Masinaigan

A Chronicle of the Lake Superior Ojibwe

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Tribal fishermen lower first trap net into Keweenaw Bay

By Sue Erickson
Staff Writer

Keweenaw Bay, Mich.—"Learning the ropes" has both a literal and figurative meaning for Brad Dakota, Keweenaw Bay tribal member, who slid his first trap net off the shiny back of a family-owned trap net boat to rest on the floor of Keweenaw Bay last September 8th.

There's a lot to learn about handling the ropes that control the giant, 1200 pound nets. And there's even more to learn about the nature of the fishery he hopes to tap in a family-owned and operated commercial venture.

While Keweenaw Bay fishermen have traditionally used gill nets, working aboard a gill net tug just wasn't an option for Dakota. He put in three months on a commercial gill net tug and found his stomach would not tolerate being inside an enclosed fishing tug.

"That's the worst job I ever had," Dakota comments, simply because any wave action set his stomach on a roll. Consequently, the idea of an open boat became appealing to a fisherman who needs to be on the deck, not below it.

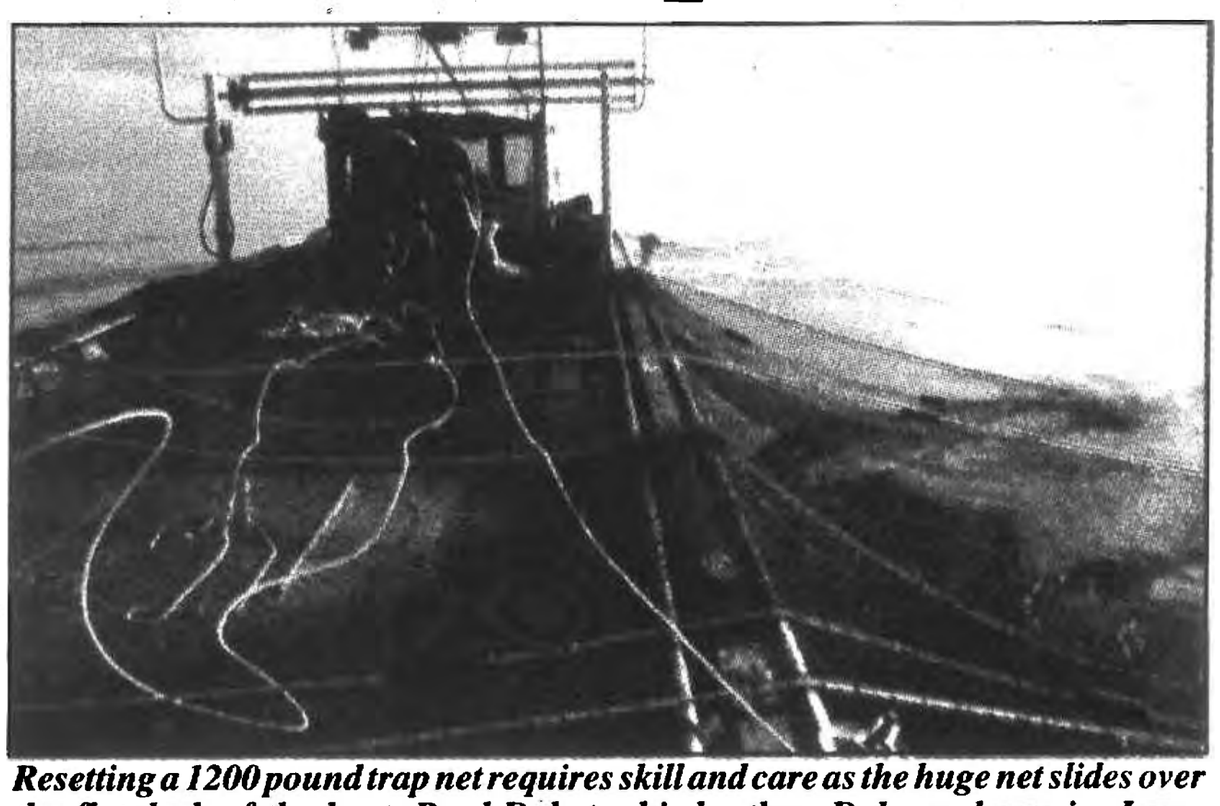
Seven years lapsed between the idea and the reality of a trap netting operation for Dakota. But seven years of research, shopping for gear, and finding the finances finally came together as a family business. In partnership with his father, Fred, and brother, Dale, Dakota's dream of a trap netting business is underway. Dakota's cousin, Larry Swartz, also works aboard the boat.

Getting started in a trap net operation required patience from the onset.

One problem with trap netting is the initial investment cost, Dakota says. By the way, both Brad and Dale also work for the Keweenaw Bay tribe, Brad as tribal judge and Dale as an enforcement officer.

Investment in a seaworthy boat properly constructed with an open deck and necessary equipment as well as nets becomes quite substantial. Dakota feels fortunate to have obtained good equipment at a good cost.

The business has six nets, two new Champion polyester nets and four used Smyth nylon nets fully equipped with ten anchors per net and anchor lines. Including the buoys, Dakota estimates the fishing gear came up to about $25,000.



Resetting a 1200 pound trap net requires skill and care as the huge net slides over the flat deck of the boat. Brad Dakota, his brother, Dale, and cousin, Larry Schwartz, are still gaining experience on working the net on a family-owned trap net rig. (Photo by Sue Erickson)

Because the nets are huge and heavy, a trap net boat is comfortably manned with three or four crew. Each time the net is lifted, a hydraulic winch helps pull the net over the deck of the boat into the water on the other side. The live fish are extracted and put into one of two fish holds on the boat, and then the net is lowered, sliding it out of the water, back over the boat's deck

(See Live capture, page 9)

On the cutting edge of fisheries research

Biologists surgically place hi-tech tags in lake trout

By Sue Erickson
Staff Writer

Keweenaw Bay, Mich.—Fishery biologists gained skills with the scalpel this fall as they inserted tiny, hi-tech tags into 100 lake trout as part of a cooperative, three-year study of Lake Superior lake trout range.

Using a trailer supplied by the U.S. Fish and Wildlife Service (USFWS), Marquette, as a mobile operating room, biologists first anesthetized the lake trout. The fish was then laid out on an operating table, using tubes to aerate the gills during a three-minute surgical procedure placing a tiny tag in the body cavity close to the stomach.

"This is a first," says Bill Mattes, Great Lakes Indian Fish & Wildlife Commission (GLIFWC) Great Lakes biologist. "This is the first time these tags, designed to record water depth and temperature, have been used in a study, although a similar tag recording just temperature, was used in Lake Huron recently."

U.S. Geological Survey (USGS) Biologist Roger Bergstedt, who worked on the Lake Huron project, trained local staff and helped in the surgical techniques. Regional trainees in the art of fish surgery included Mike Plucinski, GLIFWC fish technician; Ed Leoso, Bad River Lake Superior technician; Leah Gibala, GLIFWC fisheries aide; Henry Quinlan, USFWS fisheries biologist, and Mattes.

