NWIFC **News**

Northwest Indian Fisheries Commission

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Inside:

Being Frank

Life Without The Orca?

By
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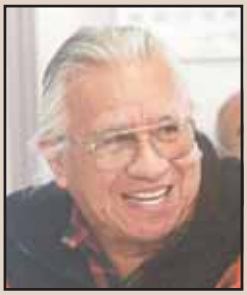
Chairman



Life just wouldn't be the same without the orca.

For thousands of years, these magnificent mammals have splashed through the ocean waves and skipped playfully through the serene waters of Puget Sound. Tribal culture has been greatly inspired by these awesome black and white giants who have always been a wondrous sign of purity and vitality in the Northwest.

Now our brother orca is listed as an endangered species, a fact almost too tragic to perceive. Orcas will disappear from our waters unless we all work together to make sure we have an environment that will sustain them. As it is, we don't. Our waters are riddled with toxic filth and it is slowly killing them.

If orcas – who accompany humans at the top of the food chain – are in trouble, it's a clear signal that creatures farther on down that chain are having problems, too. Take chinook salmon, for instance – a favorite food of both orcas and people. Does anybody out there truly believe it's just a coincidence that Puget Sound chinook is also on the endangered species list? A recent poll conducted for the Puget Sound Partnership revealed that 80 percent of the people in our region think Puget Sound is clean and healthy. If only it were true.

Consider the facts about one kind of pollution. Hood Canal is on emergency life support because of something scientists call de-oxygenation. That's what happens when all of the oxygen in the water is used up by the breakdown of pollutants like human waste from failing septic systems.

Thousands of gallons of human waste ended up in Puget Sound recently when an old sewer main broke in Port Angeles. Tragic as that was, it wasn't all that unusual. Every new person who comes to the Northwest and every new home that is built here means more such waste enters the waters, very possibly through leaky septic systems or outdated and overused sewage pipes. When hundreds of cruise ships dump their holding tanks as they glide through our region, they refer to the waste as black water. When livestock manure gets smeared all over the landscape and leaches into our rivers and streams, they call it nutrients. Whatever you call it, it looks and smells the same, and Puget Sound is full of it.

Such pollutants kill whales. So does the massive destruction of critical habitat we see every day. These things also kill their food, i.e., chinook salmon, at an ever-increasing rate. It doesn't take a great amount of intellect to realize that we must clean up our act. We also need to increase the production of chinook from our hatcheries to feed the whales and recover our own fisheries, too.

Ask yourself how long you would sit on your hands if your home was full of black water or sewage or whatever you want to call it. You would jump into action and do whatever it takes to clean it up. What if your refrigerator was empty? How long would it take you to get to the market? Now, think of Puget Sound and the ocean as your home, as well as the home of the mighty orca, and let's work together to do whatever is necessary to clean it up and expand the runs of harvestable chinook.

NWIFC News

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On The Cover: Jeremiah Johnson, right, and Tony Pascua, Makah tribal wildlife technicians, prepare to measure, weigh and radio-collar a black-tail deer fawn as part of four-year study. See story on page 11. *Photo: D. Preston*

Lummi Nation Aids Fin Whale Research

When the corpse of one of the world's largest creatures washed up on the shores of their reservation, the Lummi Nation responded immediately. The tribe wanted to know what killed the giant fin whale, Earth's second-largest animal, before the whale floated into Lummi Bay.

"We wanted to make sure to get the best possible scientific information," said Randy Kinley of the Lummi Nation, a member of the tribe's fisheries commission. "We wanted to find out what killed this whale, so we can protect these animals better in the future."

The 56-foot long whale was first reported drifting off the Lummi Nation's coast on the morning of May 14 before washing up near the tribe's Lummi Bay Hatchery. Using tribal fisherman Johnny Felix's 58-foot-seiner *Oceaneer*, the tribe towed it to a private, secluded site on the reservation for an autopsy.

To that end, the tribe called in a scientific all-star team, including staff of the Northwest Marine Mammal Stranding Network. Working with members of the Lummi Nation, more than a dozen scientists, students, and a veterinary pathologist examined the body for six hours on May 16.

The participants are authorized by the federal government to respond to strandings and includes members from the Cascadia Research Collective, the National Oceanic and Atmospheric Administration Fisheries agency, the Washington Department of Fish and Wildlife, and the British Columbia Ministry of Agriculture and Food.

Their findings verified what many suspected: the whale had been hit and killed by a large ship in open water.

"All the evidence is pointing toward a ship strike as the cause of death," said John Calambokidis, research biologist with Cascadia Research.

Large bruises and hemorrhaging on the whale's right side provided the clues. The whale's body was otherwise in good condition, increasing researchers' confidence that the animal was hit by a passing ship.

Sadly, this fate is not uncommon for the fin whale. In 2002 alone, three of the animals were found dead in Puget Sound from ship collisions. One of these was killed by a tanker bound for Cherry Point, just north of where the most recent fin whale was found. Since they feed near the surface and are so massive, fin whales are especially vulnerable to ship strikes.

Terry Hillaire of the Lummi Nation helps a researcher from the Cascadia Research Collective examine a bruise on the back of a dead fin whale. *Photo: J. Shaw*

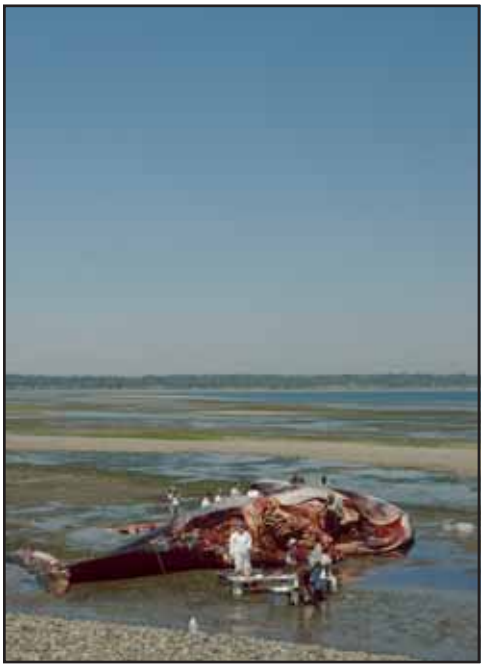
It's unusual for a fin whale to be seen in Puget Sound. They exist off the west coast of the United States and Canada, but are endangered and rarely enter the sound.

