: King Church, Mary Jack, Alice Ford Hudson, Arvilla Sivonen, Grace Hall, Eunice Mason and Sally Freeman.

Teens Monitor Creek with Lower Elwha Klallam



T. Royal

Lucas Verstegen, left, and Tyler Hansen, students at North Olympic Peninsula Skills Center, clean out the smolt trap on Tumwater Creek.

Springer Drive



E. O'Connell

Muckleshoot tribal youth participate in the tribe's annual ceremonial spring chinook drive on the White River.

A group of teenage “citizen scientists” is helping the Lower Elwha Klallam Tribe to study an urban creek that hasn’t been looked at in nearly 30 years.

Students in the North Olympic Peninsula Skills Center’s natural resources class helped install a smolt trap on Tumwater Creek near Port Angeles in early May. Students and volunteers checked the trap daily to count and identify the fish, measure water temperature and take pictures.

“We’ve been smolt-trapping fish on the Olympic Peninsula for 31 years, but this is the first time we’ve had one in Tumwater Creek,” said Kim Williams, a tribal natural resources technician. “Tumwater Creek is historically known to have a salmon run, but currently we have no fish data after 1991 for this stream.”

The class also is monitoring Valley Creek using small metal minnow cages.

In early June, teacher Dan Lieberman and senior Tyler Hansen caught 20 juvenile fish in one day – coho and cutthroat trout – in the two creeks.

“That’s a good day, given there’s not a lot of fish in the first place in these creeks,” Hansen said. “We can learn the health of the creek by the type of fish we see.”

Lieberman’s students have been monitoring Port Angeles’ creeks since 2011. They found more juvenile coho salmon than juvenile cutthroat trout in Tumwater, Lieberman said.

“After we discovered a higher percentage of coho versus cutthroat, we thought it’d be a good idea to take this monitoring program to the next level,” he said. “This preliminary result was interesting and compelled Helle Andersen at Fiero Marine Life Center to pursue and secure funding from the Mountaineers Foundation to expand our knowledge of what fish are in the creek.”

With the grant, the class has been able purchase equipment, such as nets, boots, data books and an electric scale. It also supports Andersen as coordinator of the overall project as well as day-to-day data collection.

“The students are so excited and engaged when we are checking the traps and they often show me their fishing background by immediately being able to identify the smolts,” Andersen said. “We all appreciate the funding provided by the Mountaineers Foundation; without this grant, the project would not have started this year.”

The students are monitoring the smolt trap daily though the salmon migration period, which typically ends in early July. Historically, coho, chum and steelhead have used the creek to spawn and rear.

The data collected by the students will provide information for the tribe’s database, Williams said, and will be an important tool for fish management decisions. – T. Royal

Lummi Raises Next Generation of Stewards

From elementary school through young adulthood, Lummi Nation youth are learning about the natural resources that sustain their culture.

Lummi Nation School students from kindergarten through sixth grade are planting ocean spray shrubs beside the *Wex'lium* community longhouse. Known in the tribal language as *tsingenilhch*, the ironwood is fire-resistant when cut into the sticks used to cook salmon for traditional gatherings.

"By the time these kids graduate, the ocean spray they planted should be ready to harvest," said Sunshine Bob, language teacher for the school. "This is something we started last year to bring our kids back to our culture."

Students also are learning to gather the shrubs and prepare the *slengi*, or fish roasting sticks.

Lummi policy representative Frank Bob spearheaded the youth outreach when he realized how many people in the tribal community were unaware of the work done by the Natural Resources department.

"Maybe we'll spark an interest," he said. "I'm hoping the kids will go home and tell their parents what they're doing."

In May, high-school students accompanied tribal fishermen harvesting chinook salmon for the Lummi First Salmon Ceremony.

Meanwhile, other teens learned about efforts to restore degraded salmon habitat in the watershed. In partnership with the Whatcom Land Trust, Frank Bob took several high-school juniors to Maple Creek, a tributary to the Nooksack River. The land trust acquired the property and has been working with



K. Neumeyer

A Lummi Nation School first-grader grabs a shovel to plant some ocean spray.

Lummi since 2002 to make it more fish and wildlife friendly.

"All species of Pacific salmon use Maple Creek," said Eric Carabba, director of stewardship for the land trust.