The tags are about one and a half inches long and about a half-inch in diameter, Mattes says. The tiny device records data on water depth and temperature as the fish changes locations. It takes a reading every fifteen seconds for up to a month and averages readings daily for up to three years. So, essentially, biologists can get daily averages of depth and temperature for up to three years if a tag is returned.

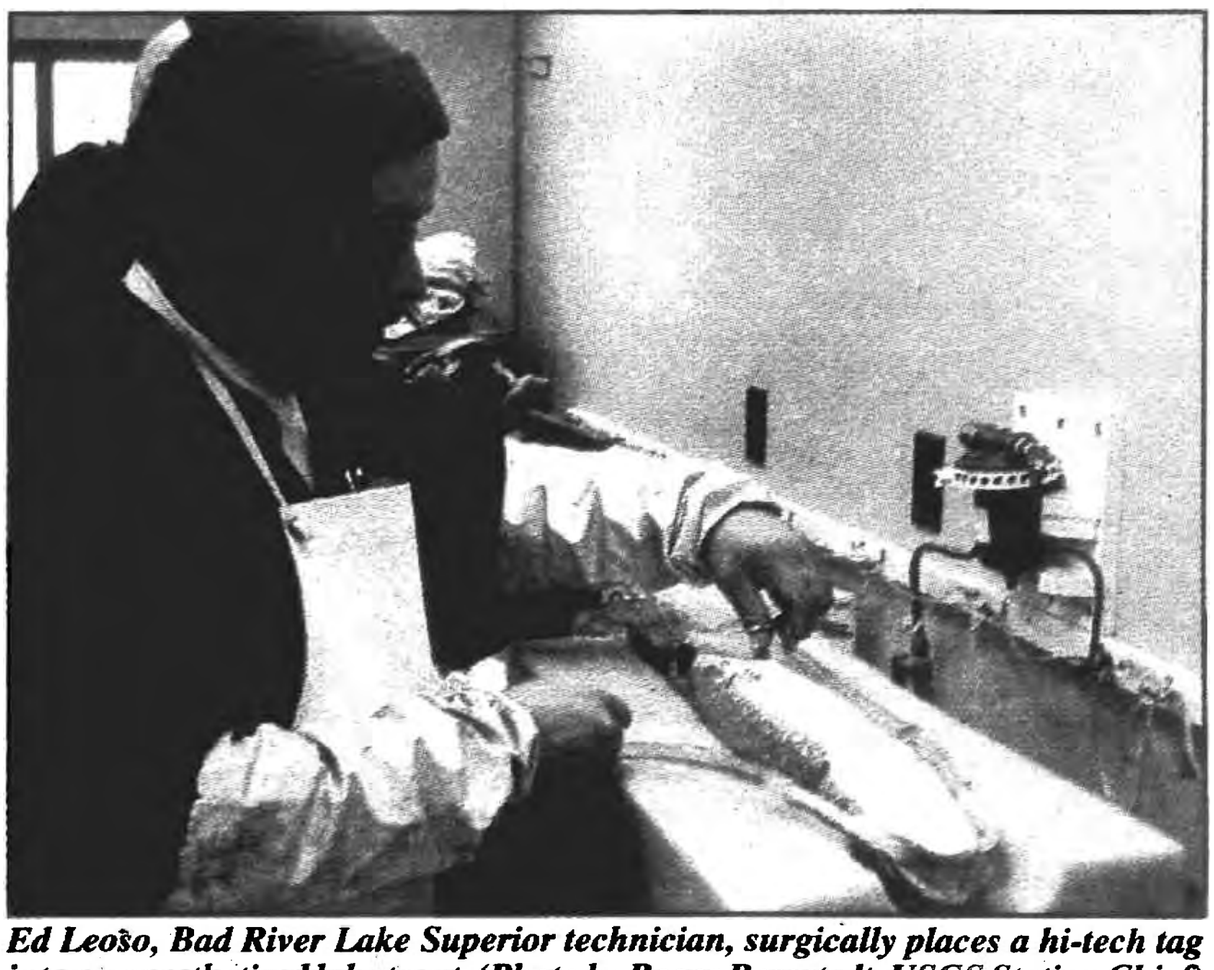
Following the surgical procedure the fish are held for about twelve hours before being returned to Lake Superior near to the reefs from which they were taken. Fifty-five lake trout from Buffalo reef in MI-4 and forty-five lake trout from the Michigan Department of Natural Resources assessment nets in Marquette Harbor made up the study fish.

The lake trout are also marked with an external floy, or spaghetti, tag offering a $100 dollar reward for the return of the whole fish, ungutted and unfrozen. The hope is that biologists will retrieve the tagged fish during future assessments, and those caught by fishermen will be turned in.

The three-year study has several goals. One is to get an idea of the depth and temperature lake trout inhabit during different times of the year. This will help determine where the fish are during specific seasons. Another is to determine if lake trout are segregated from other fish species, such as whitefish.

Temperature information is also incorporated into bioenergetic studies of lake trout, Mattes says. These studies examine how the fish processes its food under varying conditions. For instance,

(See Hi-tech, page 9)



Ed Leoso, Bad River Lake Superior technician, surgically places a hi-tech tag into an anesthetized lake trout. (Photo by Roger Bergstedt, USGS Station Chief)

Thoughts on September 11 and after

GLIFWC Board Chairman Tom Maulson reflects on events

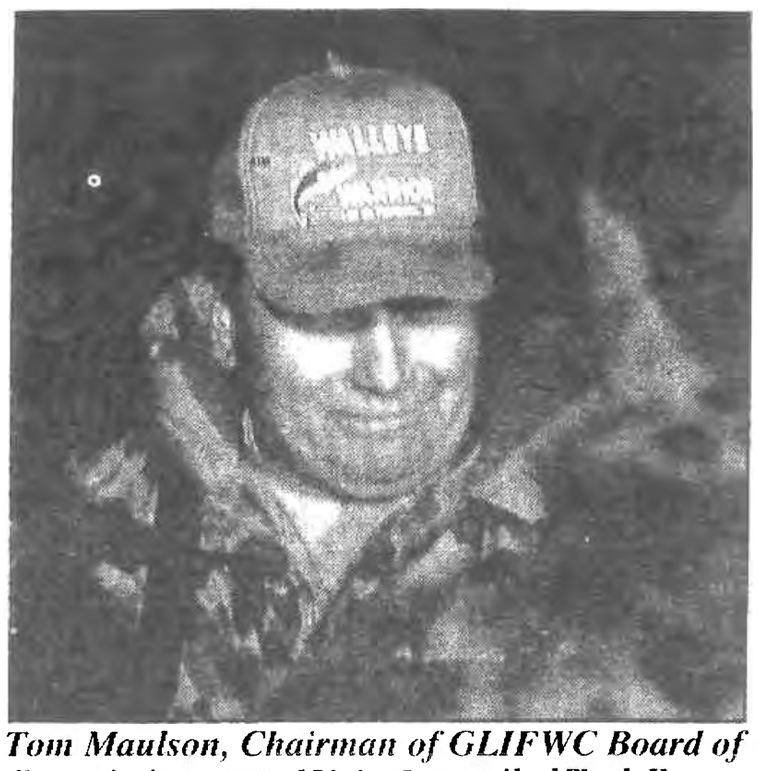
By Sue Erickson, Staff Writer

Lac du Flambeau, Wis.—Tom Maulson, Lac du Flambeau (LDF) tribal member and former LDF Tribal Chairman is currently Chairman of GLIFWC Board of Commissioners and Chairman of the Voigt Intertribal Task Force. He was kind enough to share some thoughts about recent current events in the United States from the perspective of a tribal member.