The fin whale is protected under the Marine Mammal Protection Act and listed as "threatened" under the federal Endangered Species Act.

Remarkably, the mammoth whale was just a child – scientists estimate the animal was just four or five years old. Despite this, its weight was estimated at 35-50 tons.

Researchers collected approximately 100 tissue samples during the examination. Data from these samples will enhance scientific understanding of this animal's health. The first test results were expected in early July.

The Lummi Nation plans to preserve the skeleton through its cultural resources program. – *J. Shaw*



Lummi Nation members assist Cascadia Research Collective personnel in collecting data on a 56-foot long fin whale that washed up on the tribe's reservation near Bellingham. *Photo: J. Shaw*

Fin Whale Fast Facts:

- The fin whale is the second-largest animal on earth, behind only its close relative, the blue whale. Fin whales can grow to be 89 feet long.
- The fin whale is the fastest among the whale species. In 1980, one fin whale was tracked moving from Iceland to the eastern coast of Greenland – a distance of about 1,000 miles – in just five days.
- Fin whales are believed to live up to 100 years.

Forest Product Theft Increases On QIN Lands

James Smith, Quinault Indian Nation natural resources enforcement officer, stands next to a seized load of illegally harvested salal.

Photo: Quinault Indian Nation

A glove hung on a tree branch. Rubber bands scattered on the forest floor. Fresh tire tracks on a little-used road. These are all clues to illegal forest product harvest activity for James Smith, a natural resources enforcement officer for the Quinault Indian Nation (QIN).

"The glove is often a marker for the person who picks up the crew with their harvest in the evening," said Smith. "The rubber bands are used to bundle some of the product."

QIN tribal members have always valued what the forest provides, but now a hungry forest products market is putting a rising dollar value on salal, cedar, moss, cascara bark and bear grass. Illegal harvest of non-timber forest products on the more than 208,000 acres of QIN lands is estimated at $100,000 a month by Jim Campbell, forest harvest manager for QIN. "That figure is probably on the low end. It's roughly based on an estimate of 10 people in a van, each making about $100 a day, five days a week. We're not catching all of these thieves because of the large land base and vast number of roads that we have to patrol."

With cedar increasing in value, it is also a prime target for thieves. "We estimate people are stealing about $15,000 worth of cedar each month from the Highway 101 corridor between Queets and Lake Quinault," said Campbell. It's one of the most remote areas of the reservation. Approximately 23 road systems exit to Highway 101, making it easier for thieves to cut and run.

'Aside from the theft, they aren't harvesting the plants properly either . . .'

– James Smith, Natural Resources Enforcement Officer, Quinault Indian Nation

"We have signs posted on most of the ownership in English and Spanish that forest product harvest isn't permitted," said Pauline Capoeman, assistant director of the Quinault Department of Natural Resources. "It's not a case of them not knowing they aren't supposed to be harvesting there." When QIN natural resource officers catch forest product thieves, they make arrests, confiscate the harvest and seize the vehicle. "Taking the vehicle seems to assure they show up for court," said Smith. "A guy will call me weekly about his court date if I have the rig."

Bear grass, a culturally important plant to tribes, is threatened by illegal and improper harvest.

Photo: D. Preston

For enforcement officer Smith, solving the clues and catching the thieves is a point of pride. He starts work early in the morning or goes out late at night to improve his chances of success. "Aside from the theft, they aren't harvesting the plants properly either, especially the bear grass. They're cutting it with a machete instead of pulling it and the bear grass grows back stunted, if at all," said Smith. "The elders talk about how bear grass used to be as long as a man was tall. We haven't seen it that long for many years now."

Three permits were granted this year under a pilot project to allow legal harvest of some forest products on QIN lands. "We had a lot of interest from non-tribal and tribal members wanting to get into the business," said Campbell. "We wanted to keep the pilot project small because it's more manageable. We're evaluating the pilot program to see if it will continue."

Meanwhile, the QIN is adding new tools, such as all-terrain vehicles (ATVs), to help combat the theft problem. The ATVs assist officers in getting into remote areas and surprising thieves who are expecting enforcement officers to arrive in pickups. "Detection can be tough with lots of roads and easy access," said Capt. Douglas Washburn, manager of the QIN Department of Resource Protection. – *D. Preston*

Invasive Tunicates Threaten Hood Canal

Skokomish tribal divers are assessing and removing two types of invasive non-native animals called tunicates, or sea squirts, which have been found in the southern half of Hood Canal. The 6-inch-long animals are known to quickly spread and crowd out native shellfish and other species.

"There are some places where the tunicates are thick enough that it only takes 15 minutes to fill a bucket," said Chris Whitehead, Skokomish's shellfish management biologist. Divers collected 250 pounds of tunicates from docks at the Pleasant Harbor Marina in three hours during one dive in mid-May.

Besides removal, tunicates can be controlled with chemicals or by high-pressured water.

"It's just a control process right now," he said.

Sea squirts are filter-feeding animals, with a heart, stomach and intestines. They have no known predators. A single tunicate can release a million eggs at once. Most sea squirts are native to Asia; it's believed they arrived in the area through ballast water discharged from ships.

Invasive club tunicates can quickly displace native marine life. *Photo: T. Royal*

Tunicates removed by the tribal divers are taken to the Skokomish reservation and incorporated into the tribe's community composting program. The tribe also composts chum salmon carcasses, pine cones and brush and uses the organic material for planting projects in the area.

Work in Pleasant Harbor is being conducted through a contract with the Washington Department of Fish and Wildlife. The tribe also has a contract with the Department of Natural Resources to survey tunicates between Rendsland Creek and Belfair, as well as within the Tahuya River delta.