The teens learned the importance of cool, clean water for salmon, and also helped plant willow stakes to create shade around the stream.

Accompanying the students to Maple Creek were Lonnie James and Chris Lewis, who are part of Lummi's new Tribal Conservation Corps. The Ameri-corps-affiliated program offers on-the-job training to tribal members between 17 and 30 years old.

James and Lewis described the program to the high-school students, in hopes of involving them in natural resources management after graduation.

"We're getting paid to learn," James said. "Everything we do is giving back. We work with live fish and shellfish at the hatcheries, water quality, tree planting and harvest management."

In its first year, the Conservation Corps has five members. The goal is for them to transition into full-time jobs at Lummi Natural Resources when they complete their service.

"Our hope is eventually to have tribal members in key management positions," Frank Bob said.

- K. Neumeyer

Earth Day Education



T. Royal

At the Skokomish Tribe's annual Earth Day event at Potlatch State Park, shellfish biologist Jeff Moore teaches a local student about Hood Canal marine life.

Rivers Run Hot and Dry

After a winter of record low snowfall and Gov. Jay Inslee's May declaration of a statewide drought, treaty tribes in western Washington are concerned about high water temperatures, low flows and pre-spawn mortality in returning salmon.

"This drought will have catastrophic, far-reaching effects for many years to come," said Scott Schuyler, natural resources director for the Upper Skagit Tribe.

By May, a lack of water had stranded coho, cutthroat and steelhead on the Olympic Peninsula and coast (*See story on next page*). Some rivers, such as the Stillaguamish, were setting low flow records every day.



D. Preston

Shawn Sheltren, an off-duty Olympic National Park ranger, rescues small coho from pools that have become disconnected from the Hoh River.

Low Snowpack

"We're not a little below minimum snowpack; we're a lot below minimum snowpack," said Jamestown S'Klallam Tribe's natural resources director Scott Chitwood. "Fish need to get from Dungeness Bay to their spawning grounds about 15 miles upriver and they're going to have a hard time doing it if we don't help."

The Nisqually Tribe is expecting the lack of snow in the Mashel watershed to have a detrimental impact on salmon.

"Without the snowpack we were expecting, I'm not sure how much water we're going to have in the ground for the creek come August," said David Troutt, natural resources director for the tribe.

Crowded Rivers

By early June, the Nisqually was already seeing temperatures around 63 degrees, which is problematic for salmon survival.

"In addition to warm water, which could cause pre-spawn mortality of returning chinook salmon, we're expecting a

massive return of pink salmon, which would limit oxygen and habitat available for returning chinook," Troutt said.

Pink salmon, which return in odd-numbered years, are expected to exacerbate already stressful conditions for fish throughout the region.

Low Flows

On the Skagit River, Schuyler said the drought threatens the future sustainability of salmon runs.

"As fish return this year, there's no water for them, the available spawning habitat becomes severely limited, and all the salmon species are competing for the remaining spawning areas that haven't been dewatered," he said.

In the Skagit River watershed, some water can be stored behind the hydroelectric dams on the Baker River and mainstem Skagit, but that doesn't help the tributaries.

"The tributaries are where much of the coho spawning occurs," Schuyler said. "When those are dry, we lose that habitat, and all the species have

to compete for the same little patch of gravel in low flow areas of warmer water."

Reduced Harvest

Effects of the drought were seen during the Upper Skagit Tribe's spring chinook fishery.

"Chinook are returning later, with no high water flows to bring them in," Schuyler said. "A secondary effect is that the low water decreases our fishery efficiency and our boats cannot maneuver."

To access harvestable fish, the tribe is considering future fisheries using dip nets, a less efficient method than gillnets.

"People have high expectations for these fisheries, but this extremely low water is going to affect where, when and how we access fish," Schuyler said.

On the coast, Joe Gilbertson, fisheries biologist for the Hoh Tribe, said that fisheries managers are talking now about what management strategies might be needed in August and September for returning adult fish.

"We saw the lowest flows

ever recorded in 50-plus years of records during several days of last September," he said. "It was a bad year for coho smolts last year and we're still compiling the data, but it's not looking good for this year either. You combine that with poor ocean feeding conditions present and it's looking bad for coho in the future."

Shared Concerns

As elsewhere, potential problems on the Nooksack River – where temperatures already run high – include pre-spawn mortality, increased stranding of fish and disconnecting of side channels.