Like other leaders, Maulson worries about the impact of troubled times on Indian Country, not only threats of biological warfare, but problems relating to economic downswings and costs of war possibly impacting appropriations for the tribes.

Maulson believes one of the nation's first concerns needs to be the safety of our drinking water. Tribes have long recognized the sacredness of water as the lifeblood of Mother Earth. Poisoning of the water threatens the existence of all forms of life today, as well as for future generations.

He believes it is crucial to remove the threat of terrorism and to protect the freedoms, resources and way of life that Americans cherish.



Tom Maulson, Chairman of GLIFWC Board of Commissioners and Voigt Intertribal Task Force, is noted for his courage and leadership during troubled times in Wisconsin. (Staff photo)

Maulson calls attention to the fact that America is "the land of the free." "Unlike the country with which we are at war, America is the land of the free. Things that could not be spoken in other countries, can be said here without the threat of death or harm," Maulson comments. "We can, and do, walk around freely. Those people who attacked America want to take that freedom away from us."

Maulson believes the September 11th terrorist attack on America signals a need to think about "who really should be Americans." He thinks immigration policies need to redefined. "Because of lax immigration policies, people from countries that espouse hatred towards Americans are in America today. They own our lands, have bought our lands and businesses, and now they are fighting on our land as well," he says. "The terrorists hate Americans because of who we are as Americans. They do not like our might or that we are the land of the free."

Maulson grins as he notes that America's tribal nations are well aware of problems that occur because of lax immigration policies, also noting that biological warfare in the form of smallpox infestation was employed on the tribes during the early years of western expansion. "We are, in ways, being threatened with the same type of terror that was waged on Native Americans when American wanted to become America," Maulson notes. "And there really has been no apology from America for what was done to native peoples during those years," he adds. However, despite past events, native peoples have always fought hard in defense of America and will continue to do so.

Maulson emphasizes that Indian people are committed to America and have a history of defending the nation. "The record proves that native peoples have always been friends of America, have been first on the battle lines in protecting our mutual homeland. We have proven a loyalty that stands strong in native villages across America today," he says.

He also points out that the tribes never forget veterans, native and non-native. At pow-wows and tribal gathering, veterans are honored not just on Veterans' Day. "Native people have a great respect for all who served and defended the freedom this country enjoys," he says.

Maulson is a veteran of the U.S. military and also a veteran of Wisconsin's "War in the Woods" over Ojibwe treaty rights in the 1980s. During that period of recent history, treaty protestors employed terrorist-type tactics to frighten tribal members off the lakes, including throwing rocks, firing gunshots, making dangerous wakes, shouting verbal abuse, damaging vehicles, and issuing death threats. A poster advertising a $30,000 reward for Maulson's death was also circulated.

"Native people encountered terrorists at boat landings. We had to struggle to be free to hunt, fish and gather and to continue to exercise our treaty rights. And we finally prevailed, here in America, under American law," Maulson states.

"It is important to defend our nation, our rights, and our freedom."

(Image taken from the worldwide web.)

Masinaigan and the Great Lakes Indian Fish & Wildlife Commission share in America's sorrow over events that have darkened all of our lives this fall. The senseless loss of life in the World Trade Center and Pentagon tragedies have been followed by further threats and acts of terrorism that jeopardize more lives, the Earth, the water, and our children's future globally. Our tears blend with those in New York City, Washington, D.C. and around the world, and our prayers go out to the Creator to protect those ogichidaa who must directly confront this terror on our behalf.

The Eagle

*Excerpted from**Ojibway Heritage** by Basil Johnston*

Mighty Eagle
I fain would see my destiny
And know my impending fates
To live my life in harmony
With fortune, chances, and states.
But I scarce know the days event.
I cannot see o'er the rim,
I cannot see o'er the present,
Into the ages far and dim.

Mighty Eagle
In vain I scan the past
For signs and marks sharp and clear
To guide my way into the last.
But memory faded by the year,
Confounds what was with what was not;
Blends fact and fancy into one
Fickle and beclouded lot,
Fouling steps that must be done

Mighty Eagle
I deign would have your powers
Of vision, strength and courage
To wield against the unborn hours
Of troubles upon my pilgrimage.
My spirit seeking fulness,
And heart tending toward peace,
My deeds done in goodness;
Then, would my worth find increase.

On the cover

Mark Bisonette pulls a gill net containing an assortment of fish species from Long Lake in Washburn County. Bisonette and his fishing partner, Vanessa Carrasco, are from Lac Courte Oreilles. (See story, page 16) (Photo by Charlie Otto Rasmussen)

Wisconsin fishers to Tennessee in reintroduction program

GLIFWC, Red Cliff trappers, WDNR coordinate effort

By Charlie Otto Rasmussen, Staff Writer

Ashland, Wis.—Within four days the trappers had caged a whopping 31 live fishers from Wisconsin's Bayfield Peninsula—not a bad stretch on the ol' trapline. While eight of the animals were soon released back into the forest, three escaped on their own, leaving the balance of 20 fishers to catch a southbound plane as part of a reintroduction program in eastern Tennessee.

Highly stressed from the experience, they ate and slept very little, constantly fidgeting with the wire box traps, struggling on a daily basis to make sense of what was happening. The fishers, on the other hand, were a pretty contented bunch.

"It was all we could think about, all day and night," said Red Cliff trapper Curt Basina. "There were mechanical problems with the traps. We had to figure out how to make the fishers comfortable once we had them, how to handle them safely without getting bit. And we had to make sure we didn't remove too many animals from an area."

Recognized as fisher trapping specialists, Basina and his trapping partner Mike Gustafson were hired by the State of Tennessee to live-trap 40 fishers over two years in an effort to bring the sleek predators back to the southernmost part of their original range. Gustafson said that the opportunity to use their trapping experience to help restore fishers in Tennessee was a welcome challenge.

"We were both very interested in working with live animals," said Basina, who ordinarily uses quick-killing conibear traps to harvest fisher. "I've got a lot of respect for the fisher. They're just machines."

Hunting machines, that is. GLIFWC Wildlife Biologist Jonathan Gilbert who has studied Wisconsin fishers for 10 years said they have found ample and diverse prey species to subsist on since being reintroduced to the state in the 1950s. "Fishers are amazing predators, capable of killing and eating nearly anything, including porcupines," he explained. "They are a native species and their return to Wisconsin has added to the diversity and health of northern forests."