"One of the invasive tunicates has been around for about 10 years and the other has been around for five years, and people are just now becoming concerned about them," Whitehead said. "The main concern is that they can reproduce so fast. They are out-competing everything." – *T. Royal*

Tunicate Fast Facts:

- Scientific names: *Styela clava* and *Ciona savigny*. Common name: sea squirts.
- Siphon-feeding marine animals, tunicates have a heart, stomach and intestines. They have no known predators.
- Reproducing rapidly, tunicates attach themselves to solid surfaces and can quickly cover docks, boats and rocks.
- Tunicates can force out native species, such as clams, mussels and other native tunicates.
- Most invasive tunicates are native to Asia and likely were brought to the Northwest via ballast water discharged from ships.

Wind, Rain Leads To Loss Of Hatchery Fall Chinook

Gusty winds and associated rains were believed to be the cause of a major fish kill at the Gorst Creek salmon rearing facility in mid May.

An estimated 1.6 million fall chinook salmon fry were found dead at the Gorst Creek rearing ponds the morning of May 24, said Jay Zischke, Suquamish marine fish program manager. Heavy rain and winds are believed to have washed debris over the water intake screens at the hatchery, blocking the flow of water.

The eight-month-old fish, approximately 4 inches long, were scheduled to be released at the end of May. Since the program began in 1982, returning adults have provided fishing opportunities for both Indian and non-Indian fishers.

The loss is expected to result in sharply reduced returns to Sinclair Inlet in 2010, when this group of fish would be expected to return as adults. Approximately 230,000 juvenile chinook survived and will be released.

"The lack of fresh, oxygenated water in a pond with this many fish, even for just a few hours, can be devastating," Zischke said.

The Gorst facility is a partnership between the Suquamish Tribe, Washington Department of Fish and Wildlife, the City of Bremerton and the Kitsap Poggie Club. – *T. Royal*

Nisqually Tribe Tracks Disappearing Steelhead

Sayre Hodgson, a biologist with the Nisqually Tribe, inserts an acoustic tag into a juvenile steelhead caught near the mouth of the Nisqually River.

Photo: E. O'Connell

Steelhead have been slowly disappearing from the Nisqually River for at least the last decade and the Nisqually Indian Tribe wants to know why. "There is plenty of good habitat for steelhead in the Nisqually watershed, so we think they're running into problems in saltwater," said David Troutt, natural resources manager for the Nisqually Tribe. "But, we don't know that for sure."

Tribal and state co-managers would like to see about 2,000 steelhead return to spawn every year to the Nisqually, but since 1993, fewer than 1,000 have come back. Decades ago, the Nisqually River had the strongest run of steelhead in Puget Sound; more than 6,000 would return every year. Nisqually River steelhead are part of a stock that is currently being considered for listing under the federal Endangered Species Act.

To help determine the cause for the steelhead's decline, tribal researchers are tagging about 50 juvenile steelhead with acoustic transmitters as they head out to sea. The transmitters will allow the researchers to track the steelhead after they've left the river. The tribe's effort is part of the joint U.S. and Canadian Pacific Ocean Shelf Tracking Project. An array of acoustic receivers located throughout Puget Sound will track the fish as they begin their ocean migration. When a steelhead carrying an acoustic transmitter passes between a pair of receivers, its individual frequency is recorded and tracked for several hundred yards.

"This project will help us to narrow down where the steelhead could be running into trouble," said Troutt. "With better information, we'll have a better idea how to recover these fish." *– E. O'Connell*

Mashel River Habitat Work Shows Results

Engineered logjams on the Mashel River are leading to more salmon and a natural increase of their habitat.

Two years ago, logjams were constructed along a one-mile stretch of the Mashel by the Nisqually Tribe and the South Puget Sound Salmon Enhancement Group. "While the initial restoration work added some habitat to what had been a river lacking many habitat features, nature has been building on our work," said Jeanette Dorner, salmon recovery manager for the Nisqually Tribe.

The logjams help create deep pools where adult salmon can rest when making their way upstream, and provide shelter for juvenile salmon migrating out to sea.

"By building logjams, we have jumpstarted the process of habitat creation on the Mashel," said Dorner.

Coho, a species struggling in the Nisqually watershed, have especially benefited from the increased rearing habitat on the Mashel. "Because coho spend an extra year in freshwater when they're young, they depend on freshwater habitat more than other species of salmon," said Dorner.

The restoration project is also providing additional protection for chinook salmon, which are listed under the federal Endangered Species Act. "The Mashel River is one of only two tributaries in the watershed that chinook use to spawn," said Dorner. "By increasing habitat overall, we're lessening the chance that a single disaster, like a landslide in the Nisqually River, could wipe out the population."

The habitat restoration work in the lower river will be complemented by additional restoration work this summer in the upper Mashel River. The tribe and the enhancement group will restore a stretch of the Mashel that flows through a popular park in Eatonville. A rip-rap levee will be removed and replaced with a series of logjams.

"Habitat restoration and protection are the most important things we can do to recover struggling salmon stocks," Dorner said.

– E. O'Connell

Tribe Boosts Recreational Shellfish Harvest

The Squaxin Island Tribe is boosting recreational oyster harvest by seeding several South Sound beaches. Over the past three years, the tribe has planted about 300,000 juvenile oysters for exclusive recreational harvest at public beaches in Mason, Pierce and Thurston counties.

The project is funded by tribal harvest of oysters on a remote stretch of beach on Oakland Bay near Shelton. "Typically, tribal and non-tribal shellfish harvesters share the harvest of oysters on a beach, but because of its remote location, few recreational harvesters made it out there," said Eric Sparkman, shellfish biologist for the tribe.

"We're replacing those oysters the tribe is harvesting in Oakland Bay with oysters recreational harvesters can easily get to," said Sparkman. The three public beaches enhanced by the tribe are Frye Cove county park on Eld Inlet, the North Bay tidelands in Mason County and Kopachuck State Park near Gig Harbor. The project is part of a shellfish management agreement between the tribal and state co-managers.

Will Penn, Squaxin Island Tribe resource technician, hoists a bag of Pacific oysters before spreading them in the shallow tidal water of Eld Inlet. *Photo: E. O'Connell*

"More than 5,000 people visit Kopachuck State Park annually, making it the second most popular public shellfishing beach in southern Puget Sound," said Alex Bradbury, shellfish biologist with the Washington Department of Fish and Wildlife. "Frye Cove gets almost 1,500 sport harvesters annually and they took more than 14,000 oysters last year. This enhancement by the tribe will satisfy that huge sport demand for oysters at the most accessible public beaches."

