



*Northwest Indian Fisheries Commission*

# NWIFC News

Spring 2011  
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## Tribes Producing, Protecting More Salmon

By **Billy Frank Jr.**  
NWIFC Chairman

**P**roducing and protecting salmon go hand in hand for the treaty Indian tribes in western Washington, and we are doing a lot more of both lately. At a time when state and federal funding for salmon is scarce, tribes are increasing production of salmon for harvest and expanding the use of hatcheries in recovery programs for weak wild stocks.



We all know for a fact that hatcheries are no substitute for good habitat and natural salmon production. But the small amount of poor quality habitat we have left can't support harvest. If there were no hatcheries, there would be almost no salmon fishing at all in western Washington.

Tribes produce an average of 40 million salmon and steelhead every year. These fish are harvested by everyone. The Suquamish Tribe added to that average recently by restarting its Agate Pass coho salmon net pen operation. Funding and other factors had forced the tribe to stop the program eight years ago.

Net pen operations can be strong contributors to fisheries. In the first 20 years of the Suquamish project, the tribe released more than 600,000 hatchery coho, all marked for harvest with an adipose fin clip.

I was excited to hear that a new Stillaguamish tribal facility is expected to come online soon. This hatchery will help recover a weak chinook run in the river's south fork.

The Stillaguamish Tribe sacrificed its chinook fishery for decades to protect these fish. A captive broodstock program at the new hatchery will help protect these fish even more. It's kind of like putting the run on life support, but it's all we can do until we can fix the real problems facing these fish: lost and damaged habitat.

Out on the coast, the Quileute Tribe is supplementing wild summer chinook in the Sol Duc River. Each year, the tribe captures adults from mid-July to September and rears more than 200,000 of their offspring cooperatively with the Washington Department of Fish and Wildlife. Supplementation programs are designed to support, but not replace, natural salmon production lost to damaged and disappearing habitat.

The tribe recently paid for final rearing costs of more than 350,000 young coho that were scheduled to be destroyed at the state's Sol Duc Hatchery because no money was available for their care. Many will benefit from the tribe's generosity.

These are just a few examples from across the region of how the tribes are increasing production of salmon for harvest and expanding the use of hatcheries in salmon and steelhead recovery efforts.

The reason we are increasing our efforts to recover and enhance the salmon resource is because our culture demands it. It is not optional. We must have salmon.

Our habitat can no longer support the natural production needed for harvest and the federal Endangered Species Act cannot protect – let alone recover and restore – what little is left of the wild salmon.

## NWIFC News

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6730 Martin Way E.  
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(360) 438-1180**

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**On the cover:** Makah tribal member James Rollins helps crewmate Savannah Martin with a survival suit during a safety-at-sea course. See story on page 14. *D. Preston*

# Tulalip Looks Closer at Climate Change

**Tribal scientists are seeing signs of damage already in forests, waterways**

The Tulalip Tribes are examining the landscape from the tops of the mountains to the sea, to learn what the effects of climate change might be.

“Climate change in marine waters can’t be looked at in isolation,” said Terry Williams, commissioner of fish and wildlife for Tulalip. “We’re looking at what happens to carbon levels in the atmosphere when air meets fresh water and when fresh water meets the sea.”

Already, upland soil has been compacted and forests lack duff – the ground cover of decomposing leaves and bark that absorb water and prevent runoff. Spring comes earlier and faster, so the snowmelt rushes down too quickly, destroying side channels that used to give juvenile salmon a place to rest to prepare for their saltwater journey.

The tribes are working with Terrie Klinger of the University of Washington’s marine ecology department on the climate change research. They also are collaborating with renowned experts in atmospheric research and carbon budgeting.

A focus will be the nearshore environment, because it acts as a nursery for shellfish, crab and other fish in the coastal marine ecosystem. The strip of land along the shoreline has a big impact on the ecosystem because these animals form the basis of the food web.

Increased levels of carbon in the atmosphere have led to a change in the pH of the ocean, a symptom of climate change known as ocean acidification. Nearshore plants such as eelgrass and kelp store carbon, in effect removing it from the environment. This process is called carbon sequestration, and it helps



*Dick Ryan/Northwest Straits Commission*

A gray whale submerges near Mission Beach, with Mount Baker in the background. The Tulalip Tribes are studying the effects of climate change from the mountains to the bay.

lower the acidity of the ocean.

Seagrass and kelp also help stabilize substrate, by keeping sand and deeply rooted vegetation in place.

“We hope the research will demonstrate real value for kelp and eelgrass, and show the state and other agencies the benefit of investing in seagrass restoration,” Williams said.

More than 700 miles of habitat on the Puget Sound coast has been lost so far, mostly to development.

“We believe we have to do a large-scale restoration, particularly if we’re going to survive climate change and expect to see the same plant and sea life coming out of the ocean,” Williams said. “Salmon and shellfish are cornerstones of Coast Salish tribal culture. If we lose them, our culture will suffer.”

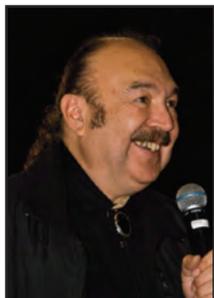
Much of the fight against climate change has focused on mitigation – how to take carbon out of the environment by storing it and pre-

venting more from being released. More attention needs to be placed on adaptation to the impacts of climate change that can’t be avoided, Williams said.

“Even if we stop now, if we wave a magic wand and stop releasing carbon, the impacts of the carbon already in the environment will continue to increase for at least 20 to 30 years,” Williams said. “That’s if we stop producing carbon and we’re not doing that. We’re committed to some degree of warming for at least 100 years.”

The tribes hope to see preliminary results of the study by the end of year.

“We hope the results will interest more partners in joining this work – we can’t do it alone,” Williams said. “We’re just looking at a thin slice of the ecosystem. We want to protect what’s valuable to everyone, not just tribal members who want to fish.” – *K. Neumeyer*



Terry Williams,  
Fish and Wildlife  
Commissioner,  
Tulalip Tribes



Jeremy Freimund/Lummi Nation

A crew installs an anemometer to measure wind speed and direction on the Lummi reservation.

# Striving For a Wind-Powered Reservation

The Lummi Nation is taking a hard look at generating wind energy on the tribe's reservation.