"It's not uncommon for us to find individual pre-spawn mortality in a normal year. This could be a situation that's worse than usual," said Ned Currence, biologist for the Nooksack Tribe. "I expect the drought will affect spawning distribution."

– K. Neumeyer, E. O'Connell, D. Preston, T. Royal

Tribe Acts Fast to Rescue Fish Stranded by Drought

The Jamestown S’Klallam Tribe saw the effects of this year’s predicted low water flow in the Dungeness River valley sooner than anticipated.

Tribal natural resources staff discovered in late May that the mouth of Siebert Creek had been cut off by a sandbar – a typical problem with the creek during a low water year.

But this year’s low flows are more severe than usual due to the record-low snowpack in the Olympic Mountains.

“We never consider low flows in the spring because we typically have more water coming down the creeks,” said Chris Burns, Jamestown natural resources technician. “But when McDonald Creek started looking really skinny, I started getting really worried and checked Siebert. That’s when I found the pool of water behind the sandbar holding steelhead, coho and cutthroat smolts, plus an adult steelhead, with no access to the Strait of Juan de Fuca.”

The flow was too low to just push the gravel out of the way to reconnect the creek to the strait. A ditch had to be dug – about 3

feet wide, 2 feet deep and 20 feet long.

“Within a minute of opening up the flow, we had smolts leaving the pond in waves and making their way into the salt water,” said Aaron Brooks, Jamestown’s fisheries biologist. “We even had a fresh adult female steelhead come from the strait and make her way into Siebert right in front of us. It’s as if she was just waiting there to get in and couldn’t do it until we made a channel. It was pretty cool to see instantaneous results.”

The tribe doesn’t typically worry about low flow in Siebert and McDonald creeks until late summer and early fall, when adult coho start making their way back to fresh water, Burns said.

There’s only a few more weeks of smolt out-migration in these creeks and then staff won’t have to worry too much about it until the fall, he said.

“But if it stays like this until October, we’re going to have to help the adults get upstream,” he added. “That’s going to be a much tougher job.” – T. Royal



T. Royal

Jamestown S’Klallam tribal staff dig a channel in a sandbar that is blocking the flow of Siebert Creek to the Strait of Juan de Fuca due to low water flow.

High Temperatures Threaten Hatchery Returns

Tribal hatchery managers are working to save salmon from potentially deadly water temperatures and low flows.

On the Olympic Peninsula, the Makah Tribe’s Hoko Hatchery released chinook three weeks early and sockeye a month early.

“In the summer, we’re usually looking at flows of 100 gallons a minute – we’re already at 160 gallons a minute and it’s only June,” said Joe Hinton, hatchery manager for the tribe. “Even with the lower flows, I have lots of room to spread them out – but as temperatures go up, I can’t do much about that.”

Temperatures higher than 60 degrees are bad for salmon, because pathogens such as *ichthyophthirius multifiliis* (ich) and *columnaris* (gill rot) thrive in warm

water. The diseases spread more quickly when the rivers are crowded by low flows, and can lead to increased pre-spawn mortality.

“We have the potential of seeing lethal temperatures of water in the Stillaguamish this year – of 75 degrees and no drop-off in the night,” said Kip Killebrew, hatchery biologist for the Stillaguamish Tribe.

“Returning adult fish will find pockets of cool water to hold in if river temperatures are not favorable,” said Bruce Stewart, NWIFC fish health program manager. “They will hold in these pockets as long as they can. However, if they have to hold for any length of time in temperatures as high as 70-75 degrees, they will have to deal with fish pathogens that like that tempera-

ture range. Egg production in a compromised fish probably will be lower.”

In some instances, hatchery managers may bring adult spawners into their facilities early because conditions will be better in a controlled environment.

The Stillaguamish Tribe is considering a rescue operation if temperatures get too high in the lower river.

“We’d want to get as many fish as we can into cool water and see what happens,” Killebrew said. “If things cool down, we can transport them upriver. If water conditions stay elevated, we would potentially spawn them.”

The effort would be contingent upon the approval of the National Oceanic and Atmospheric Administration.

– K. Neumeyer, D. Preston

SQUAXIN ISLAND TRIBE

Floating Shellfish System Supports Seed Production

The Squaxin Island Tribe recently constructed a floating upwelling system (FLUPSY) to help maintain its growing shellfish enhancement program.