By reducing oyster populations in Oakland Bay, the tribe is also creating more space for clams to grow. "Oakland Bay is a better place for clams than for oysters because the habitat is more suited for clams," said Andy Whitener, tribal natural resources director. "The clams thrive once they are alone on the Oakland Bay tideland." – *E. O'Connell*

Generations

Swinomish tribal fishermen, from left, Tandy Wilbur, Wilbert James and Charles James show off a salmon and a skate from a successful day's fishing near LaConner in the 1940s.
Photo: Swinomish Tribe

Better Black Bear Management Is Goal Of Study By Makah Tribe

Historically, Makah men of status wore bear hides and regalia that included teeth and claws. Bear meat was an important food, as it is today.

To better manage tribal lands for the welfare of the black bear, Makah tribal biologists are conducting a three-year on-reservation study that will provide information about bear numbers and their preferred habitat.

"Black bear numbers can vary greatly within any given area," said Rob McCoy, wildlife division manager for the Makah Tribe. "We don't have a good baseline of information about the bear population to develop management decisions, such as bear harvest levels and changes in forest practices, to provide better habitat."

Damage caused by bears to young trees on Makah forest lands is another reason the tribe needs a good picture of the number of bears on the reservation. Black bears are omnivores, meaning they will eat almost anything ranging from plants to small rodents as well as young elk and deer. In early spring, when food supplies are most limited, one of the bear's favorite foods is the inner bark layer of young conifer trees. Damage caused by the bear to get at the bark reduces its value and can kill the tree.

An initial bear damage inventory on the Makah reservation showed bears prefer silver and Douglas fir, if they can get it, but most often go after hemlock because it's the most prevalent tree. Two of the three regions of the reservation receive heavy bear damage, with between 42 and 64 trees per acre affected, while the most remote area of the reservation has less than two trees per acre affected, despite similar trees and forest harvest practices. "It may be that using trees as a food source is a learned behavior and because that part of the reservation is separated by the river, that behavior isn't as prevalent in that group of bears," said McCoy.

Tony Pascua, Makah wildlife technician, prepares to move a tagged, tranquilized male black bear into a culvert trap for recovery prior to release.

Photo: D. Preston

"It's important to get the baseline numbers of bears in hand before we contemplate changing forest practices or bear harvest regulations," McCoy added. "Female black bears don't breed until they are nearly 5 years old and then only reproduce every two to three years. You can easily over-harvest black bears because of their low reproduction rate."

To conduct a bear population census, the tribe is trapping black bears and fitting them with radio collars. The collars will enable the tribe to track the bears and to determine home ranges for female black bears and cubs, learn preferred habitats for winter den sites and track survival rates. Male black bears will not be collared because they range much farther than females, making it too expensive to track them, said McCoy. However, all of the trapped bears will receive an ear tag that will aid in tracking them through harvest reports and other sightings.

A system of remote cameras records visits to each trap site, helping to identify the number of bears in the area and note identification traits of some bears.

In the course of the three-year study, the tribe plans to radio-collar and track 10 female bears. Others will be trapped and released to help estimate the overall population in the area. The tribe will use the results of the study to produce a black bear management plan for the reservation.

A $460,000 Administration for Native Americans Environmental Regulatory Enhancement grant and $157,000 from the Makah Tribe will pay for the study. The Quinault Indian Nation is donating the use of some of their traps for the project.

– D. Preston

Bears can kill trees when they try to access the tasty inner bark.

These Bears Are Smarter Than Most

A remote camera shows a mother black bear freeing her cub from a culvert trap. *Photo: Makah Tribe*

Homeowners trying to capture moles in their yards can appreciate the frustration of Makah tribal biologists attempting to capture black bears.

The tribe is trapping black bears and radio-collaring them as part of a three-year study of the bruins on the reservation. Two types of traps are used by the tribe; a culvert trap with a trigger in the rear of the cylindrical pipe that closes the door and a leg snare that encircles a paw when the trigger is stepped upon. Remote cameras at each of the trap sites reveal all too clearly how the bears manage to steal bait and elude capture or simply destroy the trap.

Each day, the biologists check the traps. Some mornings, there are no bears but there many pictures. A chorus of groans is heard as the photos reveal a bear in the trap – only to reveal the bear escaping.

Escapees include:

- A mother bear letting her cub out by slapping the trap until finding the door release lever;
- A bear reaching through the bars on a trap to free himself after being trapped inside with a skunk;
- A previously trapped and collared bear returning to destroy the trap and steal the bait; and
- A camera-shy bear who decided to get rid of potential evidence by destroying the remote camera and then stealing the bait.

"We have to move the traps around if we're getting too many escapes. The bears get too smart and it's best to try a new location rather than continue to battle an educated bear," said Jon Gallie, wildlife biologist for the Makah Tribe.

"The pictures can be frustrating, but they are also valuable," said Rob McCoy, wildlife division manager for the Makah Tribe. "The photographs help us identify bears by their unique markings such as a torn ear or a scar on the nose. It also gives us ideas how to change the trap to make it work better."

– D. Preston

On The Fly

An osprey takes flight following a tasty fish lunch on Village Creek in Neah Bay. Ospreys, also called fish hawks, average about 22 inches in length and have a wingspan of up to 6 feet. They can reach speeds of about 40 mph.

Photo: D. Preston

Tribal Fishermen Honored

A procession of singing and drumming opens the Swinomish Tribe's 2006 Blessing of the Fleet. *Photo: J. Shaw*

When tribal fishermen head out to the river or the ocean to feed their families and earn a living, they are taking part in a cultural experience that is thousands of years old.

They are also taking part in one of the world's most dangerous professions.

That's one reason the Swinomish Tribe hosts an annual Blessing of the Fleet. Hundreds gathered this June at the tribe's La Conner area reservation for the blessing, where people of multiple faiths prayed for a successful harvest and the safe return of the tribe's mariners.