Initial mapping and observations show that the Lummi Reservation may be a good candidate for installing wind turbines. This winter, the tribe put up two nearly 200-foot-tall anemometer stations to measure wind speeds and direction for a Wind Energy Development Feasibility Assessment Project, funded through a U.S. Department of Energy grant.

"The Lummi Nation has aimed to have self-sufficient energy since at least 1993," said Merle Jefferson, the tribe's natural resources director. "Considering global climate change and the need to shift the energy generation from hydrocarbons to renewable sources, this study

is an important step in planning for the future."

The study will help determine whether a wind generation project on the reservation would provide enough economic, environmental, cultural, and social benefits to justify the cost of development.

In addition to finding out whether there's enough wind to generate energy economically, the study will look at the likely wildlife and noise impacts of installing wind turbines, and what could be done to mitigate for those.

"We expect the regional energy demand to grow steadily until at least 2020," Jefferson said. "Generating wind power could help the Lummi Nation keep up with that demand."

— K. Neumeyer

## *QIN Opposes Proposed Chehalis River Dams*

The Quinault Indian Nation opposes the construction of two dams proposed for the Chehalis River basin and has requested government-to-government consultation with the U.S. Army Corps of Engineers to discuss potential environmental impacts.

"We fear that constructing the dams would add to the sad legacy of problems caused by decades of neglect and damage to ecological processes that are vital to the salmon resources protected by our treaty with the United States," said QIN President Fawn Sharp.

"We have a duty to protect the fish, wildlife and other natural resources that have sustained our culture and economy for countless generations," Sharp said. "We want to work

collaboratively with state and local governments, private organizations and others to meet our collective needs to the fullest extent possible. It's time for everyone to work together to sustain an environment that's healthy for fish as well as ourselves."

Tribal scientists question the dams' ability to prevent flooding in the river system and are concerned that the structures would impede salmon passage, inundate important spawning habitat and harm natural river functions necessary both for flood control and fish habitat.

"We've learned from the lessons of the Columbia and Elwha rivers that dams kill salmon," said Ed Johnston, Quinault Fisheries policy spokesperson. "The dams would cost the pub-

lic millions of dollars to construct and operate. That's just the start of the bleeding.

"While the financial costs of building the proposed dams are high, the costs to the natural resources of the Chehalis River basin are even greater," Johnstone said. "Nearly every aspect of the river's function and the many species that depend on the river for their survival will be harmed. Once dams are in place, we can expect it to cost millions upon millions of dollars to contend with the aftermath and try to protect the health and productivity of the salmon resource and the ecosystem. It's simply not a risk we're willing to accept."

"It's time that we stand up for the fish," Johnstone added. "The evidence is clear that



Fawn Sharp, President, Quinault Indian Nation

dams can be among the worst environmental insults to fish and wildlife. There are many less expensive and damaging solutions to flood control on the Chehalis, including further restricting development in the river's floodplain."

— D. Preston

## NATIVE PLANTS

# Students Gather Seeds for Canoe Journey Site

For a group of La Conner seventh-graders, a lesson about traditional plant gathering also demonstrated how native plants are used in salmon habitat restoration.

Generations of Swinomish tribal members gathered plants such as snowberry and rose hips for food and medicine. Snowberries were used to treat tuberculosis and rose hips are a food source rich in vitamin C.

This winter, students in James Fegel's science class at La Conner Middle School gathered these plants on the Swinomish reservation, and will plant their seeds near the Swadabs Welcoming Pavilion.

The pavilion is the focal point of a new beachfront park and will be the site of this summer's Tribal Canoe Journey, hosted by the Swinomish Tribe. The park is part of an estuary restoration project to remove spoils from 70-plus years of dredging the Swinomish Channel. The restoration returns tidal flow to the marsh and allows unrestricted movement of sediment, nutrients and fish to an estuarine corridor connecting Padilla Bay to Skagit Bay.

Streamside plants improve water quality by filtering out sediment and providing shade that lowers water temperature. Insects that fall from the plants into the water also provide food for salmon.

"We're installing native plants to re-establish a near-shore that is more consistent with historic habitats," said Steve Hinton, restoration coordinator for the Skagit River System Cooperative, the natural resources arm of the Swinomish and Sauk-Suiattle tribes. "This helps both native fish and wildlife species that depend on these habitats for survival." – K. Neumeyer



Theresa Trebon/Swinomish Indian Tribal Community Archive

La Conner seventh-grader Olivia Cayou, Swinomish, collects rose hips for a science class project to learn about native plants. Seeds gathered by the class will be planted near the tribe's new Welcoming Pavilion.

# Camas Saved and Planted in Community Garden



Caitlin Krenn/Nisqually Tribe (2)

Students at the Nisqually Tribe's early learning center plant camas bulbs that were rescued from a road construction site last summer.

Two hundred camas bulbs that were almost buried under a new road are now part of the Nisqually Tribe's community garden.

"We got these plants out just in time," said Caitlin Krenn, the community garden coordinator. A work party of volunteers quickly mobilized last spring to salvage the plants before they were paved over with a new bypass in Yelm.

"Prairies are a cultural landscape. They have been maintained by northwest coastal people for thousands of years," Krenn said. "Traditional practices, such as burning and digging, are essential for the survival of prairies, but these practices were completely prohibited during colonization."

The two-year-old community garden is located in the upland portion of the Nisqually sxwda?deb Cultural Center, a former ranch the tribe purchased almost 10 years ago as part of a salmon habitat restoration project.

The aim of the garden is to further tribal goals of self-sufficiency, self-reliance and self-determination. The garden grows fresh produce for the Nisqually community, and also includes medicinal plants, traditional food

plants and plants important for crafts such as basket making.

In addition to salmon and shellfish, camas has played a central role in coastal tribes' traditional diets and cultures.

"Our major villages were usually located between fishing sites and camas prairies," said Georgianna Kautz, the tribe's natural resources manager.

After harvesting, camas bulbs can be steamed and then dried for storage.

"Like salmon, camas could be prepared to be available throughout the year, so it was an important part of the food we ate," Kautz said. – E. O'Connell



Blooming camas.



Shannon Murphie/Makah Tribe

An adult male cougar who was not captured glowers from a tree near Neah Bay.

# Tracking Peninsula Cougars

A treed cougar flattens his ears as the howls of hunting dogs mix with the shouts of Makah tribal wildlife biologists in a snowy forest in the Hoko Game Management Unit near Neah Bay.

