

Northwest Indian Fisheries Commission

NWIFC News

Spring 2012

nwifc.org

Inside:

- Traditional Foods Nourish Tribes
- Partnerships Benefit Juvenile Coho
- Tribe Develops Hunting Program
- Town, Tribe Explore Stormwater Solutions
- Clean Water Key to Salmon Survival
- Landscape Revived as Dams Come Down

Being Frank

We Must Win Salmon Recovery Battle

By Billy Frank Jr.
NWIFC Chairman

We are losing the battle for salmon recovery in western Washington because salmon habitat is being destroyed faster than it can be restored. Despite massive cuts in harvest, careful use of hatcheries and a huge financial investment in restoration during the past four decades, salmon continue to decline along with their habitat. As the salmon disappear, so do our tribal cultures and treaty rights.



That's why we are asking the federal government to align its agencies and programs, and lead a more coordinated salmon recovery effort. We want the United States to take charge of salmon recovery because it has the obligation and authority to ensure both salmon recovery and protection of tribal treaty rights. That responsibility is alive today, just like the treaties.

We held up our end of the bargain when we ceded most of the land in western Washington to the U.S. government through the treaties of 1854-55. In those treaties, we retained certain rights for ourselves, such as the right to harvest salmon in our traditional fishing places as we have always done. But those rights are meaningless if the salmon disappear. Already some of our tribes have lost even their most basic ceremonial and subsistence fisheries, the cornerstone of tribal life.

Too often, federal actions and federally funded state programs don't contribute to salmon recovery, and sometimes even make it more difficult. A recent lawsuit filed by environmental groups over floodplain management in western Washington provides a good example.

The environmental groups want the U.S. government to stop issuing flood insurance in some parts of Puget Sound until floodplain management plans are changed to reflect the needs not only of developers, but of endangered salmon and orcas as well. We couldn't agree more.

Floodplains are low-lying areas that allow rivers to spread out during high flows. They help provide important salmon habitat for migration, rearing and spawning. Dikes, overdevelopment and other floodplain impacts restrict the ability of that habitat to support salmon, and can lead to more costly damage when flooding occurs. But it doesn't have to be that way. Floodplain management that is good for flood control can also be good for salmon habitat.

Up until now, the federal government's main response to declining salmon runs has been to restrict harvest. That's a recipe for failure. Habitat must be held to the same standard as harvest if we are going to recover salmon.

Before tribes can go fishing, we are required to show that our fisheries will contribute to salmon recovery under the Endangered Species Act. Those who damage or destroy habitat must be held to the same standard. No amount of fishery restrictions can restore salmon unless they have enough good spawning and rearing habitat.

We believe that salmon recovery must take place at the watershed level because that's where salmon begin and end their lives. We already have developed recovery plans and identified barriers to salmon recovery for most watersheds in western Washington. Those plans must be implemented and those barriers fixed, and it needs to happen soon.

If we are going to succeed with salmon recovery, the federal government must use its authority to honor our treaties and put us all back on the path to salmon recovery.

NWIFC News

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

NWIFC News is published quarterly. Free subscriptions are available. This edition is also online at *nwifc.org*. Articles in *NWIFC News* may be reprinted.

NWIFC Chairman
Billy Frank Jr.

Executive Director
Mike Grayum

Information and Education Services Division Manager
Tony Meyer

Regional Information Officers
Debbie Preston, Coast
Emmett O'Connell, South Sound
Tiffany Royal, Hood Canal/Strait of Juan de Fuca
Kari Neumeyer, North Sound

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

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

Follow us on Facebook: *facebook.com/nwifc* and on Twitter: @nwifc

On the cover: Juvenile coho salmon are transferred from the Gorst Hatchery near Bremerton to the Suquamish Tribe's Agate Pass net pen. The tribe worked with the Washington Department of Fish and Wildlife and the U.S. Navy to transport more than 300,000 smolts to the net pen. See related story on Page 8. *Photo: T. Royal*

Bones of Gray Whale Resurfaced in Agate Pass

Tribe Pulls Up Whale Skeleton After Six Months of Soft Tissue Decomposition

The Suquamish Tribe recently retrieved a net full of gray whale bones from Agate Pass, with hopes of rebuilding the skeleton for educational purposes.

The tribe acquired the remains of the juvenile whale in July 2011 after the mammal beached itself and died near Silverdale. After biologists gathered tissue samples, the tribe wrapped the whale in nets and towed it to Agate Pass to let it naturally decompose.

While the soft tissue had completely decomposed, many of the bones were broken or too brittle to use, including the skull, which was partially crushed by the weight of the rest of the bones.

"It's too bad we're not able to rebuild the entire skeleton, but there are parts that we could still use in educational environments or the tribal museum," said Viviane Barry, the tribe's shellfish management biologist. "The baleen plates look like they're in good condition, as do two of the jawbones, which are about six feet in length."

The fibrous baleen plates, made of keratin, filter food from the water and mud that rushes into the whale's mouth as it feeds near the ocean floor. Barry added that the whale's tail vertebrae and some ribs also came up in good condition.

Historically, tribes traded parts of the whale with each other, since not all tribes had access to them within their fishing areas. Tribal members used every part of the animal, including blubber for cooking and bones for tools. – *T. Royal*



T. Royal (2)



Above: Suquamish Tribe natural resources technician Ben Purser lays out bones to dry on the tribe's barge. Below left: Shellfish coordinator Luke Kelly sorts through the whale's tail vertebrae.