“We used to have to reach out to private shellfish companies to buy seed,” said Eric Sparkman, the tribe’s shellfish management biologist. “By buying seed at a much smaller size and raising it ourselves, we can be much more efficient.”

The tribe’s natural resources department and shellfish enterprise together constructed the FLUPSY, a type of clam and oyster nursery situated in a boat house along the Shelton waterfront. The unit holds 18 bins for clam and oyster seed. A constant flow of water is forced through the bins, providing nutrient-rich water to promote growth.

After being raised in the FLUPSY for a few weeks, the seeds will be spread on beaches throughout South Sound and grow until they reach harvestable size.

In the last year, the Squaxin Island Tribe has expanded its shellfish enhancement efforts, planting nearly 17 million clams throughout deep South Sound. This is a significant increase over the past six years, when the tribe seeded beaches with an average of fewer than 6 million clams annually.

“Planting beaches is the best way to make the most of the tribe’s tidelands and to carry on its shellfish-centered economy,” Sparkman said. “In a few years, these tiny clams will grow into a commercially viable and ecologically sound product.”

In the last century, the tribe has lost access to shellfish populations due to privatization of the Puget Sound tidelands, development and pollution.

“We’ve seen a huge reduction in harvestable populations of shellfish, and the main factor is the loss of access to tidelands,” said Andy Whitener, natural resources director for the tribe.

“The best shellfishing areas were sold to private shellfish growers decades ago. This made them off limits to the tribe or very complicated for our harvesters to access,” Whitener added. “We’re making the most of the tidelands we have access to by enhancing the natural populations already there.”

More than 30 percent of the nearly 1,100 Squaxin Island tribal members are active shellfish harvesters.

Deep South Sound is the center of the state’s commercial shellfish industry. More than \$10 million of shellfish is harvested in the region every year, including more than 3 million pounds of clams and 1.8 million oysters.

– E. O’Connell



E. O’Connell (2)

Top: Doyle Foster, technician with the Squaxin Island Tribe, and Tyler Johns, with Salish Seafoods, unload juvenile clams from the tribe’s FLUPSY. Bottom: Eric Sparkman, shellfish biologist for the Squaxin Island Tribe, surveys seed bins within the FLUPSY.

Fishing Boats Upgrade to Cleaner Diesel Engines

North Sound tribes are reducing diesel emissions with the help of grants from the federal Environmental Protection Agency (EPA).

“We just got a second grant and we’re going after a third,” said Tony Basabe, air quality analyst for the Swinomish Tribe. In March, the tribe was awarded nearly \$800,000 to replace 12 old diesel engines in fishing boats with new low-emission diesel engines.

Swinomish already replaced 15 engines with the help of an earlier grant. Smaller diesel engines cost about \$52,000 each, Basabe said. Replacing the engines in larger purse seine boats costs about \$340,000. The EPA grant is helping fishermen who don’t have the resources to upgrade their boats on their own.

The Lummi Nation also received its second EPA grant, bringing the total funds to about \$350,000 for 16 engines. And the Upper Skagit Tribe received about \$55,000 to replace an older engine in its enforcement boat.

Older diesel engines pollute the air with nitrogen oxides and particulate matter. These pollutants could lead to health problems such as asthma, lung and heart disease, other respiratory ailments and premature death. Diesel engines also emit black carbon, which has been linked to climate change. New diesel and alternative fuel technology can reduce diesel pollution by more than 90 percent, according to the EPA.

Tandy Wilbur, Swinomish fisherman and tribal senator, first brought the EPA grants to Basabe’s attention. Since then, he has replaced engines on four boats, and plans to replace another.

“It’s important to keep the Salish Sea as clean as possible with joint efforts provided by EPA grants and tribes working towards a common goal of cleanliness,” Wilbur said.

Dana Wilson, a Lummi tribal fisherman, replaced the engine on his crab boat last year, and is replacing the engine on his gillnetter with

the second grant.

“I started looking into these grants four or five years ago when I had friends in California who were doing it,” he said.

Wilson’s crab boat is using half as much fuel as it did before, perhaps a third as much, he said.

“Maintenance is a little more expensive, but in the long run it’s less expensive, because you don’t have to do it as much,” he added.