A tranquilizer dart finds its mark and the adult male

falls with a whump into a tarp rigged as a safety net. Carefully lowered to the ground, the 170-pound, 7-foot, 7-inch cat gets a radio collar that will help track his movements.

While February's snow on the North Olympic Peninsula was unwelcomed by many, it's

exactly the kind of conditions needed to successfully track and collar cougars.

"Without the snow, it's hard to track cougars, even with dogs," said Rob McCoy, wildlife division manager for the Makah Tribe. "But snow makes fresh tracks easy to find and we

can get the dogs on the proper track."

The tribe wants to learn more about the cougar population in the area as it relates to black-tail deer populations.

"We wanted an idea of cougar prey selection and rates of predation," said Shannon Murphie, wildlife biologist for the Makah Tribe. "There hasn't really been much work done on cougars on the Olympic Peninsula."

The six collars were paid for by the tribe, Washington Department of Fish and Wildlife and a Bureau of Indian Affairs treaty tribal wildlife management grant.

In the future, the tribe would like to add a few more collars as funding permits and replace batteries in the existing collars to add at least another year of data.

"Deer have more predators than elk. Bear, cougar, coyote and bobcat will prey on deer fawns. Cougars are the primary predator on elk, but it seems they select deer more often. This study will help support or disprove that idea," McCoy said. "We could not have done this project without the contributions of WDFW and the western Washington treaty wildlife fund." — D. Preston



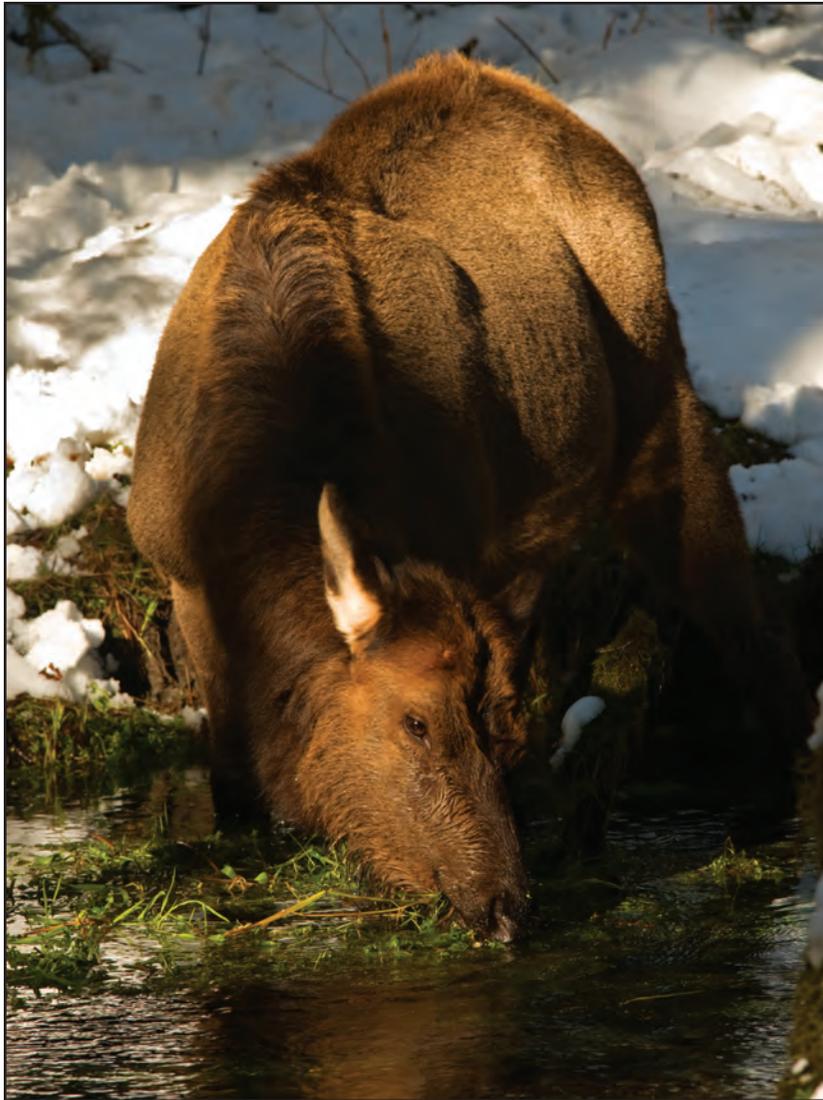
Tulalip Tribes

## Feeding Time

Taken with a camera set on a motion detector, this eagle was photographed feasting on salmon carcasses one morning in late January near Coho Creek on the Tulalip Tribes' reservation.

The tribes started restoring Coho Creek in 2000, with the replacement of a perched culvert. No salmon had been using the creek, but after the culvert was replaced, chum salmon were seen unsuccessfully attempting to spawn in the sandy ditches.

Since 2000, 2,500 feet of stream channel have been created, with thousands of feet of spawning gravel added. Eighteen culverts were removed or replaced, a half-acre forested pond was constructed, several log weirs were built and 4 acres of stream bank were planted.



D. Preston

Elk such as this one on the Olympic Peninsula need access to quality food throughout its range. The Puyallup Tribe of Indians has gathered information during the past decade that will help provide better habitat for the south Mount Rainier elk herd.

## Elk Need More High Quality Habitat

The south Mount Rainier elk herd would benefit from expanded protection and restoration of their winter range, according to a recent study by the Puyallup Tribe of Indians.

The study brought together almost a decade of radio telemetry and Global Positioning System data collected by the tribe.

“This is the most in-depth look at this herd we’ve ever had,” said Barbara Moeller, the tribe’s wildlife biologist. The study tracked the herd’s migration throughout its range over eight years, detailing what habitat elk prefer.

The study also points to a possible solution to the increased number of elk damage complaints in the past several years, by giving elk more room to roam. The non-migratory portion of the herd – the group that stays close to lowland winter habitat year round – is more ac-

climated to development.

“Elk are getting used to being close to people, making it difficult for both the elk and the communities along the Cowlitz River,” Moeller said.

The tribe has objected to state-authorized special hunts in response to property damage by elk.

“To plan for the sustainability of the herd, we need to utilize the best available science to drive our management decisions,” Moeller said.