Fast Facts: Gray Whales

- Gray whales typically migrate between Baja California and Alaska.
- The mammals can range from 16 feet to 45 feet in length.
- The average gray whale lifespan is 20-40 years.
- Once listed under the federal Endangered Species Act, gray whale populations along the West Coast have rebounded to near historic levels.
- To see a video related to this story, visit *go.nwifc.org/boneretrieval.*

Sockeye Salmon on Menu for Ozette Otters



Jon Preston

River otters, like these, could be one of the limiting factors for the recovery of the Lake Ozette sockeye population.

Sockeye salmon are a favorite food of river otters at Lake Ozette, and the Makah Tribe wants to know if that's playing a role in limiting the recovery of the threatened run of fish.

"It's interesting that while there have been river otter diet studies in many other states in the river otter range, there hadn't been any in Washington," said Jonathan Scordino, the tribe's marine mammal biologist.

Makah students and fisheries technicians, and the National Oceanic and Atmospheric Administration Marine Mammal Laboratory collected 291 otter scat samples from Lake Ozette and the Ozette River from 1998 to 2003. Analysis of the samples revealed the otters have a diverse diet that is dominated by crayfish with seasonal pulses of juvenile and adult salmon. A genetic analysis of adult salmon bones revealed that 80 percent of the adult salmon consumed were Lake Ozette sockeye salmon.

Scordino presented these results at a meeting of the Lake Ozette Steering Committee, made up of tribes, landowners, and local, state and federal governments that provided input to the Lake Ozette Sockeye Salmon Recovery Plan. Predation by marine and freshwater predators is one of the limiting factors the committee is exploring in reviewing the plan's effectiveness.

"The results were helpful, but also illuminated some other questions we would like answered," Scordino said.

The tribe would like to perform genetic analysis on otter scat to determine if all otters, or just a few, feed on salmon and to learn the total number of otters in the Lake Ozette watershed. Additionally, the tribe wants to gather more samples from the lake in fall and winter to learn what impact otters have on sockeye that spawn in lakes.

– D. Preston



D. Preston

Sandra Aguirre, a Makah tribal member, helps collect river otter scat from the mouth of the Ozette River as part of the Makah Tribe's Summer Youth Program. The samples are analyzed to determine the diet of the otters.

Health, Traditional Diet Go Hand in Hand

Incorporating traditional foods – like huckleberries, nettles, camas and salmon – into tribal members' everyday diets is the goal of the Muckleshoot Food Sovereignty program. The two-year project is funded through the U.S. Department of Agriculture and is supported by Northwest Indian College's Traditional Plants and Foods Program.

"This effort is about eating healthy and remembering who we are and where we come from," said Valerie Segrest, a traditional foods educator at Northwest Indian College. In addition to a native foods course, the project includes monthly day-long community seminars covering specific foods, such as deer, berries or salmon. The project has spawned a native berry garden at the college, an orchard at the Muckleshoot Tribal School and a "cultural landscape" including native plants at the new senior center.

The project was inspired by a joint effort of the Muckleshoot, Suquamish and Tulalip tribes and the Burke Museum to research plants used by tribes.

"The Burke constructed a database of pre-contact foods," Segrest said. "We interviewed tribal members about how traditional foods make it into their diets. We then asked if tribal members currently had access to traditional foods, and if they didn't, why not. Our most vital discussion, and where we're focusing our efforts now, is overcoming those barriers."

An important aspect of the project is encouraging tribal members to come up with their own solutions.

"It's easy for people to say that a dietician should just tell people what to eat," Segrest said. "But when you ask people what they need for better health, and you allow their solutions to come to fruition, there is an incredible response from the community."



E. O'Connell (2)

Louie Ungaro, left, instructs Norma Eyle how to skin a salmon as part of the Muckleshoot Food Sovereignty Project.

Some of the solutions can come from mixing traditional food with more modern preparation methods.

Video: *go.nwifc.org/mstfood*

"We've prepared a huckleberry fruit smoothie and elk burgers," she said. "This is about making it easier to use traditional food sources."

Learning about traditional foods also puts the natural resources management efforts of the tribe into a new light.

"When we talk about gathering, fishing and hunting, you start to see how important it is to be good co-managers," Segrest said. "Now you're also talking about preserving habitat. It's not just about food in a garden, it's about the environment, caring for it and making sure traditional foods can thrive.

"Having traditional food available is not just about individual health, it's about the health of the community," Segrest said. – *E. O'Connell*



Steven Yanish hangs a salmon skin during a monthly seminar of the Muckleshoot Food Sovereignty Project.



E. O'Connell

Dale Varbel, hunting technician for the Puyallup Tribe, loads elk meat to be used in the tribe's ceremonies.

New Department Supports Tribal Hunters

The Puyallup Tribe of Indians recently launched a hunting department to improve hunter access, make sure that tribal members can get deer and elk meat, and promote hunting through education.

The tribe co-manages wildlife with Washington state and conducts a comprehensive wildlife management program. The tribe is using the hunting department to strengthen its traditional connection to hunting and wildlife.

"We are working with federal and state agencies to negotiate access for treaty hunters," said Dan Sandstrom, hunting director for the Puyallup Tribe.

"Changes in forestland ownership and development are pushing tribal hunters into smaller areas each year," he said. "As development encroaches on lands where we've hunted traditionally, wildlife habitat is fragmented and it gets harder for tribal members to exercise their treaty-reserved right to hunt."

The hunting department director's job includes encouraging hunting and ensuring that tribal members have access to elk and deer meat.