The EPA grants pay a percentage of the engine cost, and require fishermen to prove the old engine was destroyed. The Swinomish Tribe offered loans to cover some of the remaining costs and developed a maintenance manual and log to ensure the engines are well-maintained for the duration of the loan.

“We might be able to get 80 percent of the diesel engines upgraded with these grants,” Basabe said.

Of the Swinomish Tribe’s 70-boat fleet, about 40 use diesel, he added. The oldest engines being replaced were from about 1968, he said.

“The new engines are more powerful, but they emit less pollution,” Basabe said. “There’s less breakdown or towing; they use 40 to 50 percent less fuel. That means they can go farther, fish more and save a lot of money in the process.”

In addition to replacing diesel engines, the grant will help install shore power stations at the Swinomish fishing and cannery docks, so fishermen won’t have to rely on the power from their boats or generators. – K. Neumeyer



K. Neumeyer

Lummi Nation fisherman Dana Wilson has replaced the diesel engine in his crab boat (pictured), and plans to replace the engine in his purse seiner with an EPA grant.

Tribal Conference Looks to Future of Habitat

The Northwest Indian Fisheries Commission held its annual Tribal Habitat Conference in April, hosted by the Lummi Nation.

The conference focused on “Treaty Rights at Risk: Defining the Future,” and culminated with a field trip to Cherry Point, a traditional fishing site for the Lummi Nation and the site of a proposed coal terminal.

“There are no boundaries in Indian Country,” said Elden Hillaire, chairman of the Lummi Natural Resources Com-

mission. “Mother Earth is being wounded daily. We are documenting the damages and the repair work. We are holding the treaty rights for our organizations and for the communities that depend on them.”

Tribal biologists spoke on a variety of topics, including the challenges of climate change, working with landowners, and the damage caused to habitat by development.

On the second day of the conference, Lummi Nation Chairman Tim Ballew II and council member Jay Julius

spoke of the threats to tribal culture by the proposed Gateway Pacific Terminal at Cherry Point, known in the tribal language as *Xwe’ chi’ eXen*.

“We hear our elders talk often about the original boundaries of our reservation, and we hear often that Cherry Point was within the boundaries of the reservation at the signing of the treaty,” Julius said.

He added that the proposal is “not just a danger or a threat to Lummi Nation, it’s a threat to many other tribal fishing nations who hold treaty rights that are going to be put at risk, whether it be a coal spill, oil spill or just the inability to allow our fishermen to harvest in these usual and accustomed areas.”

Participants at the conference were given T-shirts with a “No Coal” message printed on the back to wear to Cherry Point, where hereditary Chief Bill James spoke to the gathering in the tribal language before a lunch was served of salmon, halibut and prawns.

“In these past two days you got to see who we are, where we come from,” said fisherman Richard Solomon. “We do this with the permission of our chief. He said, ‘What’s going to save us? It is our way of life that’s going to save us. Not only us but all the rest of the people that live on this earth. We’re not the bosses on this earth. Everything we do, we do in the name of Mother Earth.’” – K. Neumeyer

Lummi fisherman Richard Solomon speaks to participants at the Tribal Habitat Conference during a field trip to Cherry Point.



K. Neumeyer



D. Preston

Preying Low

An eagle glides over Neah Bay in search of its next meal as fishing boats return to the dock.

Cibu:d Hooks Tested

A halibut hook design thousands of years in the making is garnering positive reviews from recreational halibut fishermen as part of a study by the Makah Tribe.

Following a student project that revived interest in the *cibu:d* (“chah bouhd”), Makah tribal members volunteered to make a large number of the hooks. Makah student Alex Wise helped test the hooks on a Makah longline fishing boat.

The *cibu:d* is featured prominently in the Makah Cultural and Research Center’s collection from the Ozette archaeological dig. The hooks found were made of wood, bone and metal.

“The idea is that these hooks are pretty selective for halibut and won’t catch a lot of other bottom fish like different kinds of rockfish, and that can be really helpful when regulations prevent retention of bycatch,” said Joe Petersen, the tribe’s marine fisheries biologist.

However, the hook wasn’t effective for commercial fishing in the first study where a line was thrown out with a large number of hooks.

“We started to think about the nature of the development of the hook and how it might be better suited to a recreational fisherman,” Petersen said. “We decided to put the *cibu:d* and traditional modern circle hooks head-to-head on a charter boat for at least 15 days.”