Jonathan Gilbert, GLIFWC wildlife biologist, injects additional sedatives into a groggy fisher before conducting a physical examination. Assisted by veterinarian Gretchen Gerber (right), Gilbert and GLIFWC's Ron Parisien collected data—including a tooth for aging—from each animal.

Fisher round-up

Staff from the Tennessee Wildlife Resources Agency (TWRA) worked closely with Gilbert and John Olson, Wisconsin Department of Natural Resources, to coordinate the process of receiving trapped fishers and preparing them for the trip south. A steel garage at the Whittlesey Creek National Wildlife Refuge served as a holding station where freshly captured animals were sedated and thoroughly inspected.

Local veterinarian Gretchen Gerber performed a health examination of each animal and conducted minor surgery on a male that had an infected bite-wound on the side of its jaw. Each fisher was weighed, measured, and sexed, while one-half of the animals received radio collars. GLIFWC Wildlife Technician Ron Parisien tattooed the rest of the fishers inside the ear, and Gilbert pulled teeth for aging.

"Normally there are only two or three organizations involved in restoration projects," said Bruce Anderson, TWRA Wildlife Biologist. "This project involved six organizations. Without the field and administrative help I got (from Gilbert and Olson), I doubt we could have accomplished our goal."

Following the physical work-up, the fishers were loaded on a plane in Ashland and flown to Tennessee's Catoosa Wildlife Management Area in mid-October. Anderson has been monitoring their movements and said they were doing well since the release, noting that the efficiency of the trappers played a crucial role in releasing healthy animals.

"Minimizing the time needed to hold animals in captivity is one of the critical factors in any restoration program since it is the highest stress period for the animals. Our trappers were superb, greatly cutting down on the time we needed to hold the animals before transport," he said.

Without the benefit of prebaiting the trap sites, Gustafson and Basina still managed a success rate 20-times higher than routine survey trapping conducted by local wildlife managers. In addition to making a quick catch, they learned to sooth the fishers by placing white pine and balsam boughs over the wire mesh cages.

Down the road

For some living in the upper Great Lakes region, the return of the fisher has evoked little fanfare. Like other predator species, fishers are fingered for depleting numbers of popular game species, and they occasionally make meals out of small backyard pets. Tennessee wildlife officials, however, are hoping fishers duplicate their actions in neighboring states by taking a bite out of the local egg-eating predator population (i.e. skunks) which is sharply increasing.

"We found from other states that have introduced fishers—West Virginia and Pennsylvania—that turkey and grouse populations have flourished in areas where fishers exist," Anderson said. "We hope that the fishers will serve as a biological control on some of our nest predators."

Anderson and his staff plan on returning in fall 2002 to pick-up an additional 20 fishers from Gustafson and Basina to complete the reintroduction.

Red Cliff trappers Curt Basina (left) and Mike Gustafson display one of several wire box traps they used to capture fishers in October for Tennessee's reintroduction program.

Billy Swafford (left) and Bruce Anderson, Tennessee Wildlife Resources Agency, load a boxed fisher onto a plane at Ashland's JFK Memorial Airport. The animal was one of 20 fishers live-trapped in Bayfield County and flown to the 80,000-acre Catoosa Wildlife Management Area in Tennessee.

Photos by Charlie Otto Rasmussen

Success of elk herd prompts requests for more herds

GIS elk map helps select possible sites

Photo by Charlie Otto Rasmussen

By Sue Erickson
Staff Writer

Odanah, Wis.—Six years after twenty-five elk were introduced to the Clam Lake area of Wisconsin on an experimental basis, the Clam Lake community has begun to strongly identify with the growing elk herd, calling itself the Elk Capitol of Wisconsin. The community both enjoys the expanding herd and some additional, related tourist activity.

The success of the project, which began as an experimental project under the watchful eye of Dr. Ray Anderson, UW-Stevens Point, has perked the interest of other communities in introducing elk and prompted wildlife managers to consider where else in Wisconsin elk reintroduction may be likely to succeed.

The Clam Lake herd, now numbering about 90 individuals, is no longer considered an experimental herd, but rather is a state-protected species, managed through the Wisconsin Department of Natural Resources (WDNR) Bureau of Wildlife Management.

As requests came into the WDNR Board from counties wanting a herd, elk reintroduction guidelines were established. Suitable habitat, approval of local governments, and community support were among considerations.

This is where a team of wildlife managers decided it was necessary to provide a tool for decision-makers in order to look at elk suitability on a statewide basis, according to Dr. Jonathan Gilbert, Great Lakes Indian Fish & Wildlife Commission (GLIFWC) Wildlife Section leader.

Gilbert, in cooperation with Janet Sausen, WDNR Geological Information Systems (GIS) Services Section, and Brian Dhuey, WDNR Bureau of Wildlife Management, went to work on a producing a GIS map to illustrate Wisconsin in terms of elk suitability.

"The idea of the map was to show where no identified conflicts exist," Gilbert explains, "and provide one more piece of information, or tool, for decision-makers in determining suitability."

The wall-size map shows the incremental development of a final map illustrating areas where elk would most likely exist with the fewest conflicts.

Researchers first mapped the state to show availability of spring food, winter food, and winter cover. They also mapped the state to show road density and public and reservation lands.

The maps are then overlaid to produce a conglomerate map illustrating these specific concerns as part of a total picture. Some areas were totally masked out, Gilbert explains, such as agricultural lands and all lands within four kilometers of a four-lane highway, because they are simply not suitable for elk reintroduction.

Areas where domesticated elk herds exist are also marked, as well as areas with threatened or endangered plant species that may be impacted by elk browse.

Wildlife managers worry about proximity to domesticated elk herds because domesticated animals are more likely to carry diseases that can infect a herd, Gilbert explains.