"Having wild meat available is traditional. Our ancestors lived this way for thousands of years. Our way of life is being threatened," said Dale Varbel, hunting technician for the program.

"Elk, deer and other wildlife have always played a role in the tribe's ceremonies and our regular diets," Sandstrom said.

The department helps connect tribal members with designated hunters, who usually hunt for their extended families and others in the tribe who can't hunt for themselves.

"Having designated hunters for the elderly and disabled is typical," Varbel said.

The tribe is planning a hunter education camp for tribal youth.

"We want to make sure that anyone who goes out hunting knows what to expect and knows how to be safe," Sandstrom said.

Tribal harvests are based on the number of available animals, and the tribe shares its regulations and harvest data with the state of Washington, Sandstrom said.

"We take a small fraction compared to the harvest by non-tribal sport hunters," he added.

Tribal hunters only hunt for ceremonial and subsistence use, not for sport or for commercial sale.

"The Puyallup Tribe also conducts important wildlife research, especially on the south Mount Rainier elk herd," Sandstrom said. "The tribe has tracked the herd for almost a decade, leading to a conclusion that it's smaller than expected and depends on disappearing habitat.

"We've managed wildlife for centuries.We're now preserving and strengthening the connection between wildlife and our culture," he added, "If we don't have meat and we're shut out of hunting, we lose an important part of our culture. We're working to make sure we are always hunters and the resource is always available." – *E. O'Connell*

Safe Methods Used For Collaring Elk

Point Elliott Treaty tribes are using a safer, less-expensive method of collaring and tracking elk within the Nooksack herd.

Tribal and state wildlife co-managers monitor the Nooksack herd via helicopter surveys. In the past, animals were fitted with tracking collars after being tranquilized with aerial darts. However, helicopter time is expensive and aerial darting poses a safety risk.

"We're looking at ways to put collars on elk without putting people or animals at risk," said Chris Madsen, wildlife biologist for the Northwest Indian Fisheries Commission.

This winter, staff from the Sauk-Suiattle, Swinomish and Upper Skagit tribes, and the state Department of Fish and Wildlife baited elk at various sites in the North Cascades Mountains. When remote cameras showed heavy elk use in one of the areas, technicians set a trap to capture a cow elk.

"We choose cows because we want collars on animals that will be out there a long time due to a closed cow hunting season," Madsen said. "When we do surveys, we're looking for herds."

Tribal and state co-managers collared and relocated about 100 cow elk from the Mount St. Helens region in 2003 and 2005. The batteries in those collars are reaching the end of their lifespans, which is one of the reasons for the increased effort to collar more animals.

The on-the-ground trapping method allows the tribes to seek out elk subgroups that don't already include a collared animal, said Todd Wilbur, Swinomish tribal member and chairman of the Inter-tribal Wildlife Committee.

"We need a certain number of active collars to keep the population model active," he added.

With radio telemetry collars, wildlife technicians can track the elk herds and determine overall herd size.

The tribal and state co-managers have worked for years to recover the dwindling elk population in the North Cascades Mountains. Twenty years ago, the Nooksack elk population was about 1,700 elk. By 2003, the herd had declined to about 300 elk, largely because of degraded and disconnected habitat.

Tribal and state wildlife managers agreed to stop hunting the herd in the 1990s, because of the population decline. One of the strongest signs that recovery efforts were working came in 2007, when tribal and state wildlife co-managers determined that the Nooksack herd was stable enough to support a small hunt of 30 elk. Limited hunts have taken place each year since then. – *K. Neumeyer*



Todd Wilbur, Swinomish Tribe

NWIFC wildlife biologist Chris Madsen, left, and wildlife staff from the Sauk-Suiattle Tribe prepare to collar a cow elk in the North Cascades Mountains.

Eagle Eye Watch



D. Preston

A mature bald eagle surveys the Strait of Juan de Fuca recently near Neah Bay. During the winter and early spring migration, it is possible to see dozens of the raptors on Highway 112 and in Neah Bay.

Partnerships Benefit Juvenile Coho Salmon Net

Net pen operations are common throughout Puget Sound and contribute to fisheries. The Port Gamble and Suquamish tribes, Washington Department of Fish and Wildlife, the U.S. Navy, plus local volunteer organizations helped transfer nearly 600,000 juvenile coho salmon to the net pens in Port Gamble Bay and Agate Pass in 2012.