“We have used our data to identify critical winter habitat areas along the Cowlitz River valley and now it’s time to sit down at the table and seriously plan for meeting our goals and objectives for the herd,” Moeller said. “With other elk herds, the state has taken alternative measures other than hunts, such as erecting elk fences, land acquisition and conservation easements.” – E. Connell

## Lab Work

Kim Sager-Fradkin, Lower Elwha Klallam Tribe wildlife biologist, and Shannon Murphie, Makah Tribe wildlife biologist, participate in a “wet lab” during a two-day workshop held by the Northwest Indian Fisheries Commission in February.

More than 30 tribal biologists, technicians and volunteers gathered at the commission’s Olympia office to learn about wildlife diseases and necropsies through classroom training and hands-on experience examining elk, ducks and deer.



C. Madsen

## SOUTH SOUND

# Reconnecting Greenwater Floodplain Habitat

The Muckleshoot and Puyallup tribes and the South Puget Sound Salmon Enhancement Group are working together to restore 3 miles of salmon habitat on the Greenwater River, a major tributary to the White River.

“This project will not only restore salmon habitat that juvenile and adult fish can use immediately, but by removing the road, it will reconnect the river with its historic floodplain,” said Martin Fox, a Muckleshoot Tribe habitat biologist.

Last fall, the enhancement group built a series of five logjams and removed nearly 1 mile of road from the floodplain. This year, the group will construct 11 additional logjams to complete the project.

Logjams are important for salmon because they help create good habitat for shelter and places for juvenile salmon to eat. Riprap protecting the old road had hardened the riverbank and altered flows, damaging salmon habitat.

“Historic logging around the river pretty much removed any of the trees that would usually fall into the river and eventually build logjams,” said Russ Ladley, resource protection manager for the Puyallup Tribe. “The road also acted like a dike and prevented the river from using its entire floodplain.”

The Muckleshoot Tribe conducted research throughout the Greenwater, making the case for restoration.

“We developed an extensive elevation map of the river’s original floodplain, finding out where it would likely migrate once the road was removed,” Fox said. The restoration will also help collect the right kind of gravel that salmon need to spawn.



E. O'Connell

Newly constructed logjams on the Greenwater River will help reconnect the river with its traditional floodplain.

“Right now, the river contains rocks that are too large for salmon to really use for spawning,” Fox said. “Removing the road and adding the logjams will increase sedimentation, making it easier for salmon.” – E. O'Connell

## Rody Creek, Salmon Habitat Damaged by Dredging



Puyallup Tribe of Indians

This portion of Rody Creek was dredged by a private landowner, ruining the creek’s salmon habitat.

A small chum run on Rody Creek was decimated by illegal dredging last fall. In October, a landowner dredged out the creek bottom, preventing salmon from being able to migrate to spawning habitat above

his property.

“He just scooped out the bottom of the creek and piled it up in front of his house,” said Russ Ladley, resource protection manager for the Puyallup Tribe of Indians. “Apparently, he

was trying to prevent the creek from flooding his property. But he probably also made sure Rody Creek won’t produce any chum this year.”

Tribal staff counted almost 60 chum in the creek during their annual survey, only eight of which made it above the newly perched culvert.

“The only good spawning habitat in the creek is above that culvert, which is now mostly impassable,” Ladley said. In addition to chum, the creek also supports coho salmon.

Many of the problems associated with the creek – lack of quality salmon habitat and flooding problems for landowners – were supposed to be addressed

by a restoration project last summer. The Pierce County-sponsored project was stalled because of a lack of funding.

“The project would have addressed the flooding issues that obviously led to the frustration that caused the landowner to take heavy equipment into the stream,” Ladley said. In addition to helping prevent flooding, the project would have benefited salmon by increasing salmon passage and rearing habitat.

“Both landowners and salmon would have benefited a lot by the project going forward,” Ladley said. “Unfortunately, the salmon in the creek have been hammered.” – E. O'Connell

## LOWER ELWHA KLALLAM TRIBE

# Logjams Ready For Stronger Elwha River Flow

After 11 years of intense labor, the Lower Elwha Klallam Tribe has completed 33 engineered logjams (ELJs) in the Elwha River in preparation for this year's deconstruction of the river's two fish-blocking dams.

"I am extremely proud of our habitat restoration crew," said Russell Hepfer, the tribe's vice-chairman. "I can't wait to see the salmon using the logjams. We have been planning and waiting for so long, it will be a good day in our history when fish start utilizing the whole river system again."

Logjams help create proper salmon habitat in a river, such as pools of water for resting and feeding and gravel beds needed for salmon spawning.

"This is one of the largest ELJ restoration efforts to date in the Pacific Northwest, possibly the world," said Mike McHenry, the tribe's habitat program manager.

The 33 logjams were put to a test in December 2010, when the Elwha River peaked at 22,000 cubic feet per second. Following inspection, the logjams proved to hold up to the intense flows.

The tribe was resourceful in acquiring the thousands of trees needed, including trees that were removed as part of hatchery construction. Additional wood was purchased locally.

The Elwha and Glines Canyon dams were constructed in the early 20th century, blocking access for fish to the upper watershed. In addition, the 5 miles of river habitat below the dams were damaged through dike construction and logging, destroying habitat salmon need to survive.

"Removing the two dams on the Elwha River will restore the river to its natural state and allow all five species of Pacific salmon and other anadromous fish to once again reach more than 70 miles



Kim Sager-Fradkin/Lower Elwha Klallam Tribe

Just a few of the 33 logjams built by the Lower Elwha Klallam Tribe in the lower 5 miles of the Elwha River. The structures will help create salmon habitat while also slowing down the expected intense flows after the river's two fish-blocking dams are removed starting this fall.

of near-pristine freshwater habitat," McHenry said. "In turn, the salmon will return vital nutrients to the watershed, restoring the entire ecosystem, from insects to eagles." – T. Royal



Adeline Smith, Lower Elwha Klallam Tribe

## Generations

Lower Elwha Klallam tribal members Charlie and Eddie Lewis are seen here fishing on the Pysht River in 1928.

The Pysht River is a 17-mile-long river west of Port Angeles. It historically supported runs of chinook, coho and chum salmon as well as cutthroat trout.

However, the salmon populations declined over time, as development and logging caused habitat degradation. The tribe has done an extensive study of the Pysht watershed to assess restoration efforts.

# Port Gamble Nurses Point Julia Back to Health



T. Royal

Sherrie Duncan of Ridolfi, Inc. takes a sediment sample to test for contaminants on Point Julia.