"This is an important ceremony for us," said Lorraine Loomis, fisheries manager of the Swinomish Tribe. "It is a way to honor our fishermen and show them we care about their important work."

Speakers, including tribal elders, reminded visitors of the importance of environmental restoration. Preserving and restoring fish habitat, they stressed, is the way to preserve the fishing way of life.

Representatives of the Shaker, Catholic and Pentecostal churches offered blessings to fishermen. – *J. Shaw*

Holding salmon, Swinomish tribal fishermen receive a blessing. *Photo: J. Shaw*

Stillaguamish Tribe, Navy Team Up On Earth Week Project

During Earth Week, the Stillaguamish Tribe partnered up to protect the planet with a group usually identified with the seas – U.S. Navy personnel.

Working with volunteers from the Navy, the tribe planted native trees and plants along Pilchuck Creek April 18. The work marked the tribe's first-ever Earth Day celebration, and involved improving nature's bounty as well as celebrating it.

"We're always looking to build partnerships with others interested in preserving and restoring salmon habitat," said Shawn Yanity, chairman of the Stillaguamish Tribe. "These Navy volunteers definitely fall into that category."

Sailors from the USS Abraham Lincoln's Beach Detachment, stationed at Everett Naval Base, worked with tribal volunteers to plant more than 3,000 native trees, including cottonwood, bigleaf maple and red alder. All told, 12 different tree and 18 different shrub species were planted.

Environmentally, the project will work in both the short and long term.

"The trees will provide shade, which is good for salmon," said Pat Stevenson, the tribe's environmental director. "As the trees age, they'll fall into the creek, providing woody debris, which also benefits fish."

With the new grove of young trees, tribal and Navy crews ensured that a 100-foot buffer will exist around Pilchuck Creek.

About 50 people took part in the event, including 30-some sailors. Besides the rewards for fish, a number of Navy personnel were enjoying the volunteer opportunity as well. Among them was Cyrus Metcalf, an engineering lab technician and Montana native who is a former Eagle Scout.

"I just love being outside like this," he said. "I wouldn't mind doing this for a living."

The site, adjacent to Pilchuck Park, is tribally owned; Stillaguamish purchased the land late last year. Ultimately, the tribe would like to acquire about 2,000 acres of land in the watershed for environmental preservation purposes. – *J. Shaw*

Fawns Help Tribe Study Deer Disease

Indian and non-Indian harvest of black-tail deer on the North Olympic Peninsula has dropped by two-thirds between 1992 and 2003. Makah wildlife biologists believe that a parasite-induced hair loss disease called hair slip syndrome (HSS) is causing the drop in productivity of black-tail deer, limiting harvest opportunities.

To test that theory, the tribe has radio-collared 50 black-tail deer fawns this spring, both on-reservation and on private timberlands in the Seiku and Sooes River drainages. The fawns will be tracked up to four years, which will include two reproductive cycles. HSS is caused by a non-native louse infestation that results in deer licking and scratching incessantly. The resulting hair loss reduces the animal's ability to regulate its body temperature, causing hypothermia, stress, exhaustion and even death.

A black-tail deer fawn is measured by Makah wildlife technicians. *Photo: D. Preston*

Total Indian and non-Indian harvest of black-tail deer on the North Olympic Peninsula dropped from 963 to 302 in 11 years. Black-tail deer are vitally important to Makah subsistence and ceremonial needs. The sharp population drop led to the Makah tribal council designating black-tail deer as a species of concern.

Tony Pascua and Jeremiah Johnson, Makah wildlife technicians, weigh a black-tail deer fawn prior to fitting it for a radio collar. *Photo: D. Preston*

"It's been established that close deer-to-deer contact seems to spread the disease," said Rob McCoy, wildlife division manager for the Makah Tribe. "We're trying to determine the impact HSS has on the overall population. Previous tribal studies have shown that about one fourth of the black-tail deer in the study area have the disease. Comparing the productivity of deer that develop the disease to those that do not over the four-year period will tell us whether the disease is suppressing overall population growth," said McCoy.

HSS is more common with females than males because after breeding season, the bucks generally become loners while groups of does and fawns will congregate together, said McCoy. Normally, most fawn deaths occur in the first months of life when they can't escape predators. Mortalities decline sharply as they get older. Those infected with HSS, however, frequently die later in their first year when overall fawn mortalities should be dropping. "As a byproduct of this study, we're getting important information about the overall survival of black-tail deer fawns in general. There isn't much information available about fawn survival in Washington."

'We observed all of the fawns back with their mothers. . .'

– Jon Gallie, Wildlife Biologist, Makah Tribe

Fawns collared as part of the study are carefully handled to minimize human scent and possible rejection by their mothers. "We have an established handling protocol. We observed all of the fawns back with their mothers by the following day and often before we were out of the capture area," said Jon Gallie, wildlife biologist for the Makah Tribe.

KBH Archers, a Bremerton-based sportsmen group, private timberland managers Green Crow and Washington Department of Fish and Wildlife assisted with the fawn capture.

The Makah tribal council provided $10,000 for the collars and a $25,000 federal Bureau of Indian Affairs grant provided for wildlife technician time and some supplies. "We've had a lot of in-kind donations of time as well as food and drinks for the capture effort, particularly from the KBH Archers," said McCoy. *– D. Preston*

Tribes Saving Puyallup River Steelhead

Following the lowest steelhead returns in 50 years, the Muckleshoot and Puyallup tribes are launching a steelhead broodstock program to help save the imperiled stock. With help from the state Department of Fish and Wildlife, the tribes are taking a portion of the steelhead that pass through a fish trap on the White River and spawning them in a hatchery environment.

"If steelhead native to this watershed can't thrive in the wild, the only option is to raise some of them in a hatchery to ensure their survival and make sure their genetic traits aren't lost," said Blake Smith, enhancement manager for the Puyallup Tribe. Because certain conditions, such as water temperature, can be controlled, fish show a higher rate of survival in hatcheries than they do in the wild.