Port Gamble Transfers Fish via Pipeline

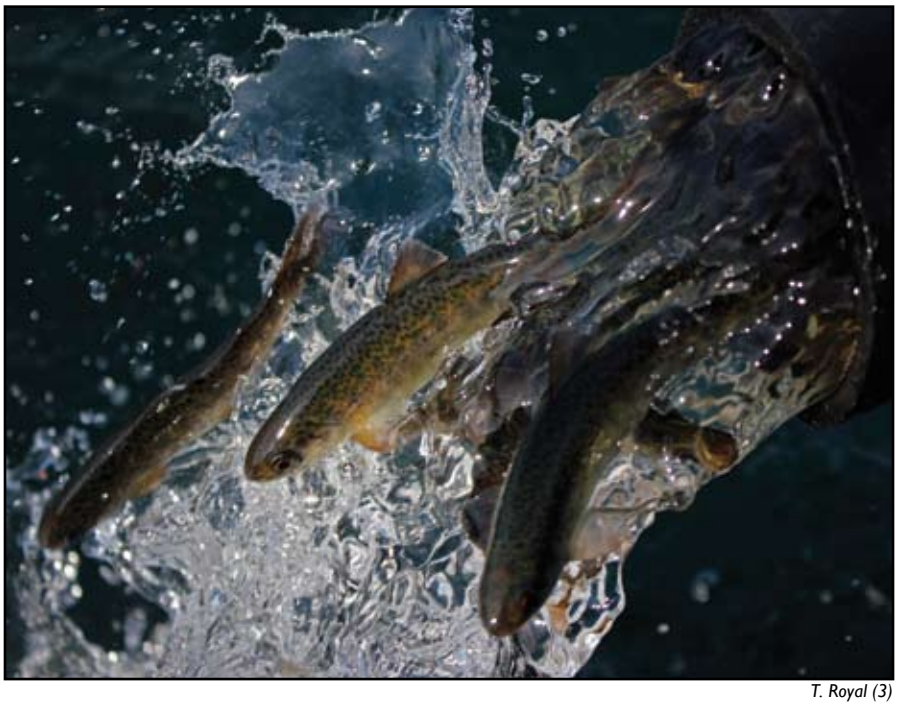
A quarter million juvenile coho salmon took a quarter-mile ride through a 4-inch pipe when the Port Gamble S'Klallam Tribe recently transferred the young fish from shore to the tribe's floating net pens in Port Gamble Bay.

The fish came from the Washington Department of Fish and Wildlife's George Adams Hatchery near Shelton. Arriving in a tanker truck, the fish were transferred into a 2,300-gallon fiberglass holding tank, then flushed through the pipe into the net pens.

This is the second year the fish have been transported via pipeline. For decades, a tribal barge was brought to the town of Port Gamble, where the fish were piped from the tanker truck to the barge, then floated out to the tribe's 63,000-cubic-foot net pens near Point Julia. The fish then were released into the pens.

"Using the pipe system means less handling of the fish and less stress on them as well," said Paul McCollum, the tribe's natural resources director. McCollum brought this method with him from his previous job in Alaska.





T. Royal (3)

Above: Coho salmon smolts are released into the net pens in Port Gamble Bay. Left: After the fish are loaded into the tank, Port Gamble S'Klallam Tribe hatchery technician Donald Rogers, left, and hatchery manager Tim Seachord gently prod the fish to swim down the 1,300-foot-long pipe to the net pens in Port Gamble Bay.

While the tribe typically receives approximately 400,000 fish from the state, coldwater disease killed thousands of the fish at George Adams Hatchery this year, McCollum said.

The fish will be reared in the pens until June, when they will be released. Coho average three years in age, spending the first half of their lives in fresh water. The fish then spend 18 months at sea before returning to fresh water again as adults to spawn.

The fish are harvested by both tribal and non-tribal fishermen. Most of the fish have a tiny coded-wire tag in their snout to identify their origin and date of release, providing fisheries managers with important migration, survival and other data needed for fisheries management.

Video: *go.nwifc.org/pgfishtransfer*

Suquamish teams up with U.S. Navy

In another partnership, the Suquamish Tribe and the U.S. Navy recently transferred more than 300,000 juvenile coho salmon to the tribe's net pen in Agate Pass for the third year in a row.

"Working with the U.S. Navy to help move the coho smolts has been key to the success of the program since we revitalized it in 2010," said Jay Zischke, the tribe's marine fish manager. Between 2003 and 2010, the tribe's net pen operation was on hiatus due to rearing and budget constraints. Prior to 2003, the tribe released coho smolts into Agate Pass for two decades for both tribal and non-tribal harvest.

Pen Operations



Suquamish Tribe hatchery technician Ron Harrell monitors the pipe releasing coho smolts into the tribe's net pen in Agate Pass.

For this release, fish were bred in 2010 at the state's Minter Creek Hatchery near Purdy, then transferred this year to the tribe and city of Bremerton's Gorst Hatchery. In March, the smolts were transferred to the naval base at Keyport, using tanker trucks from the Washington Department of Fish and Wildlife.

At Keyport, approximately 320,000 smolts were loaded onto a tribal barge, which ferried the fish to the Agate Pass net pen. The fish will spend nearly three months in the pen acclimating to the saltwater environment and imprinting on the area prior to being released in June.

"We're pleased to once again help the Suquamish Tribe with this important fish transfer," said Capt. Stephen Iwanowicz, Commander, Naval Undersea Warfare Center (NUWC) Division Keyport. "NUWC Keyport and the Navy are committed to building on our strong relationships with our Native American neighbors and being good stewards of our environment."

– T. Royal

Beach Seining for Habitat

The Nisqually Indian Tribe is working with the state Department of Natural Resources (DNR) to study how fish use habitat around McNeil and Anderson islands.

"We don't know much about how salmon interact with their habitat once they leave the Nisqually River," said David Troutt, the tribe's natural resources director. "This research should plug some holes in our understanding of their life cycle."

Tribal researchers will beach seine about 20 locations around the two islands and catalog the sea life they find there.

DNR is funding the study after establishing an aquatic reserve near the mouth of the Nisqually River that will provide greater scrutiny of development in the area. The study also will aid the tribe and DNR in identifying possible habitat restoration projects throughout the reserve.

"Protecting and restoring what habitat is available for salmon once they leave the Nisqually is one of the most important things we can do to restore salmon," Troutt said. "For almost 10 years, we've been studying salmon in the Nisqually estuary and the nearby shoreline. Now we're pushing our research farther out."