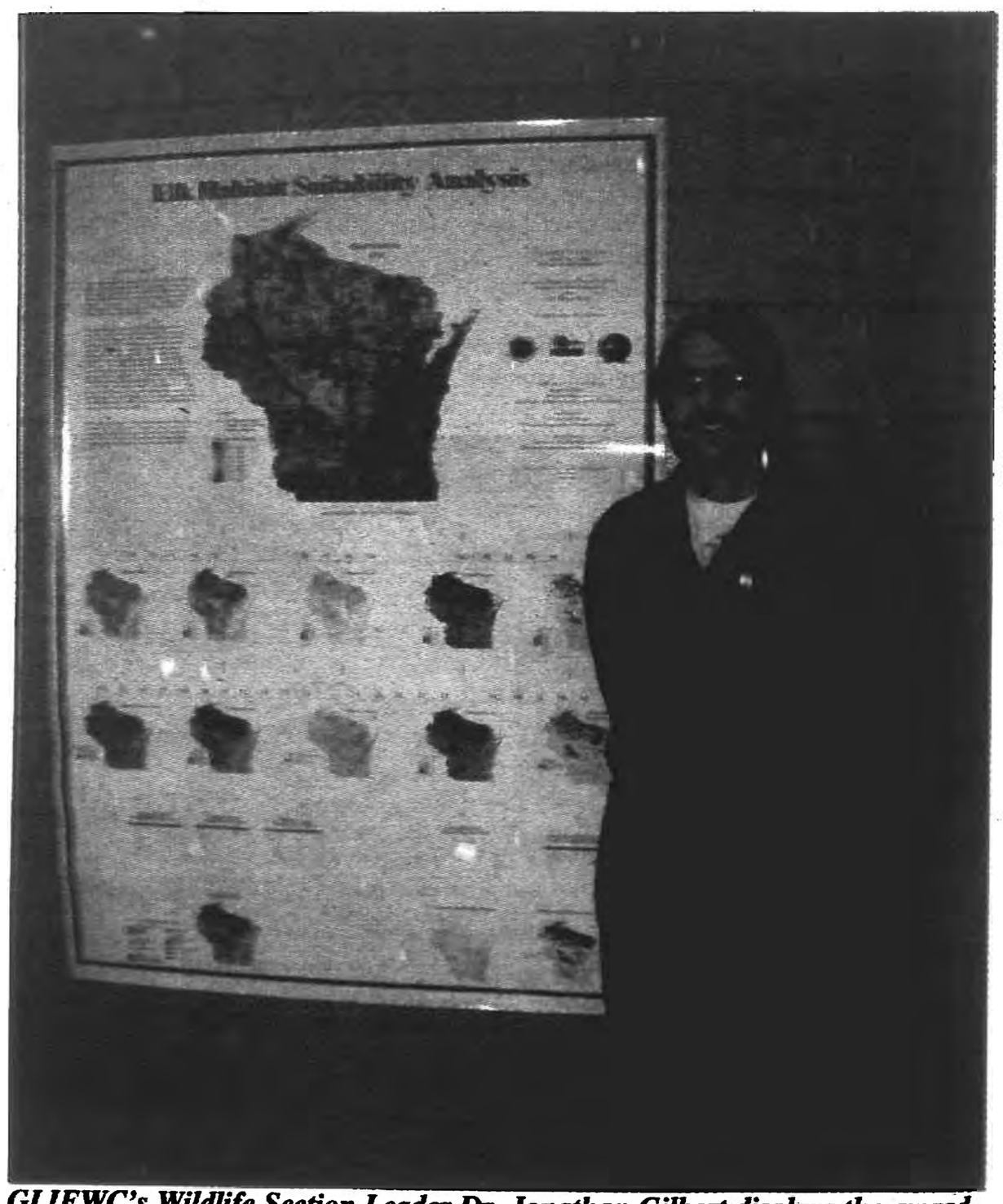
The map shows that several areas in northern Wisconsin pose few conflicts to establishing an elk herd. Jackson County is one area that appears suitable, and Jackson County is definitely interested. But the problem of finding a suitable elk source is now the stickler.

Michigan elk are no longer a consideration as a source due to the appearance of bovine tuberculosis in the herd, Gilbert says. No one is willing to risk importing bovine tuberculosis, which could infect the elk herd, the deer herd, as well as domesticated cattle.

Areas in Sawyer, Bayfield, Ashland, and Iron Counties also look like potentially good reintroduction sites. But Gilbert says the map does not tell the whole story. From the map, managers have to get more specific, zoom into areas and look more closely for pros and cons of elk reintroduction.

Nevertheless, the map provides a wealth of information at a glance, plus shows the progression of its development. At a recent GIS conference, the map received awards for Best in GIS Analysis and the People's Choice awards.

The WDNR Bureau of Wildlife Management, GLIFWC, and the Rocky Mountain Elk Foundation sponsored the mapping project.



GLIFWC's Wildlife Section Leader Dr. Jonathan Gilbert displays the award-winning GIS map on elk habitat suitability. (Photo by Sue Erickson)

Harvest opportunities ahead

Upcoming off-reservation, treaty seasons

For specific information and dates regarding any off-reservation treaty seasons. tribal members should contact their reservation conservation department or the on-reservation Great Lakes Indian Fish and Wildlife Commission satellite enforcement office or registration station.

Seasons may vary some from state to state, or from tribe to tribe. However, some of the opportunities for off-reservation hunting, fishing, and gathering in November 2001 through February 2002 are as follows:

Wisconsin 1837, 1842 Treaty ceded territory

Waterfowl hunting
Wild plant gathering
Deer/Bear hunting
Trapping
Small game hunting, seasons vary by species
Firewood and balsam bough gathering in national forests
Netting
Winter ice fishing in inland waters: unattended lines/spearing through the ice

Minnesota 1837 Treaty ceded territory

Waterfowl hunting
Wild plant gathering
Deer/Bear hunting
Trapping
Small game hunting, seasons vary by species
Netting
Winter ice fishing in inland waters: unattended lines/spearing through the ice

Michigan 1836, 1842 Treaty ceded territory

Commercial fishing
Waterfowl hunting
Wild plant gathering
Deer/Bear hunting
Trapping
Small game hunting, seasons vary by species
Firewood and balsam bough gathering in national forests
Netting
Hook and line fishing, fall spearing
Winter ice fishing in inland waters: spearing/hook and line

Treaty commercial fishing in Lake Superior, Michigan and Wisconsin waters

(Consult with tribal codes for specific quotas, units, and dates.)

Red Cliff hunters bring home plenty of venison for elders

One hunter meets up with maiingan

By Sue Erickson
Staff Writer

Red Cliff, Wis.—Approximately 40 Red Cliff hunters spent November 8th in the woods hunting for deer on behalf of the tribe's elderly. Mark Duffy, Red Cliff conservation officer, reports "a good, successful hunt with plenty of deer for the elders."

Although the results were good, rewards did not come easily. It was a long day in the woods for many who battled with high winds and a forest floor that turned noisy as the ground dried by early afternoon. A number of hunters reported a lot of walking with only limited sightings of deer.

Duffy had a run-in with another hunter during the day, meeting maiingan (wolf) who was apparently checking out the same area. Duffy says he walked up on the big gray wolf unexpectedly. They came a little closer to each other and stood still there in the woods during a brief stare down. Then Duffy moved, making some rustling sounds, and maiingan turned and walked away.

All the deer registered during the day will be processed and provided to the tribes' elders. Ron Nordine, Red Cliff, does all the processing.