In 2000, more than 1,700 steelhead were seen throughout the Puyallup watershed. That number dropped to just over 1,000 in 2001; then to under 300 last year. "Even the creeks that are considered strongholds for steelhead have seen very few returning adults," said Russ Ladley, resource protection manager for the Puyallup Tribe. "This isn't just one or two bad spawning years; this is a sign that Puyallup steelhead may disappear."

'Steelhead are disappearing from the Puyallup. We need to do something to save them.'

– Russ Ladley, Resource Protection Manager, Puyallup Tribe

Russ Ladley, resource protection manager for the Puyallup Tribe, examines a steelhead before it's taken to a hatchery for spawning. *Photo: E. O'Connell*

The steelhead in the Puyallup River watershed are part of a larger Puget Sound stock that is currently under review for listing under the federal Endangered Species Act.

The steelhead will be raised at the state's Voights Creek hatchery and then transported to the Muckleshoot Tribe's White River hatchery for release. "It is vital that these steelhead acclimate to this particular tributary in the watershed," said Mike Mahovlich, fisheries biologist with the Muckleshoot Tribe. "Eventually, the fish we've taken this year will be the first generation in a wild broodstock program that will preserve the unique genetics of this run."

"Even though we can keep steelhead on life support in the hatchery, that doesn't recover them in the wild," said Smith. "The problem is that no one really knows why steelhead are having trouble throughout the Puget Sound." Because the treaty and non-treaty steelhead harvest on the Puyallup River has been almost non-existent for the past decade, managers suspect an unknown environmental factor is at hand.

"The steelhead life cycle is so complex, we can't be sure what part of the steelhead's habitat isn't working, whether it's marine or fresh water," said Ladley. Unlike other species that travel from the fresh water to the salt water at specific ages and only spawn once, steelhead can spawn multiple times. "Any given spawning steelhead you see in the river might be from 3 to 7 years old," said Ladley.

Without intervention, steelhead might disappear from the watershed. "When a house is burning down, you don't stand around asking why, you grab a hose and start putting it out," said Ladley. "Steelhead are disappearing from the Puyallup. We need to do something to save them." – *E. O'Connell*

Tulalip Tribes Help Farmer Protect Crops From Elk Damage

For years, elk have roamed on Les Price's farm, breaking apple tree branches, horning out peaches with their antlers and trampling garlic bulbs. Now, the Tulalip Tribes are helping Price build a formidable barrier to nuisance wildlife.

Since February, tribal crews have been setting posts and stretching wire to create roughly 1,800 feet of fencing around the farm near Hamilton. The move is a win-win solution that will protect Price's crops without harming the animals.

"This is all part of ongoing tribal elk management," said Mike Sevigny, wildlife manager with the Tulalip Tribes. "We're confident we can bring back thriving elk populations while meeting farmers' needs at the same time."

Jones Creek Farms, where Price produces organic tomatoes, garlic and fruit, has seen elk activity increase the past three years. "They can do a lot of damage when they get going," said Price.

Elk damage in the Skagit Valley pre-dates recent tribal efforts to transfer animals to the area from near Mount St. Helens. But because the Point Elliott Treaty tribes have augmented the flagging Nooksack elk herd, Tulalip felt it was necessary to help address issues associated with a hopefully increasing elk population.

"We helped bring more elk into this area; dealing with damage is part of wildlife management," said Sevigny. "The tribes want to manage for the whole herd, not just individual animals, so taking steps to solve problems like this makes the most sense over the long term."

Alan Cortez and Amanda Shelton of the Tulalip Tribes nail a length of fence into place. *Photo: J. Shaw*

The Point Elliott Treaty tribes want to see regional elk herds increase enough to support sustainable hunting, since tribal members have relied on elk meat for centuries. As leaders in wildlife management, though, tribes like Tulalip are also moving to reduce potential impacts on farmers and homeowners in areas where elk are on the rise.

Tribal technicians Alan Cortez, Amanda Shelton and Tony Moses have been working with Sevigny and Price on installing the protective fence. Besides elk, the fencing will help keep out nuisance deer that have troubled Jones Creek Farms as well.

The Washington Department of Fish and Wildlife provided fencing materials for the project; the Tulalip Tribes provided the labor. – *J. Shaw*

Updated Watershed Status Report Now Available

Tribal resource managers have released an updated comprehensive report filled with information vital to salmon recovery.

The second annual *State of Our Watersheds Report* brings together data on water quality, available habitat, salmon run sizes and other information into a single geographic information system database that provides a holistic look at the status of salmon spawning and rearing habitat in western Washington.

The report is a product of the Salmon and Steelhead Habitat Inventory and Assessment Program (SSHIAP), a cooperative effort of the treaty Indian tribes in western Washington and the Washington Department of Fish and Wildlife.

This year's report includes new information on estuarine and nearshore environments, increased and more precise data on fish passage barriers, and additional information on water availability and use in the region.

"Preserving aquatic habitat is the key to salmon recovery," said Billy Frank, Jr., chairman of the Northwest Indian Fisheries Commission. "Collecting, managing and delivering accurate data is crucial to that effort, and by releasing this report, the tribes are continuing their leadership in preserving wild fish runs."

"Each year of data gathering and assessment adds to our knowledge of how our watersheds work," said Frank. "Wise use of good data will allow us to recover salmon and the habitat on which they rely."

The report will continue to be updated annually as more information becomes available.

"This report is already valuable to tribal and state planners," said Frank. "Over time, as more and more data is added, it will grow in importance as a tool for saving our wild salmon."

To obtain a copy of the report, go to www.nwifc.org and click on the *State of the Watersheds Report* icon. – *J. Shaw*

Tribe, Farm Link Up For Salmon Recovery

The Nisqually Indian Tribe and Wilcox Farms are making sure that salmon and agriculture can coexist in the Nisqually River watershed. Wilcox Farms was recently certified as "Salmon Safe," and is working with the tribe to restore salmon habitat on their property.

"Salmon recovery on the Nisqually isn't going to happen without local, sustainable farming," said David Troutt, natural resources director for the Nisqually Tribe. "Farming and strong salmon populations can go hand in hand." Wilcox Farms is the largest agriculture operation in the Nisqually River watershed, covering 1,800 acres and producing hundreds of thousands of eggs each week.