The previous decade of research focused on 900 acres of estuary habitat that was recently restored by the tribe and the Nisqually National Wildlife Refuge.

"This was one of the largest habitat restoration projects in the region," Troutt said. "We've monitored how salmon have responded to habitat restoration by looking at how they're using the estuary and even tracking the food they eat."

The biggest finding was that only chinook salmon that spend time in the estuary as juveniles are returning as adults.

"Young chinook that swim right past the estuary directly into Puget Sound die before they can come back," Troutt said. "This makes us think there's something going on in Puget Sound that we don't understand yet. The decline of Puget Sound's health impacts salmon from every river and watershed, even ones with good habitat like the Nisqually."

"This is more than bringing salmon back, this is about protecting our treaty right to harvest salmon," said Georgiana Kautz, the tribe's natural resources manager. "If we can't restore Puget Sound and salmon, we risk losing our treaty rights."

– E. O'Connell



E. O'Connell

Paul Gibson and Walker Duval, Nisqually tribal natural resources staff, pull in a beach seine in deep South Sound.

Landscape Revived after Elwha Dams Removed

Restoring the landscape after the removal of the Elwha and Glines Canyon dams and their associated reservoirs involves more than planting a few trees, shrubs and grasses.

Since 2000, the Lower Elwha Klallam Tribe and Olympic National Park have been collecting millions of seeds from native plants in the river valley. From those seeds, crews expect to plant more than 400,000 plants throughout nearly 800 acres of new lands exposed by the dewatering of the reservoirs Lake Mills and Lake Aldwell.

The seeds are being stored at the park's Matt Albright Native Plant Center near Sequim and Silvaseed Company in Pierce County. The tribe and park also have worked with commercial nurseries around the Pacific Northwest to supplement the production of native trees, shrubs and grasses.

"While the dams are coming down, we're hoping to get a head start on the vegetation establishing itself," said Josh Chenoweth, a botanist with the park. "So far at Lake Mills, we have 25,000 plants in the ground."

The site lacks developed soils. Instead, revegetation must occur on deep layers of inorganic silt and clay or on terraces of sand and gravel that have accumulated in the reservoirs during the last century.

Vegetation to be planted includes Douglas fir, twinberry, Nootka rose, cedar, and various types of willows, in addition to dozens of other grasses, trees and shrubs.

"We're trying a variety of planting methods, from bare roots to container plants," Chenoweth said. "As we plant, we're letting the site teach us what will work. We'll see what survives and what doesn't, and go from there."

Crews started planting the Mills site in November 2011, soon after the Glines Canyon dam deconstruction started in September. Revegetation of the former Aldwell reservoir won't start until fall 2012. The overall revegetation work is expected to be completed by 2018.

– T. Royal



T. Royal

Lower Elwha Klallam Tribe biological science technician Alan Bennett prepares a seedling for planting in the Elwha River valley. Each plant is prepared by hand, including being weeded and checked for slug eggs.



Jamestown S'Klallam Tribe

Generations

Jamestown S'Klallam tribal member Jacob "Jake" Franklin Hall prepares one of his crab pots at Jamestown, the tribe's ancestral village near Dungeness Bay, in the mid-20th century. Hall served as tribal council chairman from 1948-1956, after serving earlier on many tribal councils. He was a devout Indian Shaker.

The 210-acre Jamestown village was purchased with $500 in gold coins by the Jamestown S'Klallam people in 1874. The tribe realized at the time that it needed either to purchase land or move to the reservation at Skokomish – away from their usual and accustomed fishing, hunting and gathering area.

Lower Elwha Teams with Landowners on Watershed Restoration

The Lower Elwha Klallam Tribe has improved a 1-mile stretch of salmon habitat in the Salt Creek watershed with the help of a half-dozen property owners.

"This area has been heavily affected the past few decades by the presence of more than 30 fish-blocking culverts, in addition to residential development and logging along the streambeds," said Mike McHenry, the tribe's habitat program manager. "Partnering with property owners to restore damaged salmon habitat has had positive and rewarding results."

The focus of the past year's work has been installing logs and rootwads into creeks flowing through the owners' property, plus planting native vegetation along the streambeds, including cedar, dogwood, shore pine and cottonwood trees.

Coho, chum, steelhead and cutthroat all inhabit the highly productive Salt Creek watershed. As many as 30,000 young salmon have been counted making their way to the Strait of Juan de Fuca from Salt Creek.

"Growing up in the Port Angeles area with Klallam tribal members, it has been great to learn more about their culture and how important these fish restoration projects are to them," said property owner Dave Colthorp, who lives on Nordstrom Creek, a major tributary to Salt Creek. A 5-foot-wide fish-blocking culvert on Colthorp's property was replaced with an 18-foot-wide metal culvert in 2009.

"I appreciate the tribe's respect for my property and for me as a property owner throughout this restoration project," he said.

There wasn't a tree anywhere near the creek when Steven Carlyle moved to his property 22 years ago, which is at the confluence of Bear and Salt creeks. It was the result of the mid-20th century mindset that removing trees and straightening creeks would "help" fish get into the upper watersheds, McHenry said.



T. Royal

Lower Elwha Klallam Tribe habitat restoration technician Phillip Blackcrow pulls apart cottonwood trees to plant along Salt Creek.

Since planting trees over the years and working with the tribe's habitat program, Carlyle has seen the positive results of the work.

"When I moved here, I would see just five or six fish in the stream," Carlyle said. "Now, there are easily 30 or more moving upstream every year. The improvement to the habitat is definitely working."