Fishermen included Makah tribal members, Puget Sound Angler members, fishing gear manufacturers and International Pacific Halibut Commission members, who help plan the management of the halibut fishery for Canada and the United States.

“There was definitely a lot of skepticism when they looked at the *cibu:d*,” Petersen said.

Each angler fished for 30 minutes with either the circle hook or the *cibu:d*. Then they alternated gear throughout the day using the same type of bait.

“It certainly opened a lot of eyes in several ways,” Petersen said. “The *cibu:d* wasn’t always the gear that caught the most fish,



but it was frequently the gear that caught mostly halibut and not other species.”

Additionally, while the circle hooks caught some halibut weighing less than 15 pounds, the *cibu:d* hooks caught halibut 15 pounds and heavier. That means they catch fewer halibut that are too small to keep.

Petersen said an added bonus has been the positive response from recreational anglers.

“There can be a perception out there that tribes are just harvesting the resource and not doing anything about protecting it or actively managing the fishing effort,” he said. “They were really impressed that the tribe is thinking about and researching these questions and looking to improve management.”

Jonathan Scordino, marine mammal biologist for the tribe, wrote the grant funding the study. Petersen and Scordino expect to compile both the commercial and recreational data results and publish them in the future.

“Even without having all the data in, I have seen that it’s an effective tool in reducing bycatch of other species and that could be useful, for instance, maybe allowing fishing in areas that would be closed normally because of bycatch issues,” Petersen said.

– D. Preston



D. Preston (2)

Above: Jonathan Scordino, marine mammal biologist for the Makah Tribe, wraps a *cibu:d*, or halibut hook, with bait. Top: Makah tribal member Maria Roberts watches a fisherman reel in a halibut.

“The *cibu:d* wasn’t always the gear that caught the most fish, but it was frequently the gear that caught mostly halibut and not other species.”

– Joe Petersen, Makah Tribe marine fisheries biologist

Nettles Support Traditional Diet



E. O'Connell

Thanks to a concerted effort by staff at the Nisqually Tribe's community garden, tribal members can have regular access to nettles, an important traditional food.

Nettles – despite their stinging reputation – are a highly nutritious and seasonally important plant to the tribe's culture.

"Nettles start growing in the spring and help cleanse the body after our winter diet and help us build strength," said Janell Blacketer, a staff member at the tribe's community garden.

Just prior to spring, tribal members traditionally subsisted on diets made up of dried salmon and other hardy plants.

Nettles are high in calcium, iron, potassium, magnesium and Vitamin A, and can be used to treat high blood pressure and diabetes.

The community garden is on the site of a former cattle ranch the tribe purchased along the

banks of the lower Nisqually River. Most of the site has been restored to the estuary it once was, but the tribe dedicated the upland portion of the property to a meeting hall and community garden.

In addition to providing fresh produce to tribal members, the community garden allows access to culturally important plants, such as berries and nettles.

Tribal members can come to the garden to pick their own nettles.

Garden staff prepare nettles for consumption by boiling them briefly, then plunging them in ice water. After blanching, the nettles are dried in racks and packaged for tribal members.

Blacketer and other garden staff also dry nettles for elders and deliver them.

"Sometimes we have more requests for nettles than we can actually keep up with," she said. – E. O'Connell

Janell Blacketer helps dry nettle leaves at the Nisqually Tribe's community garden center.

Nisqually Staff Rescue, Release Wounded Bald Eagle

Nisqually tribal natural resources staff Nano Perez and Tom Friedrich rescued a wounded bald eagle they found while monitoring steelhead spawning on the Nisqually River.

"The eagle was pulling itself out of the water; it was bleeding from the mouth," said Perez.

The eagle likely was looking for the same thing Perez and Friedrich were when it was injured. Bald eagles feed on both live and dead adult fish.

The two quickly bundled the juvenile eagle in a jacket and delivered it to the For Heaven's Sake animal rehabilitation center. The eagle was emaciated and had not been able to feed itself before it was brought to the shelter.

After a month, the eagle was healthy enough to be released back to the river.

Perez and Friedrich were on hand to help release the eagle close to where it was found. The two men pulled the top off the bird's carrier and the eagle quickly flew through the assembled crowd, then perched in a nearby alder tree. – E. O'Connell



E. O'Connell

After being nursed back to health, a bald eagle is released by Nisqually tribal natural resources staffers Nano Perez, left, and Tom Friedrich. The two found the eagle injured a month earlier and took it to a local animal rehabilitation center.