The Port Gamble S’Klallam Tribe is cleaning up Point Julia, where its ancestors used to live, cook and celebrate. While there are no more homes on the point, it’s still used for ceremonies and launching fishing boats. However, it looks much different than it did 100 years ago.

Derelict boats and trailers sit near the wetlands. A rusting barge with peeling paint is perched on the beach near a creek that flows into the bay. Chemicals may have leached from the old mill site across the bay and infiltrated the water and sediment. Fishing and shellfishing have been shut down in parts of the bay because of pollutants.

“The tribe wants to make Point Julia a safer place for the community while supporting a clean and healthy environment,” said Jessica Coyle, the Tribal Response Program manager.

Using federal Environmental Protection Agency Brownsfield Grants, the tribe is assessing

Point Julia in two phases. The first phase is a visual investigation of the land and possible causes of contamination. It includes a historical assessment, such as hiring an archeologist and interviewing elders about previous land use.

The second phase, a chemical investigation, involves testing for pollutants. A report will be developed based on 100 soil samples that were taken in January. The tribe expects to find metals, dioxides, fuel and by-products from wood burning at the mill site. From there, the tribe will put together a cleanup and redevelopment plan for the point.

“I’m pretty sure we’ll find contaminants around the pier – you can just see the creosote dripping from the old dock,” Coyle said. “And we know there is work that needs to be done. The tribal community wants to build a new boat launch, new picnic shelters and educational kiosks explaining the history of the area, while respecting the environment.” – T. Royal

## Squaxin Island Project Guides Budd Inlet Recovery

The Squaxin Island Tribe has developed an innovative way to guide the restoration of Budd Inlet. Rather than writing a top-to-bottom restoration plan, the tribe created a way for recovery partners to determine where best to apply their efforts.

“This isn’t a straight up-and-down list of priority projects, but rather a way to find the project that’s right for a particular budget or effort,” said Scott Steltzner, biologist for the tribe. “If you have \$25,000 and want to restore a shoreline, we can find a project for you. Or, if you have \$10 million and want to tackle stormwater, we have another project.”

Tribal staff boiled down decades of technical reports and

studies to their most important aspects.

“This tool will give stakeholders a way to effectively plan the restoration of Budd Inlet,” said Andy Whitener, the tribe’s natural resources director.

Budd Inlet in South Sound is part of the tribe’s treaty-reserved fishing area.

“Our treaty-reserved rights to the region’s natural resources depend on the ecological health of places like Budd Inlet,” Whitener said. “We want to be able to share the best science for a clean and healthy marine ecosystem.”

Problems facing Budd Inlet include a lack of salmon rearing habitat along riprapped

shoreline and poor water quality from low dissolved oxygen levels.

The tribe’s research is presented in a Geographic Information System database.

“Anyone should be able to pick up this document and use it to finish a piece of the puzzle,” Steltzner said.

The project follows the tribe’s recent completion of a region-wide mapping tool. The computer program helps identify the most valuable salmon habitat in South Sound in relation to the rest of the region. The tribe’s scientists are working with local authorities to identify possible restoration projects.

“There is a lot of local knowledge, from government

scientists to people working for non-profits, who are thinking about Budd Inlet,” Steltzner said. “We wanted to get all that brainpower in one room and working toward a common goal.”

Restoring Budd Inlet is a high priority for the Squaxin Island Tribe.

“We don’t have the luxury to write off some places to development. We are bound by treaty and tradition to deep South Sound,” Whitener said. “We know that bringing this place back to health is going to take cooperation from many different groups and people. We hope this research will be a big step in that direction.”

– E. O’Connell



Above: Fish swim down this 1,300-foot-long pipe from a tank on the shore to the Port Gamble S'Klallam Tribe's net pens in Port Gamble Bay. Below: Port Gamble natural resources director Paul McCollum helps direct a pipe pouring fish from a tanker truck and into a tank.

## Custom Pipe Eases Move to Net Pens

The Port Gamble S'Klallam Tribe has developed a new transfer method to move juvenile fish from the state's George Adams Hatchery to tribal net pens in Port Gamble Bay.

About 429,000 young fish were hauled by tanker truck from the hatchery and pumped into a 2,300-gallon tank on the shore of the tribe's reservation. With a little gentle prodding, the fish swam from the tank down a custom-made 1,300-foot-long, 4-inch pipe leading to the 63,000-cubic-foot net pens. Each fish took an average of eight minutes to make the swim.

"We decided to change up the method of transfer to make it easier on the fish," said Paul McCollum, the tribe's natural resources director. "It was a method that worked well when I worked in Alaska and it seems to have worked well here too."



The coho will be fed daily in the net pen before being released in June. They are expected to return as adults in three years. The fish carry tiny coded-wire tags in their snouts to identify their origin, date of release and other information.

The tribal net pen program has been operating for nearly 30 years in Port Gamble Bay, providing harvest opportunities for Indian and non-Indian fisheries in the bay and Hood Canal. – T. Royal

## Agate Pass Net Pen Program Thriving

Building on last year's revival of the Suquamish Tribe's Agate Pass net pen program, the tribe again transferred nearly 200,000 juvenile coho salmon to net pens this March.

"We are pleased to have another successful year of coho smolts ready for salt water, and excited for the fall return of our 2008 brood," said Jay Zischke, the tribe's marine fish manager. "The forecast is for approximately 8,000 adult coho to return to the Agate Pass area this late September and October. This has been a multi-year collaboration, which has involved working with our co-manager Washington state, the city of Bremerton and the U.S. Navy."

The fish were bred at the state's Minter Creek Hatchery near Purdy, then transferred in January to the Gorst Hatchery, which is operated by the tribe and the city. Once the coho reach the smolt stage of their lifecycle, they are ready to transition from fresh water to salt water before heading out to sea.

In March, the smolts were transferred from the hatchery to Keyport using state fish transfer trucks. At Keyport, nearly 200,000 smolts were loaded onto a tribal barge which took the fish out to a net pen that is just slightly smaller than an Olympic-sized swimming pool. The fish will spend nearly three months in the pen acclimating to the saltwater environment and imprinting to the area prior to release.

– T. Royal



From left, volunteer Norm Reinhardt and Suquamish fisheries technicians Ben Purser and Doug Nolan scoop up coho smolts at the Gorst Hatchery.



K. Neumeier

Employees at the Swinomish Fish Co. can chum salmon. The company exchanges canned salmon with other tribes to help families get enough fish in their diets.