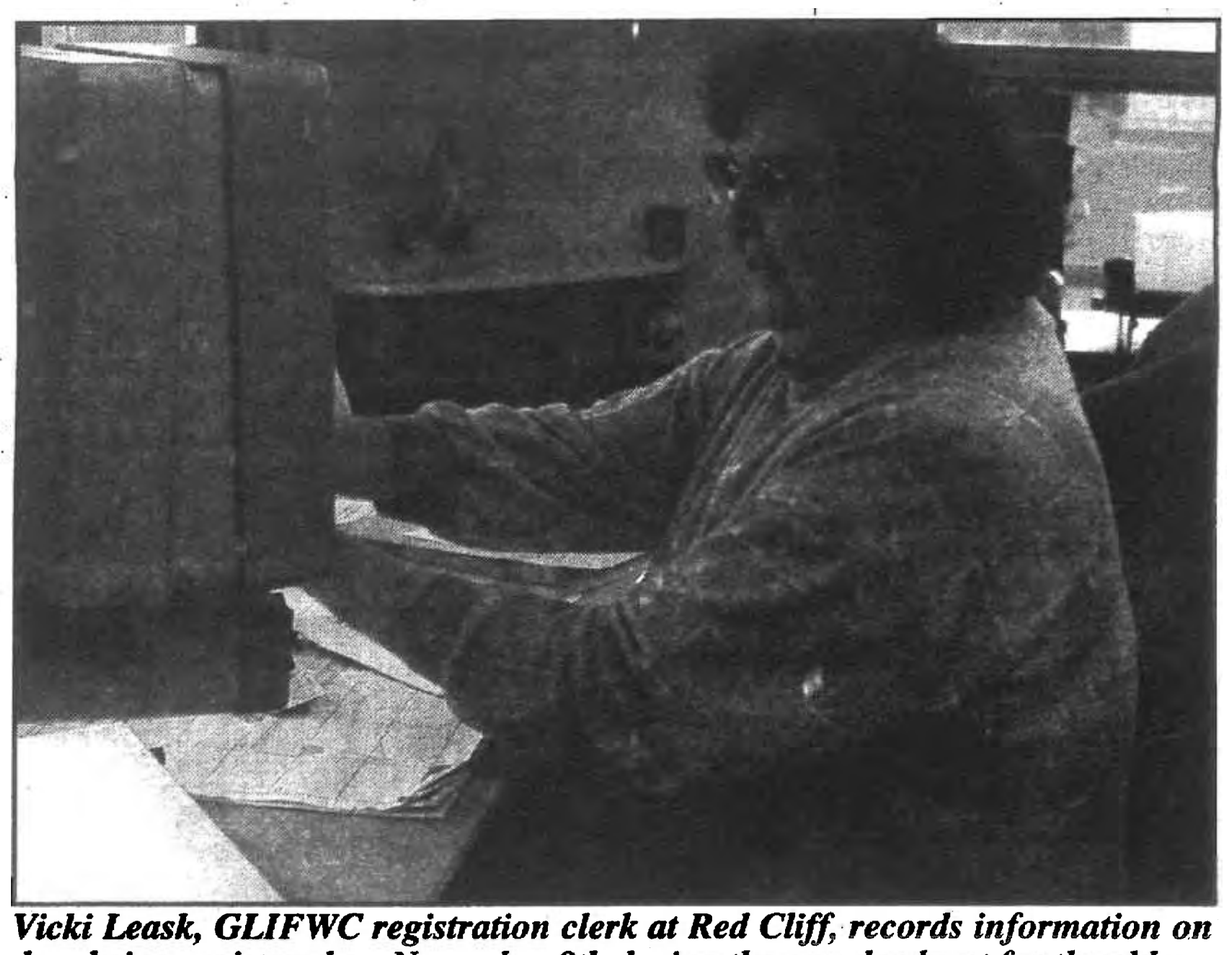
The venison is packaged in serving sizes geared to meet the needs of an elderly individual or couple. The venison is delivered to elders' homes, and some is also provided to the elderly feeding center that serves noon meals to elders during the weekdays.

Red Cliff's elder hunt has become a tribal tradition, a tradition begun about 15 years ago, according to Larry Deragon, Red Cliff conservation officer. It started one fall day when Richard Gurnoe was tribal chairman, he says. The guys in the office were feeling kind of restless, wanting to get out in the woods and hunt. Former Chairman Gurnoe told them they could take the day off and hunt if they donated their harvest to the elders. So, out the door and into the woods a number of them went.

Each year since then, a day has been designated when employees can take to the woods in order to supply the elderly with venison. It's grown in popularity and support since then, and others, who are not tribal employees; also participate.

For the elders, many who are accustomed to venison in their diets but no longer able to hunt, it's a real treat when those packages arrive at their doors ready to become a meal!

Mark Bresette, GLIFWC conservation officer, and Mike LaGrew, Red Cliff tribal vice-chairman, were the first to register their deer during the one-day hunt for the elders at Red Cliff. All deer taken during the November 8th hunt will be processed, packaged and provided to tribal elders. (Photo by Sue Erickson)



Vicki Leask, GLIFWC registration clerk at Red Cliff, records information on deer being registered on November 8th during the one-day hunt for the elders. Despite reports of high winds and noisy forest floors, the hunt was successful, bringing in plenty of venison for the elderly. (Photo by Sue Erickson)

Elders, GLIFWC staff locate sugarbushes

Tribal elders and GLIFWC staff took to the woods this fall in order to identify sugarbush and birch bark stands. Above, Ruth Antone, Lac Vieux Desert elder, and Jeremiah Manzer, GLIFWC wild plant/wildlife technician, located a sugarbush stand in the Chequamegon National Forest. To the right, elders from Bay Mills, Keith Cameron, William LeBlanc, and Audrey Lyons found birch bark and sugarbush stands in the Hiawatha National Forest. Under an Administration for Native Americans (ANA) grant 30 birch bark and 30 sugarbush stands were to be identified in these national forests to help facilitate tribal gathering, although they do not have to use identified stands. Also working with the project are Karen Danielsen, GLIFWC forest ecologist and Steve White, ANA grant research associate. (Photos by Steve White)

Moose tales

From the Michigan border

By Charlie Otto Rasmussen, Staff Writer

Odanah, Wis.—Before the snow arrived, Fall 2001 ushered in a flurry of moose-related activity along the Wisconsin-Michigan border region. While most of the action simply involved sightings of moose and their tracks, several uncommon encounters—by land, air, and sea—made for a few peculiar moose tales. One large bull floated on Lake Superior, another was rear-ended in Bessemer, and a third was apparently holed up in a trailer home on the Bad River reservation. It all really happened. Most of it anyway.

Bull by sea

On the heels of a howling north wind that raised 12-foot waves on Lake Superior, a heavy-antlered moose was spotted at Saxon Harbor, bobbing near the mouth of Oronto Creek. Wisconsin Department of Natural Resources (WDNR) wardens arrived on the scene after the animal was reported by a local tavern owner.

"Most of the hair on the head and upper body was gone," said WDNR Conservation Officer Matt Mackenzie. "It had grayish skin and had been in the water for a while."

Considering that the moose showed up at Saxon Harbor on September 24 and had rubbed the velvet from its antlers, Mackenzie figures it had been riding the waves for several weeks. Moose, like white-tailed deer, generally rub-out in late August and early September after their antlers have completed growing.