– T. Royal

Underwater Camera Discovers Eelgrass Beds in Bay

The Jamestown S'Klallam Tribe recently learned that Sequim Bay has more eelgrass than previously thought, which benefits a threatened run of summer chum.

"It's a good sign to see that eelgrass was found nearly all the way around the bay," said Lohna O'Rourke, the tribe's environmental biologist. "This provides a baseline of what's there now and we can track the growth or decline over time."

Marine Resources Consultants was hired last summer to survey the bay for marine vegetation with an underwater video camera.

"The state Department of Natural Resources' survey of the bay in 2000 had similar results to what was found last summer, so it's encouraging to see that there hasn't been a decline of vegetation in 12 years," said Jim Norris, owner of Marine Resources Consultants.

Juvenile summer chum and other salmon species depend on eelgrass beds as they make their way out to sea from the Jimmycomelately Creek at the southern end of the bay.

"The tribe and its many partners spent millions of dollars restoring the Jimmycomelately Creek and estuary to bring summer chum back to the watershed," O'Rourke said.

Having this new data also will help the tribe with its studies on the plankton blooms that occur regularly in the southern half of the bay.

These blooms typically happen during warmer months, and can shade eelgrass, causing it to die. The blooms are fueled by an excess of nutrients in the water that come from a variety of sources such as leaking septic systems and lawn fertilizers.

"Land development and human-caused factors severely impact eelgrass beds, so it's critical we keep the existing eelgrass alive and well," O'Rourke said. *– T. Royal*



D. Preston

Juvenile summer chum and other salmon species use eelgrass as a place to rest, feed and hide from predators.

Spring on the Coast







D. Preston (3)

As winter gives way to spring, the rhythms of life repeat themselves on the Washington coast. Upper left: Elk graze on plants in the Hoh River. Bottom left: A pair of coho salmon spawn in Taft Creek, a tributary to the Hoh River. Above: A Quileute fishermen enjoys a sunny day in February as he returns from checking his fishing nets on the Quillayute River.

Conservation Groups Back Swinomish in Water Dispute

Environmental groups have voiced support for the Swinomish Tribe's efforts to prevent excessive water withdrawals from the Skagit River.

In March, Earthjustice and the Center for Environmental Law and Policy filed a "friends of the court" brief with the Washington State Court of Appeals stating that more water can't "be withdrawn from the troubled Skagit River and its tributaries for new junior water uses because such new uses would further impair stream flows. Impaired stream flows damage salmon, other wildlife and communities that depend on the water."

The Skagit River is home to all five species of Pacific salmon.

"The Swinomish Tribe is committed to protecting salmon and instream flows in the Skagit River basin, which is within our usual and accustomed fishing area," said Swinomish Chairman Brian Cladoosby.

In 2011, the state Department of Ecology determined that groundwater had been over-allocated in the Carpenter/Fisher subbasin of the Skagit, and was close to exhausted in the Nookachamps subbasin, according to tributary reservations established in 2006. As a result, Skagit County had to stop issuing permits for new wells to be dug on properties in those areas.

"The public sees all this water flowing in a very big river," said Jeannie Summerhays, director for Ecology's northwest regional office. "But some of these upper tributaries have a real water shortage."

More on water rights in the Skagit River basin can be found at *go.nwifc.org/skagitbasin*

Skagit County and Ecology began a legal battle over water rights when the county took the state to court in 2003 to challenge the instream flow rule. The Swinomish Tribe got involved in the litigation in response to the county's legal action.

"We have no interest in limiting growth," Cladoosby said. "We support expanding piped water to meet additional population demands while reducing impacts to instream flows." – *K. Neumeyer*

Tribe Finds Creative Stormwater Solutions

The Nisqually Indian Tribe is working with the Eatonville community to protect salmon habitat by better controlling the water that flows out of their town.

"Eatonville is perched between two vital salmon tributaries to the Nisqually River," said David Troutt, natural resources director for the Nisqually Indian Tribe.

The tribe is funding a joint project with the town to update their stormwater system and jump start public involvement in ensuring that development doesn't hurt salmon. The tribe hopes to foster creative solutions like rain gardens that will allow water to move more naturally as it makes its way to the creek. Rain gardens replace impervious hard surfaces such as blacktop, letting water slowly seep into the ground.

The tribe's volunteer organization, Nisqually Stream Stewards, will work with the Nisqually River Education Project and the Eatonville School District to encourage residents to take up low impact development on their own.

Poor stormwater management leads to high flows in the winter and low flows in the summer. The Mashel River already is too low and too warm for fish as it passes through Eatonville.

"We'd like to change the way water flows, so it seeps slowly into the ground instead of quickly running off into the stream," Troutt said.

Low flows in the Mashel typically occur just as adult chinook salmon are making their way back to spawn. Juvenile chinook, coho and steelhead also depend on ample water during the summer because they spend at least an extra year in fresh water before migrating out to sea. Both Nisqually River chinook and steelhead are listed as "threatened" under the federal Endangered Species Act. – *E. O'Connell*



E. O'Connell

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

Sauk-Suiattle Tribe Watches Rising Sediment

The Sauk-Suiattle Indian Tribe is working with the U.S. Geological Survey (USGS) to study sediment on the Sauk, Suiattle and White Chuck rivers.

Sediment is a concern in this watershed because the rivers pass through a network of forest roads and culverts that can fail and cause landslides. The glacier-fed rivers already have a naturally high amount of sediment, but silt from glacier melt is suspected to increase unnaturally because of human-caused climate change.