## Providing Salmon to Elders

Salmon always has played an important part in tribal diets in western Washington. These days, with a disproportionate number of tribal members suffering from diabetes, eating salmon is more important than ever.

Unfortunately, with salmon runs in decline and fewer tribal members making their living as fishermen, the resource is harder to come by.

The Swinomish Fish Co. has long provided canned salmon to Swinomish tribal elders, and in recent years, started providing it to the Suquamish and Tulalip tribes as well.

“We have had canned fish for Swinomish elders as long as I’ve been here,” said Tom Durkan, general manager of the Swinomish Fish Co. “The elders like them so much.”

Sometimes the fish are surplus or otherwise less desirable to buyers because their spawning colors are showing and they aren’t chrome bright. Suquamish fisherman Ray Forsman, for example, traded his excess harvest from the record 2010 Fraser River sockeye run for canned fish from the Swinomish Fish Co.

“The cans were so popular and it’s a good way to get quality food to the elders and youth,” said Rob Purser, the Suquamish Tribe’s fisheries director. “The community deeply values the salmon in all forms, and bringing salmon into the community helps support our traditional diets.”

The Tulalip Tribes also trade returning hatchery chum for canned sockeye and chum.

“The Tulalip Tribes’ Natural Resources Department is working with our new Hibulb Cultural Center to eventually provide a variety of traditional foods year-round,” said Ray Fryberg, director of natural resources for Tulalip. “Historically, Coast Salish tribes preserved foods for meals and ceremonial use during the winter months. Our partnership with the Swinomish Fish Company renews this way of life and provides year-round salmon at a fraction of the cost of local stores.”

This tribal canned salmon network provides a nutritional opportunity for families that can’t afford fresh salmon, points out Michelle Skidmore, a registered dietician for the Swinomish Tribe.

“To purchase fish is very expensive if they don’t have a family member to donate fish to them,” she said. “When the tribe provides fish to elders, or anyone, it’s highly beneficial nutritionally and the people in the community enjoy it because it’s a traditional food.”

Because canned salmon contains bones, it not only provides Omega-3 fatty acids, which are good for those who suffer from diabetes and heart disease, but also calcium and vitamin D.

Traditionally, when tribal members prepared salmon, they ate some of the bones or used them when making soup, Skidmore said.

“I recommend that they crush the bones and mix them in with the canned salmon,” she added. – K. Neumeier and T. Royal

## Tribes Swap Geoduck for Manila Seed

The Squaxin Island Tribe is sending live geoducks to the Lummi Nation in exchange for manila clam seed.

Several dozen geoducks will be shipped by the Squaxin Island Tribe to the Lummi Nation’s shellfish hatchery. There, they’ll be used to produce millions of clam seed.

The Lummi hatchery will sell the offspring of the live geoducks to commercial shellfish operations in South Sound.

“It’s actually pretty important for local geoduck growers – which there are a lot of down here – to have local broodstock,” said Daniel Kuntz, beach manager for the Squaxin Island Tribe. “So, it’s important that the Lummi hatchery is using our geoducks.”

The manila clam seed the Squaxin Island Tribe gets in return will become an important part of its beach enhancement program. Since 2008, the tribe has planted more than 10 million young clams and harvested nearly 128,000 pounds from enhanced beaches.

More than 20 percent of the nearly 1,000 Squaxin Island tribal members are active shellfish harvesters.

“It’s great to have such a close working relationship with another tribe and their enterprise,” said Andy Whitener, the Squaxin Island Tribe’s natural resources manager. “We can provide them with a unique, local broodstock and we can get seed for our enhancement program.” – E. O’Connell



Rama Brown

Geoducks harvested by the Squaxin Island Tribe are traded with the Lummi Nation.

## PREVENTING DISEASE

# Tribes Combine Efforts to Rear Healthy Steelhead

The Hoh Tribe is raising 130,000 steelhead eggs at its Chalaat Creek Hatchery to help prevent the spread of Infectious Hematopoetic Necrosis (IHN).

The virus that causes IHN was found in adult and juvenile steelhead at the Quinault National Fish Hatchery where the Hoh Tribe normally obtains steelhead for release in the Hoh River. The deadly virus has killed thousands of steelhead in the Columbia River watershed since it was first detected in Idaho hatchery trout in the 1970s. It has been found in the Queets, Quinault, Humptulips and Quillayute rivers in Washington the last several years.

“While we were not seeing the high levels of mortality in the juvenile steelhead at Quinault National Fish Hatchery, the Hoh Tribe didn’t want to take the risk of bringing the disease

into the watershed,” said Bruce Stewart, fish health program manager for the Northwest Indian Fisheries Commission.

Hoh fisheries staff combined steelhead eggs they spawned themselves from fish returning to Chalaat Creek Hatchery with eggs given to them from the Makah National Fish Hatchery.

The Hoh Tribe has released about 100,000 steelhead into the Hoh River for more than 25 years. Beginning in 1980, they reared the fish themselves, but it became easier and less labor-intensive to receive the fish from the larger U.S. Fish and Wildlife Quinault National Fish Hatchery.

Steelhead are vital to the Hoh Tribe, both culturally and economically. Hatchery steelhead begin returning to the river in December, when there are no other species of fish to catch.



*D. Preston*  
Joe Gilbertson, Hoh Tribe fisheries biologist, examines an egg tray for mortalities.

The bulk of the tribe’s steelhead fishing effort targets the hatchery stock.

Meanwhile, the research effort started by the Quinault Indian Nation in 2009 to answer questions about IHN will continue for at least another

two years, thanks to additional funding from coastal tribes and the U.S. Fish and Wildlife for a U.S. Geological Survey researcher. – *D. Preston*

## Hatchery Crews Vigilantly Prevent IHN Spread

Hatchery managers and technicians at the Quileute Tribe’s Lonesome Creek Hatchery are vigilant about disease prevention.

Boots and rain gear are washed repeatedly in a fish-safe disinfectant and fish eggs are bathed in a diluted concentration of it.

Recent local discoveries of the virus that causes Infectious Hematopoetic Necrosis (IHN), a deadly disease that has killed thousands of steelhead in the Columbia River watershed, means that crews are even more careful to prevent transferable fish diseases.

Last year, there were some instances of IHN at the Washington Department of Fish and Wildlife’s Bogachiel River Hatchery, where the Quileute Tribe annually receives steelhead eggs. Extensive testing preceded the transfer of 150,000 eggs received from Bogachiel late this winter.