The tribe and the farm are cooperating on a couple of projects that are restoring streamside tree buffers that cool water and provide future habitat for salmon. "Trees along rivers shade the water and can also be swept away, creating good habitat for fish," said Troutt.

In addition to habitat restoration, the farm is lessening its footprint in the watershed – an effort that earned them the "Salmon Safe" label. Stewardship Partners, a local group that helps landowners preserve and protect natural resources, certified the farm "Salmon Safe" earlier this year.

The farm is reducing the use of chemicals, fencing livestock to keep them away from streams that run through the farm, and trucking chicken manure to eastern Washington for use as a fertilizer. "By keeping down the amount of manure we have on-site, we can help protect water quality on the farm," said Jim Wilcox, co-president of the farm.

Kareem Gannie, Nisqually Tribe, plants young trees along a stream on the Wilcox Farm. *Photo: E. O'Connell*

The sustainable label can be good for business. "Our attention to protecting natural resources can be a selling point to our customers," said Wilcox. "People like to know that the milk and eggs they're buying didn't come to them at the expense of the environment."

The cooperation between the tribe and the farm underscores the work by the Nisqually River Council – of which the tribe and the Wilcox family are active members – to promote sustainable economic practices. The council recently released an update of their Watershed Management Plan, which re-focuses their attention on developing a sustainable economy in the watershed.

"We're hoping the example set by Wilcox Farms will inspire businesses throughout the watershed," said Troutt.

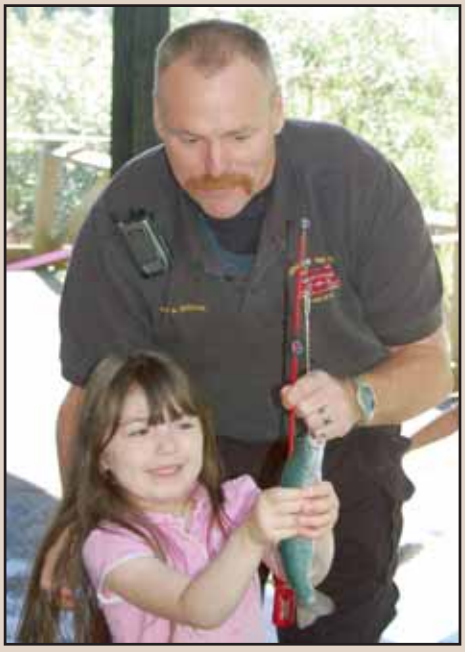
"We want to make sure healthy and vibrant communities can live along side strong salmon populations," said Georgianna Kautz, the tribe's natural resources manager. – *E. O'Connell*

Shouts Of Delight At Upper Skagit Tribe's Kids Fishing Day

The sights and sounds are familiar: the tug of a rod, a splash, the squeals of glee and terror as a fish comes hurtling out of the water toward a youngster.

But this is no riverbank or trout farm. On this day, hundreds of kids will have the chance to catch – and learn about – fish at the Upper Skagit Tribe's fish hatchery.

Every June, the tribe's Kids Fishing Day attracts local children who get to catch trout from the tribe's hatchery pens. The event, which grows each year, has become a winning combination of environmental education and entertainment.



A youngster hauls in a fish with the help of an Upper Skagit tribal enforcement officer. *Photo: J. Shaw*

"We try to add something new each year for the kids," said Scott Schuyler, the Upper Skagit Tribe's natural resources policy coordinator.

Besides the traditional trout fishing, this year's event featured salt water and fresh water fish tanks where kids could see a variety of aquatic life – young and adult salmon, crab sea stars, crayfish, urchins and the like. Kids also got to feed juvenile salmon.

"Being able to see and touch our natural resources like this helps the kids learn," said Schuyler. "It also helps instill in them a love for the environment that we hope lasts a lifetime."

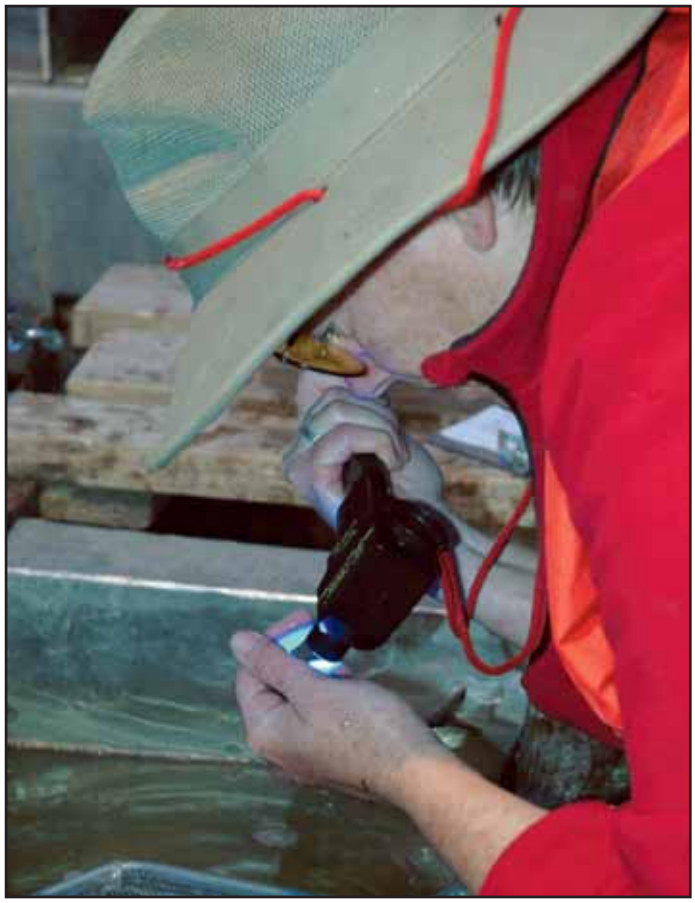
Pre-school students from Upper Skagit, Swinomish, Sauk-Suiattle and Samish tribes attended, as did groups of homeschool students and other kids from Upper Skagit and Swinomish communities.