The tribe wants to know how the quantity and timing of sediment affects salmon spawning. The Lower Sauk River was identified by the Skagit Chinook Recovery Plan as having a poor rate of egg survival because of high amounts of sediment. In the Suiattle River, chinook salmon spawn in the mouths of tributary creeks, where the water is clearer.

The tribe and USGS are sampling the river, measuring temperature, flow, suspended sediment and turbidity at several locations, taking physical water samples as well as using an automatic sampler and continuous turbidity sensors. The Puget Sound Partnership provided funding for the majority of the project.

Physical suspended sediment samples provide the best data by measuring sediment throughout the water column. Automatic sampling is a cost-effective way to keep track of what's happening in the river between the time-consuming and labor-intensive physical measurements.

"The sediment data we collect will provide critical information for future watershed models that incorporate climate change scenarios with sediment delivery to the Skagit River delta and Puget Sound," said Scott Morris, watershed manager for Sauk-Suiattle.

The mineral content of the sediment will be analyzed so researchers will know whether it's natural accumulation from glacier melt, or if a forest road has failed.

"If there's a lot of road sediment, we'll know we have work to do," Morris said. "We'll have the numbers, not just assumptions. We can work it into the recovery plan." – *K. Neumeyer*



K. Neumeyer

Sauk-Suiattle watershed manager Scott Morris, left, records data as technician Lucas Wilson, center, and water quality field coordinator Andrew McDonnell sample water from the Sauk River near Darrington.



E. O'Connell

Joe Puhn, Squaxin Island Tribe natural resources technician, checks flows on Goldsborough Creek.

Goldsborough Creek Flow Tracked in Real-Time

The Squaxin Island Tribe tracked the impacts to salmon from a historically dry December with the use of a real-time stream gauge on Goldsborough Creek. The tribe has funded the stream gauge for the past eight years to help monitor and respond to changes on the creek.

At its lowest flows in late December, Goldsborough was running at 25 percent of its historic average. While December usually brings about 11 inches of rain to the creek, less than half that amount fell before Christmas this year.

"Coho salmon likely spawned in shallow areas or along the edges of streams before the dry spell," said John Konovsky, environmental program manager for the tribe. "But because of the drop in flows, the eggs they laid likely dried up. The number of coho coming back was already pretty low, so this dry December didn't help at all."

The run was about one-third of its usual size for the second year in a row, Konovsky said.

"We couldn't have prevented the damage that probably occurred to the coho run, but watching it gave us a better understanding of how weather impacts salmon," he added.

While the tribe operates a series of gauges across the area, only the gauge on Goldsborough Creek provides data to the public in real-time. Previously, there had been no real-time data on the small watersheds south of the Skokomish River and north of Olympia.

"You can't depend on data from other systems that just happen to be nearby to tell you what is going on right here," Konovsky said.

In addition to stream gauge data, the tribe collects water quality data on a number of creeks in the area. The tribe also operates several out-migrating juvenile salmon smolt traps and conducts adult salmon spawning surveys to track salmon populations. Stream gauge data from Goldsborough Creek is available at *go.nwifc.org/gauge. – E. O'Connell*

Deschutes Group Focuses on Coho Habitat

Habitat restoration projects will be the focus of a new coalition to jump start salmon productivity in the Deschutes River watershed. The Squaxin Island Tribe and the cities of Olympia, Lacey and Yelm are establishing the Deschutes Watershed Environmental Stewardship Coalition.

"The Deschutes coalition will be an ongoing alliance to fund and conduct on-the-ground projects to restore a healthy watershed," said Andy Whitener, natural resources director for the tribe. "The coalition will put words into actions and start restoring productivity to the Deschutes River."

Initial projects are slated for the 197-acre farm on the Deschutes River near Lake Lawrence that the cities recently purchased as part of mitigation for their new water rights.

In the past, the Deschutes River was the largest producer of coho salmon in deep South Sound. A landslide in 1990 destroyed the most productive coho tributary in the watershed.

"Thirty years ago, we were seeing coho returns in the tens of thousands, now we're talking about coho runs in the thousands," said Jeff Dickison, assistant natural resources director for the tribe. "We need to get our hands dirty now to improve coho habitat and bring back stronger runs."

Because the upper Deschutes River is relatively undeveloped – less than 10 percent has been converted to impervious surface – it's still possible to restore salmon habitat and productivity.

"If we restore some habitat and give these fish half a chance, they'll recover," Dickison said.

– E. O'Connell

Tsunami Debris Headed for Washington Coast

An empty plastic kerosene can with Japanese writing on it washed onto Point Grenville in March, possibly among the first debris to reach the Olympic Coast following Japan's catastrophic tsunami in 2011.

Tribal, local, state and federal agencies are preparing for the possibility that tons more debris may wash ashore. However, little wreckage has reached Hawaii, so tribal scientists are hopeful that not much will arrive here either.

"The original mats of debris aren't visible by satellite anymore and the at-sea debris that was found north of Midway Island pretty much confirmed it has spread out and much of the debris is now missing and most likely sunk," said Joe Schumacker, marine scientist for the Quinault Indian Nation.

Schumacker thinks it unlikely that debris will have a great impact on Quinault's fisheries or the beaches. Most of it would be items that are designed to be used at sea anyway, such as buoys and plastic ropes.