As each bucket of eggs is brought into the

Quileute Tribe’s facility, hatchery manager John Mahan bathes his boots in disinfectant to make sure no fish pathogens come into the hatchery rearing area. Soaking the eggs in disinfectant kills surface pathogens.

The hatchery, like all tribal hatcheries, has a pathogen containment plan that is used to establish disease prevention protocols and is revised as needed.

“We’ll test them once more for IHN before we return them to the Bogachiel Hatchery in June for final rearing,” Mahan said.

From June until the following April, the fish stay at the state facility before being released in the river.

“We work well with our state partners,” said Mahan. “We help each other out on projects and work together to ensure necessary steps are taken to prevent disease outbreaks.” – *D. Preston*

Quileute hatchery manager John Mahan soaks his boots in disinfectant to make sure no fish pathogens come into the hatchery rearing area.



*D. Preston*



D. Preston

Tribal fishermen practice swimming to a survival craft during a safety-at-sea course sponsored by the Makah Tribe and Washington Sea Grant.

## Tribal Fishermen Brush Up on Safety at Sea

When the decision is made to abandon a fishing boat, the crew may have only a few minutes before the vessel sinks. Survival often hinges on whether they are able to get into survival suits before the boat slips beneath the waves.

Tribal fishermen learn how hard it can be to get into the gear quickly as part of a safety-at-sea course that at least one crewman of each tribal vessel is required to take each year.

“It’s not a lot of time,” said skipper Vernon Soeneke Jr., Makah, who took the course with nearly all of his crew. “But I feel better now that we’ve gone over this as

a crew. We are going to do drills and practice too.”

The icy waters of the Pacific can kill in less than 20 minutes. Wearing a survival suit and deploying a raft increase survival chances many times over. Crew members practiced getting into their suits after locating a fake fire on a boat, then jumped in the water and swam to an enclosed survival craft.

“I have fished for 25 years,” Soeneke said. “But when you watch a video of how fast a vessel goes down, it’s pretty sobering. I looked around the room and it was pretty quiet. Having a class like this makes

me feel more comfortable about keeping my wife’s daughter safe. It’s her first year on the water.”

The fishermen also practiced vessel damage control and discussed emergencies they have experienced.

“These drills make you think,” Soeneke said. “Communication is key and we’re going to work on making sure we are prepared if something goes wrong.”

The annual course has been co-sponsored by Washington Sea Grant and the Makah Tribe for 12 years. A separate first aid at sea course also has been offered for the past five years. – D. Preston

## Squaxin Island Harvest Protects Weak Wild Coho Stocks

Despite a low run of coho last fall, Squaxin Island tribal fisheries managers ensured enough wild coho made it into creeks and streams to spawn.

During their fall coho fishery, the tribe fishes in passages, avoiding bays and inlets where wild coho congregate. The Squaxin Island Tribe’s fishery resulted in a historically low catch of only 3,000 fish.

“Usually we end up catching 30,000 coho in a given year,” said Joe Peters, fisheries management biologist for tribe.

The tribe counts adult coho as they migrate through an adult trap on Cranberry Creek.

“We’re counting every coho that migrates through the creek, so we’re getting a good idea of how many are able to spawn,” Peters said. “This Danny Snyder, fisheries technician, samples adult coho from the Squaxin Island Tribe’s commercial fishery.

year, the number of coho we saw was actually up a bit, despite the low run overall.”

Early estimates show the coho return for all of South Sound is much smaller than the three-year average of about 200,000 fish.

“Our impact on wild coho stayed minimal this year,” Peters said.

The reason for the decreased run is being explored, but ocean conditions and impacts of floods three years ago are being considered.

Recent studies have tracked a gradual decrease in coho populations in deep South Sound, and show that the problem could be with marine habitat. The Squaxin Island Tribe wrapped up a study in 2007 that found that only six of 175 coho fitted with acoustic tags survived long enough to migrate north of Tacoma. – E. O’Connell



E. O’Connell



Bob Kirk/Suquamish Tribe

From left: Alie Hassett, Erica Cardiel, Charissa Sigo, Angeline Narte and Bearon Old Coyote present their work on ocean acidification at the 3rd National Summit on Oceans and Coasts in Washington, D.C.

## Climate Change Hits Home

A group of Suquamish Tribe teenagers recently tackled a complicated issue that natural resources managers are just starting to consider – ocean acidification.

The five teens presented their findings on the issue and its impact before nearly 100 of their peers from all over the country in Washington, D.C., in February.

It was a personal issue for the teens, because as tribal members, they rely on resources from the sound, such as salmon, crab, oysters and geoducks. During their research, they also learned how emotional the tribal elders were about the issue.

“I knew there was a shortage in our seafood,” said Charissa Sigo, a senior. “I just didn’t know how bad it was. And we learned that other groups are dealing with similar climate issues all over the country.”

The students were participating in the 3rd National Student Summit on Oceans and Coasts. The Suquamish teens were the only tribal delegation at the summit.

The teens were encouraged to participate by Karen Matsumoto, the Seattle Aquarium’s marine science education coordinator. Matsumoto has been working with Bob Kirk’s natural resources science class at the Suquamish Early College/High School through the Aquarium’s Citizen Science program,

along with Suquamish shellfish biologists Viviane Barry and Paul Williams.

Between November and January, Kirk’s students spent hours interviewing tribal elders, scientists and others, as well as reviewing existing research on Puget Sound water quality and climate change issues.

“We found that a lot of people don’t know what ocean acidification is,” said Erica Cardiel, a senior.

Ocean acidification is caused when sea water absorbs carbon dioxide produced by burning fossil fuels, lowering the pH of the ocean. This increased acidity slows shell formation. As acidity rises, water becomes more corrosive, eventually dissolving the shell and killing shellfish during the most vulnerable stage – as larvae.

The teens’ work culminated in an action plan to better educate the Suquamish Tribe and surrounding communities about the effects of ocean acidification and improving water quality. A video about the research project can be viewed at [go.nwifc.org/suquamishteens](http://go.nwifc.org/suquamishteens).

In addition to conducting community outreach, the students will present their work before a group of Washington state teachers this spring. The students also will continue working on marine life monitoring projects with tribal biologists and the Seattle Aquarium.

– T. Royal

## Tidelands Return to Tribe

The Suquamish Tribe acquired 157 acres of culturally important tidelands on Dyes Inlet last fall.