WDNR Wildlife Biologist Adrian Wydeven speculates the bloated bull probably floated down the Upper Michigan shoreline on the heels of powerful northeast winds. Other, but less likely, scenarios proposed by Saxon-area fisherman include points of origin like Isle Royal or Ontario where moose are relatively abundant.

Moose on the air

About a week after the moose floated into Saxon Harbor, another bull apparently found its way into Jenny Powless' home on the Bad River reservation. A Michigan Department of Natural Resources (MDNR) pilot searching for a radio-collared moose near Lake Gogebic picked up the animal's frequency coming from the Bad River residential community, Aspen Estates.

Soon a fleet of enforcement vehicles from the Ashland County Sheriff's Department, MDNR, and WDNR converged on the site with radio telemetry equipment and triangulated the signal to Powless' trailer home. Powless, who was working as a Bad River Casino greeter at the time, returned home with a sheriff's deputy to clear the air.

"They said they tracked a moose to my house," Powless explained. "There were police and DNR trucks all around my place."

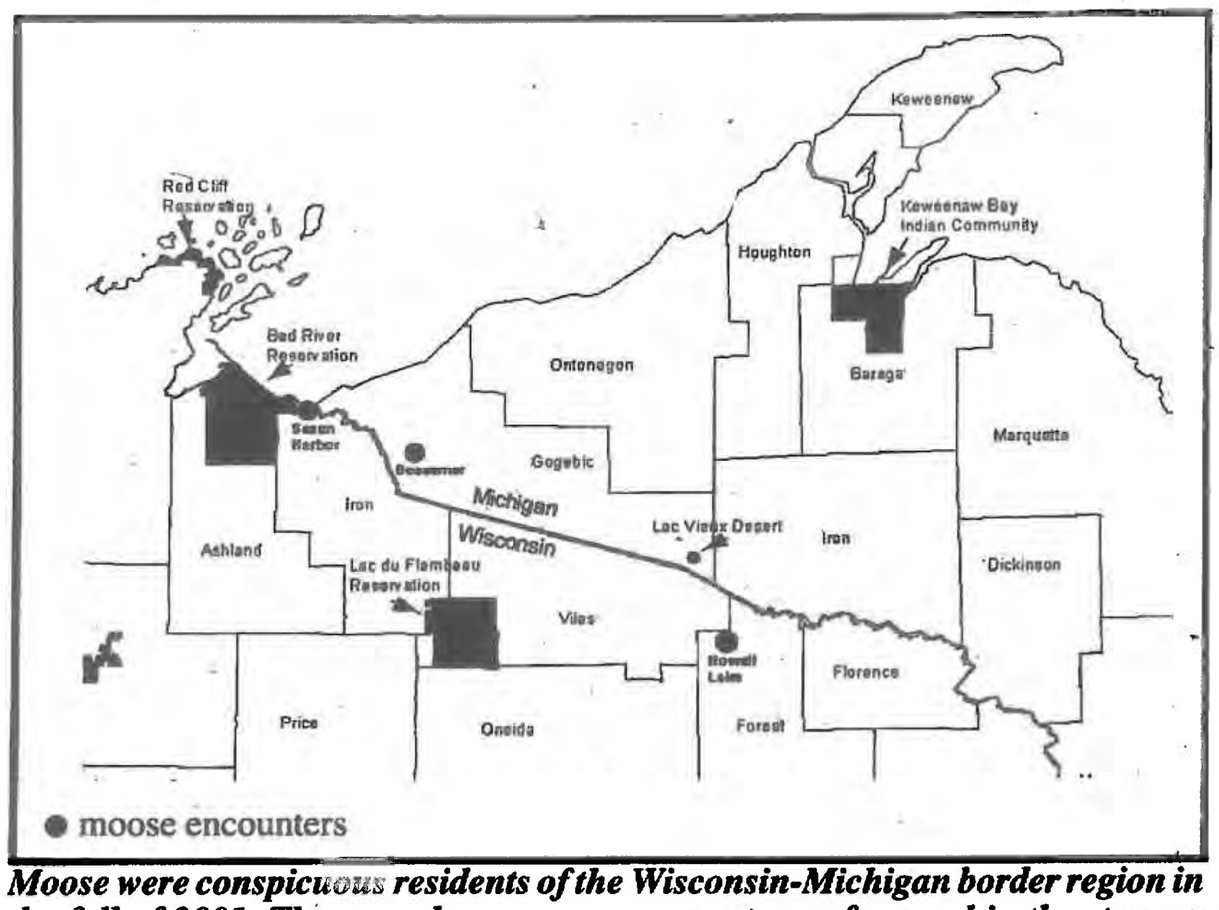
As Powless, a Bad River elder, led them inside, the MDNR receiver chirped knowingly as it homed in on the transmitter. And then there it was, lying motionless on a table—a police scanner.

"This was certainly an unusual situation," said WDNR Officer Mackenzie. "These frequencies are used exclusively for wildlife use."

Dean Beyer, MDNR moose biologist, said the pulse rate emitted by the police scanner mimicked that of the collared bull, but the tone was slightly off. It was a close enough match, however, to warrant an investigation, he said.

Powless has since been on the receiving end of a lot of good-natured ribbing about the incident. "Everybody's been teasing me about Bullwinkle hiding in my house," she said.

"She was very nice and cooperative. It made the whole process easier," Mackenzie said.



Moose were conspicuous residents of the Wisconsin-Michigan border region in the fall of 2001. The map shows moose encounters referenced in the story as moose sighting locations. (Map by Jonathan Gilbert, GLIFWC)

Passing through town

Within a few days of the Bad River moose mix-up, a pair of real animals showed up in Bessemer, Michigan. Drivers on U.S. Highway 2 spotted what appeared to be a couple of horses crossing the road in the early evening darkness. One mini-van driver who came up on the moose pair was unable to avoid them, colliding with one of the animals.

"There was moose feces and urine at the site, but there was no blood," said MDNR Wildlife Biologist Rob Aho. "A local conservation officer went to search the area the following day, but didn't report any additional signs of the animal." Aho said that collisions between vehicles and moose are infrequent, but they do occur in Upper Michigan. Although moose are huge animals, weighing in excess of a thousand pounds, not all accidents result in serious injury to drivers or the animals.

"There was one occasion in Baraga County where a moose calf was struck by a vehicle, got spun around, and finished walking across the road where it started feeding with a cow and a bull on some vegetation," Aho said.

Those moose that are killed on Michigan highways become food for those in need. "Moose carcasses are butchered and provided to area food pantries," Aho said. "There's a lot of meat there, and people enjoy getting something a little different."

Aho said that there were reports that the Bessemer accident involved two bulls. Since the encounter occurred during the highly competitive rut—or mating season—Aho said it seems unlikely that two bulls would be traveling together

The future

While the moose population in Minnesota's Arrowhead region, where state and treaty hunters harvest animals within the 1854 ceded territory, is relatively stable, how well the animals fare in Upper Michigan and Wisconsin remains to be seen. The present herd is largely the product of translocations that occurred in the mid-1980s from Ontario to Michigan's Marquette and Baraga Counties. Moose occasionally wander into northwest Wisconsin from Minnesota as well. Biologists are unsure if moose were ever completely extirpated from Upper Michigan, but they've been rare since the arrival of European settlers.