Wood Removed from Doe Kag Wats Estuary

The Suquamish Tribe's Doe Kag Wats estuary is the site of a large woody debris removal experiment this summer.

"Our hypothesis is that by removing the excess amount of the milled and treated logs that have washed into the estuary, the native marsh vegetation will be restored, as well as insect species, many of which are important to both healthy and recovering salmon populations," said Tom Ostrom, the tribe's salmon recovery coordinator and project manager.

The project is two-fold: First, the tribe and the state Department of Natural Resources removed the remaining creosote pilings from the estuary. These toxic pilings were pushed into the estuary over decades by storms and tides.

Nearly 300 tons of creosote pilings were removed by helicopter, with the help of two Washington Conservation Corps crews.

The second project involved sectioning off a small pilot area of the estuary to monitor how the marsh responds ecologically after removing the accumulation of milled logs.

A dozen milled logs within the estuary were chained together to create a triangular area where vegetation and insect recovery, plus possible use by fish, will be studied.

Wood that has been cut into long, straight logs easily floats and rolls around the estuary at high tide, crushing and shading vegetation while silt fills marsh channels, said Paul Dorn, the tribe's senior research scientist.

Natural wood, with attached root wads and branches, is scarcer and mobile, resulting in a greater abundance of vegetation – the base of the food chain.

Students from Western Washington University's Huxley College of the Environment and the tribe's Chief Kitsap Academy will be involved with the monitoring and data collection for five years.

"Wood is a critical component of estuaries but this may be an instance of too much of a good thing," Dorn said. – *T. Royal*



T. Royal

With Mount Rainier in the background, crews remove debris and creosote logs from the Suquamish Tribe's Doe Kag Wats estuary.

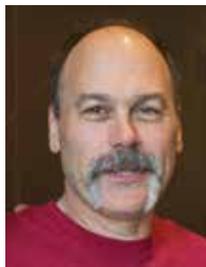
Coastal View

Quinalt tribal fisherman Sam Goodman works his fishing net on the Quinalt River early in the blueback, or sockeye, fishing season.



D. Preston

COMMISSION ELECTIONS



NWIFC commissioners held annual elections at their May meeting. Lorraine Loomis of Swinomish received a unanimous vote of confidence to continue in her role as chair until the end of the term in May 2016. Shawn Yanity of Stillaguamish was re-elected vice chair, and Ed Johnstone of Quinault was re-elected treasurer of the NWIFC.

WALKING ON

Herman Dillon Jr.

Herman Dillon Jr. of the Puyallup Tribe of Indians died June 7.

Born on August 17, 1952, Dillon was a lifetime advocate for treaty rights and his tribe.

He was chairman of the Fish Commission for the Puyallup Tribe and Program Coordinator for Puyallup Fisheries.

Herman was preceded in death by his father Herman Dillon Sr., brother Michael Dillon, and grandparents.

He is survived by son Herman "T.J." Dillon, mother Jeanette Eyle; sisters Jenny Roy, Diana Siddle, Sheila Beckett, and Michelle Dillon; brothers Robert Dillon, Steve Dillon, and James "J.D." Dillon; and many nieces, nephews, and cousins.



Stewart Alcorn

Stewart Alcorn, former NWIFC microbiologist, passed away in March. Alcorn grew up in southern California, where he developed a love of ocean fishing while working as a deckhand on charter fishing boats.

He earned a bachelor's degree in microbiology from Oregon State University, where he met his wife, Susan. Later, he moved east to study the effects of the catfish immune response from the University of Maryland, receiving a master's degree before returning to the Northwest.

Alcorn studied the immune response of salmonids for the Western Fisheries Research Center for 12 years.

Before joining NWIFC in June 2013, he worked for the Fish Health Lab at the Washington Department of Fish and Wildlife.

"I worked there for about six years, though always waiting for an opportunity to come to the NWIFC," he said. "I saw how happy our fish health cohorts at NWIFC always seemed to be."

He was an accomplished painter and scientific illustrator specializing in salmonids. His hobbies included restoring a 1963 VW Deluxe Microbus, fishing and drumming.

Alcorn retired in September 2014.