For the first time, students also got a take-home gift that wasn't swimming a few minutes ago – a cedar seedling. Upper Skagit helped kids plant hundreds of trees into portable pots, encouraging them to go home and plant the next generation of trees.

"The cedar starts were an opportunity for us to teach the kids that trees are important to salmon," said Schuyler. "It's a fun, hands-on way to educate." – *J. Shaw*

More Lake Ozette Sockeye Seen Heading Out To Sea

Frogs chorus in the still evening air while a loud splash reveals that an otter has found a tasty fish meal. Added to these familiar Ozette River sounds is the slow gurgle of water through a smolt trap that allows the Makah Tribe to count young sockeye and other fish leaving Lake Ozette and heading to sea.



Caroline Peterschmidt, project biologist for the Makah Tribe, uses a special light to check young sockeye for a tell-tale glow. *Photo: D. Preston*

Tribal biologists are excited about the results of this year's effort. More than 18,000 young sockeye have safely moved through the trap this spring, up from only several thousand in previous years.

"It's too soon to say this is a sustained trend, but we're definitely thrilled to see the numbers moving in a more positive direction," said Caroline Peterschmidt, project biologist for the Makah Tribe.

Lake Ozette sockeye are listed as "threatened" under the Endangered Species Act. The Makah Tribe is one of the lead recovery planning agencies for the stock which spawns on two beaches in Lake Ozette and in some of the larger tributaries. The tribe also supplements the run by rearing some of the tributary spawners in hatcheries and releasing them to increase survival. The majority of the returning fish currently spawn in the tributaries. "The beach spawners are not recovering as quickly as we had hoped," said Peterschmidt. All of the young sockeye spend up to a year and a half in the lake before heading to sea.

All hatchery sockeye moving through the trap have been specially marked to allow biologists to evaluate the best time to release young sockeye and determine the fry-to-smolt survival rate. The fish have been marked with calcein, a harmless dye that glows under a special light.

One group of fish with the calcein mark was released about six weeks earlier than a second group of fish that was marked with calcein and also had their earlobe-like adipose fin clipped. "The fish released at a larger size survive at a higher rate than the smaller fish – nearly twice the rate," said Peterschmidt. "Not only do we know that the larger fish survive at a much higher rate, we know definitively that hatchery fish make up about 15 percent of the total run. That percentage in no way jeopardizes the wild run." – *D. Preston*

Tribe Prepares For Removal Of Elwha River Dams

While the start date for the removal of the Elwha and Glines Canyon dams has been pushed back a year to April 2009, the Lower Elwha Klallam Tribe is moving forward with its efforts to prepare for the expected rise in the Elwha River's level.

The tribe is focusing on four projects: relocating the tribal hatchery upstream to higher ground; raising and extending the levee on the river's floodplain to protect tribal members' homes; securing funding for construction of a new wastewater treatment system on the reservation; and replacing non-native plants with native species around Lake Aldwell, which is behind the Elwha dam.

In addition, the tribe is assessing current conditions of the estuary within the Elwha River delta.

"The initial goal is to collect some baseline information about the current condition of the estuary prior to dam removal and before we start seeing influences from the sediment that will be transported downstream," said Matt Beirne, the tribe's environmental coordinator.

The tribe's primary concern is to secure funding for the projects, in particular, the wastewater treatment system, said Rob Elofson, the tribe's Elwha River restoration director.

"We're also concerned about the effects of flooding from the higher river levels," he said. "Initially, we thought only 11 homes would be threatened but instead, it will be more than 100."

The 108-foot Elwha dam and 210-foot Glines Canyon dam were built in the early 1900s to provide hydroelectric power. Both dams were built without fish ladders, preventing salmon from migrating upstream to spawn. Historically, the Elwha River produced 100-pound chinook.

The dams are owned by the federal government and the Olympic National Park is spearheading the removal effort. The total cost of the project is estimated at $182 million, which does not include wastewater design and construction funds.

– *T. Royal*

Sol Duc River Summer Chinook

Genetic Analysis Will Shed Light On Stock's Health

The Quileute Tribe is welcoming the news that a long-sought genetic analysis of the Sol Duc summer run of chinook will become a reality.

For nearly 20 years, the tribe has supplemented a run of native summer chinook. The true strength of this stock is uncertain because non-native spring chinook spawn at the same time. Some of the spring chinook stray to the spawning grounds and interbreed with the summer chinook, making it impossible to accurately determine the health of the summer run. The purpose of the Quileute Tribe's project is to determine the degree of interbreeding between spring and summer chinook stocks.

The spring chinook run begins returning in late April. It is a hatchery stock introduced by the State of Washington in the 1970s that returns to a facility nearly 31 miles from the mouth of the Sol Duc.

To supplement the weak summer chinook stock, the Quileute Tribe collects a small percentage of returning adults between July and September. Eggs and milt are taken from adults and the young fish are reared at Lonesome Creek Hatchery. Rearing the offspring in the controlled conditions at the hatchery helps increase the chances that the fish will survive to return as adults.

Spring chinook DNA samples have already been processed. The Quileute Tribe has been collecting and storing summer chinook tissue samples that will be analyzed with the aid of a $12,000 Hatchery Reform Project grant. The federally funded program is a systematic, science-driven effort by the tribes and state to recover and conserve naturally spawning salmon populations and support sustainable fisheries.

A summer chinook smolt slides down an aluminum chute to a holding area after receiving a coded wire tag in its snout.
Photo: D. Preston

Jason Norton, fisheries biologist for the Northwest Indian Fisheries Commission, assists Dahnielle Buesch, hatchery manager for the Quileute Tribe, with a load of young Sol Duc summer chinook.
Photo: D. Preston

To further distinguish summer chinook on the spawning grounds and to gauge the effectiveness of the tribe's efforts to bolster the run, tiny coded wire tags are being inserted into the fish's snout prior to their release. Survival rates can be determined when the tags are recovered from returning adults.

"The combination of the genetic work and the coded wire tagging will give us the best information to evaluate what's going on with the two chinook stocks. The results will give us the background we need to make the best decisions," said Mel Moon, director of natural resources for the Quileute Tribe.

– D. Preston

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