A traditional shellfish harvesting area, the swath of land also is the site of old wintering villages and homesteads, stretching between Chico Creek and Phinney Bay.

The tribe has been harvesting shellfish on the tidelands in cooperation with the previous owners since 2004. The tribe plans to seed the tidelands with clams and oysters. Funding from the 2007 commercial shellfish growers’ settlement agreement was used to purchase the tidelands. The landmark agreement addresses treaty shellfish harvest rights, preserves the health of the shellfish industry and provides greater shellfish harvest opportunities for everyone in the state.

The property also includes tidelands at the mouth of Chico Creek, one of the most productive chum streams in Puget Sound.

“It’s a great acquisition for the tribe because it is within the tribe’s usual and accustomed area, which gives the tribe latitude in decision making and harvest planning,” said Viviane Barry, the tribe’s shellfish manager.

Aside from providing greater opportunities to exercise treaty rights, the area is historically important to the tribe.

A permanent winter village was located at Erlands Point and included the last great meeting house of the tribe after Old Man House burned down in the 1870s. Tribal families, including the Sigos, Henrys and Bagleys, homesteaded nearby.

“The Dyes Inlet Indian communities have a rich past,” said tribal Chairman Leonard Forsman, who studied the area extensively while earning a master’s degree in historic preservation.

“Ethnographic places, archeological sites, former Indian villages, former Indian homesteads, cemeteries, clam beaches and fishing areas associated with the long occupation of Dyes Inlet by the Suquamish continue to be important to contemporary Suquamish,” he said. – T. Royal

## Walking On

### Cal Peters

Former Squaxin Island Chairman Cal Peters passed away in his home Jan. 19. Peters was born March 19, 1927, and held several positions on tribal council from 1952 to 2001.

Peters was an advocate of tribal treaty rights. He was one of the first Squaxin Island tribal business managers. He also served on several tribal committees and state and national Native American rights organizations.

He is survived by his wife Ina and children Steven, Richard, David, Mark, Roger, Susan (MacKenzie), Karen (Farr) and adopted son Daniel Morgan. Peters also is survived by his brother William, sister-in-law Elsie Charron, 22 grandchildren, 13 great-grandchildren, and numerous nieces and nephews. He was preceded in death by brothers Emory and Raymond Peters.



### Lisa Carol (Frederick) Turpin

Longtime Swinomish fisheries department employee Lisa Carol (Frederick) Turpin passed away Feb. 8 at her home on Camano Island after a two-year battle with cancer.

Born Jan. 25 in Kenosha, Wis., to Lyman and Margaret Frederick, she attended Kentridge High School and earned an associate's degree from Skagit Valley College. She married Ricky Turpin in 1984.

She worked for the Swinomish Tribal Fisheries Department for more than 10 years, keeping tribal members informed about fishing seasons, licenses and boat registrations.

At a luncheon honoring her in December, Swinomish Chairman Brian Cladoosby said that Lisa made it possible for fisheries director Lorraine Loomis to travel to meetings.

"Our administrative assistants and others don't get the credit they deserve," Loomis said. "It is truly moving that I could trust my staff and not have to worry while on the road protecting our tribe's treaty rights."

Turpin is survived by her husband; mother; son Nathan; daughter Sarah; granddaughter Esme; brothers Lyman Jr. "Skipper" and Lindley; sisters Lorie Lee, Luanne Kinsey, Layna Pfaff and Leslie Frederick; and nieces, nephews, aunts, uncles and cousins. Turpin was preceded in death by her father and grandparents on both sides.



### James Lawrence Joseph *Qual ish kanim*

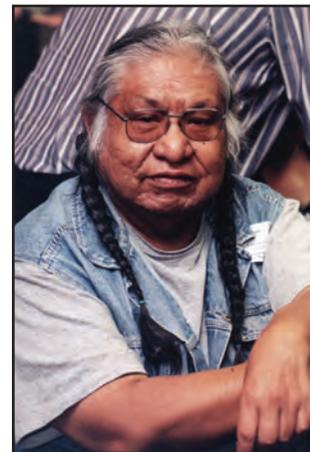
James *Qual ish kanim* Lawrence Joseph, 70, chief of the Sauk-Suiattle Tribe, passed away Dec. 28 in Everett.

He was born to James and Katherine Joseph April 22, 1940 at home on Indian Hill near Darrington and graduated from Ferndale High School. He worked for the Sauk-Suiattle Indian Tribe as a fisheries manager, retiring in 2002.

He was identified by his grandfather, Chief Leo Brown, and other elders of the Sauk-Suiattle Indian Tribe early in his life to become the next hereditary chief of the Sauk Band.

While holding elected office as chairman of the Sauk-Suiattle Indian Tribe, he represented his people in various capacities. He served on the first Local Indian Child Welfare Advisory Committee with the state of Washington. He helped found the Skagit System Cooperative (Skagit River System Cooperative) and the Northwest Intertribal Court System. He was a strong advocate for the Sauk-Suiattle Tribe during the litigation that resulted in the Boldt decision.

He is survived by his siblings Kenneth Lee Joseph, Leroy Charles Joseph, David Leo Isaac Joseph, Josephine Harriet Strong, Norma Ann Joseph, Katherine Floranee Misanes, Nancy Ann DeCoteau and Christine Alice Banks. He was preceded in death by his parents, James Joseph and Katherine Brown, and sister Eveline Ellen Matory.



### Richard Wolten

Richard Raymond Wolten, former natural resources director and council member of the Sauk-Suiattle Tribe, passed away Jan. 16 after a long battle with cancer. He was 61.

Wolten was raised in Blaine by Edith and David Wolten. During his youth, he was active in the Boy Scouts, achieving Eagle rank, and played football in high school. After graduation in 1968, he served in the U.S. Marine Corps during the Vietnam War.

Wolten worked for the U.S. Forest Service during high school and after he returned from Vietnam. He then went to work for Bellingham city parks for 32 years before becoming director of natural resources for Sauk-Suiattle.

He is survived by his loving wife of nearly 40 years, Marilee; son Barry Wolten; daughter Andrea and husband Josh Vail; and grandsons James and Bryer. He also is survived by his brother Blain Wolten; sisters Miriam Finkbonner, Jan Mabee and Berwyn Bough; and numerous relatives, in-laws, friends and family. He was preceded in death by his parents, brother Bill Wolten and his granddaughter Haylee Wolten.