"It's unknown if barrels of chemicals might survive all that time at sea – we'll just have to wait and see," Schumacker said. "It is kind of interesting that the first thing we have confirmed on our beach is a can that could have been full of kerosene."

Kerosene containers like these are used to fuel heaters in Japanese homes. Larger plastic items are expected to travel faster than other types of wood debris since wind will push the items that sit higher in the water.

The tsunami that struck Japan March 11, 2011 inundated 217 square miles of land, said Nir Barnea, West Coast Regional Coordinator for the National Oceanic and Atmospheric Administration Marine Debris Program.

While early pictures showed entire homes floating in the ocean off Japan, within a month the debris had dispersed and could not be detected by satellites. The Japanese government estimates that roughly 25 million tons of debris were created by the tsunami, but there isn't a good estimate of how much of that debris washed out to sea.

The bulk of tsunami debris could wash ashore on the Washington coast next winter. If a huge amount arrives, coastal tribes are concerned about the expense.

"We could possibly use Environmental Protection Agency grants to assist with the cost of cleanup," said Dana Sarff, Sustainable Resources Coordinator for the Makah Tribe. "But there isn't a lot of money available for a substantial debris removal." – *D. Preston*



D. Preston

Items such as this fishing gear on Second Beach near LaPush are expected to be part of the washed up debris from the March 2011 Japanese tsunami.



D. Preston

Quileute tribal buildings are located just above sea level not far from these breaking waves. Scientists expect a tsunami to hit these shores in the future.

Quileute to Relocate from Tsunami Zone

Following decades of work by the Quileute Tribe and support from the Washington Congressional delegation, the tribe has acquired land outside of the tsunami zone to relocate the tribal school, government offices and homes of many tribal members.

President Barack Obama recently signed the legislation to move nearly 800 acres of Olympic National Park into tribal trust lands. The agreement called for the tribe to receive the land in exchange for guaranteed access to Rialto Beach and Second Beach, which only can be accessed through tribal lands.

It also settles a 50-year-old northern boundary dispute and the loss of land to Olympic National Park caused by the changing course of the Quillayute River. Successive Quileute tribal councils have worked to resolve the issue for decades.

The Quileute tribal school sits just above sea level, less than a quarter mile from the breaking waves of the Pacific. The paved road out of LaPush can be closed at times due to flooding from the Quillayute River. Although a logging road provides an alternative tsunami evacuation route, drills have shown that vehicle congestion will hinder speedy evacuation in the event of a tsunami.

Tribal officials plan to move the school and tribal elder care centers first, with construction beginning in 2013. Those with homes in the tsunami zone will decide whether to move to the newly acquired higher ground.

There's no question that a tsunami will occur at some point in the area, geologists say. Ancient tribal stories of coastal people from Vancouver, B.C., Washington, Oregon and California tell of previous tsunami events, including a Jan. 26, 1700 earthquake and subsequent tsunami on the West Coast. – *D. Preston*

Tribes Plan Climate Change Symposium

The First Stewards symposium, hosted by the coastal tribes of Washington state in Washington, D.C., July 17-20, is a first-of-its-kind national event that examines the impact of climate change on indigenous coastal cultures. Hundreds of tribal leaders, witnesses and scientists will join climate experts and policy-makers for groundbreaking dialogue in what is planned to be an annual meeting at the National Museum of the American Indian to address climate change.

The Hoh, Makah and Quileute tribes and the Quinault Indian Nation created the symposium since tribal coastal people are among the most affected by climate change.

Traditional knowledge is needed to make climate science and subsequent models meaningful on a human and local scale.

Regional panels will share climate adaptation strategies from coastal ecosystems nationwide where Indian Country is at the forefront, creating an incubator for climate change solutions. Tribal regulatory environments allow for demonstrations of solutions to pressing needs, such as renewable energy and adaptation strategies for villages.

The symposium is in partnership with scientific, tribal and governmental organizations including the Smithsonian National Museum of the American Indian, National Oceanic and Atmospheric Administration, NOAA's Office of National Marine Sanctuaries, The Nature Conservancy, American Native Renewables and Western Pacific Regional Fishery Management Council.

For more information or to become a sponsor, visit *www.firststewards.org.*

– D. Preston

COASTAL PEOPLES ADDRESS CLIMATE CHANGE

FIRST STEWARDS

JULY 17—20, 2012

NATIONAL MUSEUM OF THE AMERICAN INDIAN. WASHINGTON, D.C.

Walking On

Robert August Hayman



Bob Hayman passed away Dec. 20 at his home in Seattle, just over a year after he was diagnosed with a brain tumor. He was 59 years old.

Hayman worked for nearly 30 years as a tribal fisheries biologist for what is now the Skagit River System Cooperative, the natural resources extension of the Swinomish and Sauk-Suiattle tribes. In the early 1980s, he worked for the Quileute Tribe.

He was born in San Francisco on Feb. 27, 1952. He was an Eagle Scout and a graduate of Lowell High School, Stanford University and Oregon State University.

A passionate sports fan and athlete, Hayman was a life-long distance runner who also loved comics, Taiko drumming and Motown music.

He was married to his wife, Barbara, for almost 35 years, and was a devoted father to his two children, Mari and Danny. He embraced his own weird individuality and that of others; he was well known for his unique sense of style, his joyous if not altogether tuneful singing, and his enormous appetite for food and life.

Hayman leaves behind his immediate family; siblings Jon, Jim and Cathy; and many friends and relatives. Hayman exuded joy and enthusiasm in everything he did, and he fought cancer with the utmost bravery, determination and grit.