Climate and deer numbers seem to be among the most significant factors for moose in the ceded territory of northern Wisconsin, Wydeven said. White-tailed deer are the unmaligned hosts of a brain worm that can prove fatal when transmitted to moose. The MDNR estimates that at least 70% of Upper Peninsula deer are infected. In addition, if global warming drives temperatures upward in northern Wisconsin, moose would not likely tolerate the change and reside further north, Wydeven added.

Although Michigan wildlife managers are in the process of developing new population modeling techniques, the western Upper Peninsula moose herd appears to be growing by around 4 to 6 percent, said Michigan Biologist Dean Beyer. Previous population data was skewed—in part—because it did not account for disbursing animals, Beyer explained.

In mid-September Beyer and Wydeven teamed up with other wildlife officials to replace the radio-collar on one such moose that moved from Michigan to Forest County, Wisconsin. The cow was originally captured and collared in Michigan last winter and then disbursed south, establishing a home range around Howell Lake. Wydeven said it was probably the first-ever capture and radio-collaring of a moose in the state.

If moose are able to avoid pitfalls like highways, Lake Superior, (and trailer homes), their population may continue to expand in Upper Michigan and northern Wisconsin, providing wildlife managers with the challenge of tracking their abundance, and perhaps one day offering harvest opportunities for hunters.

Michigan and Wisconsin wildlife biologists teamed up to capture this cow moose in Forest County, Wisconsin. The biologists replaced the radio-collar on its neck in mid-September. (Photo by Dean Beyer, Michigan DNR)

Wisconsin and Minnesota off-reservation deer harvest by tribal regisration station

(figures as of 11/14/01)

Registration Station	Antlerless	Antlered
WISCONSIN		
Bad River	68	50
Lac Courte Oreilles	276	159
Lac du Flambeau	261	168
Mole Lake	132	66
Red Cliff	112	75
St. Croix	64	68
Mille Lacs	13	12
WISCONSIN TOTAL	**926**	**598**
MINNESOTA		
Mille Lacs	13	9

2001 witnessed a successful off-reservation bear season. Above, Scot Cameron, Red Cliff tribal member, harvested this bear during the off-reservation treaty bear season.

In total the Wisconsin tribes harvested 33 bear this season. Bad River registered 6 bear; Red Cliff registered 10 bear; Mole Lake registered 10 bear; St. Croix registered 7 bear; and Lac du Flambeau registered 0 bear. The Lac Courte Oreilles band does not participate in off-reservation bear hunting. (Photo submitted)

Hunters/processors be aware of diseases in deer herd

Report any evidence of disease to wildlife managers

Odanah, Wis.—These seem to be the days of heightened awareness – an awareness that extends into the northwoods where deer and elk herds could fall prey to infectious diseases.

This fall, hunters as well as large and small meat processors are being encouraged to watch for signs of several infectious diseases, some which could also be harmful to humans, and report evidence to wildlife managers.

Bovine tuberculosis (TB), chronic wasting disease (CWS) and cranial abscessation syndrome (CAS) top the list of concerns. Those are joined by hemmorhagic disease (HD) and foot and mouth disease (FMD).

Signs and symptoms related to these conditions follow below:

Bovine Tuberculosis

Bovine Tuberculosis (TB) is a contagious respiratory bacterial disease. It can infect most warm-blooded animals, including humans, although this is rare. TB can occur in cattle and wild deer and elk. TB has been documented in free-ranging deer in Michigan since 1994.

Thus far no free-ranging deer in WI or MN have been documented with TB, but surveillance continues in both states. TB is transmitted through the air and it is highly unlikely a person could contract the disease from field dressing or eating the meat of infected deer.

Chronic wasting disease

Chronic wasting disease (CWD) is a brain disease related to bovine spongiform encephalopathy (also known as "mad cow disease").

CWD affects elk, mule deer and white-tailed deer. However, it has only been documented in wild, free-ranging deer and elk in northeastern Colorado and southwestern Wyoming. There have been many instances of CWD in captive elk herds in several states and Canadian Provinces.

Several elk farms in Wisconsin have elk which come from infected captive herds in other parts of the country. Thus far no infected animals have been found in Michigan, Minnesota or Wisconsin. There is no test for CWD on live animals. The brain from a recently dead animal must be examined microscopically.

There is no scientific evidence that CWD can infect humans. However, a related disease (Creutzfeldt-Jakob disease and more recently variant Creutzfeldt-Jakob disease[vC-J]) can infect humans and is fatal. Scientists are unsure if consumption of infected cattle (or deer/elk) with CWD contributes to the contraction of vC-J disease.

Abscess extending from antler pedicle through skull into brain. (Photo courtsey of WI DNR Wildlife Health Program)

Cranial abscessation syndrome

Brain abscesses are caused when a bacterial infection enters a wound in the velvet of a buck's antlers. After entering the wound the bacteria can actually eat through the skull causing an abscess in the brain.

This disease has been documented in Wisconsin since 1996 and may account for up to 6% of annual mortality on adult bucks. It is recommended that you not consume the meat from animals with pus weeping from antlers or eye sockets.

Hemmorhagic disease

Hemorrhagic disease (HD) is caused by a virus and is sometimes called "blue tongue disease." This disease has not been found in any midwestern state but may spread here as a result of increasing herd sizes.

HD is transmitted by no-see-ums or biting midges. The virus does not survive long outside of the inset vector or the deer host. Deer which have been dead for more than 24 hours have no sign of the virus present.

Foot and mouth disease

Foot and mouth disease (FMD) is an infectious viral disease the affects cattle, swine, sheep goats, deer and other members of the Cervidae family. FMD does not readily infect humans. It causes blisters in the mouth and on feet.

Severely infected animals may die, however, chronic debilitating infections are more common. FMD is highly contagious. Virus particles may be carried in the wind or on virtually any object.

FMD has not been detected in the US for many years, but the outbreak this year in Great Britain and in South America has caused great concern in North America. Procedures are in place to reduce the chances of a FMD outbreak in this country.

(Information reprinted from the Wisconsin Department of Natural Resources website.)

Don't forget the fish on holiday checklists

Lake Superior provides tasty treats for holiday tables

By Sue Erickson
Staff Writer

Chassell, Mich.—Don't forget freshly smoked Lake Superior fish when planning hors d'oeuvre platters for holiday entertaining. Numerous on and off reservation fish markets provide a selection of smoked and fresh fish as well as other gourmet delights for fish lovers' palates.

Scattered throughout northern Michigan and Wisconsin, fish markets run by families of Ojibwe fishermen offer freshly caught lake trout, whitefish and herring. Many of them also feature home-smoked fish, specially flavored by careful selections of wood used in the smoking process.

One such family-run enterprise is Newago Fisheries & Fish Market, located in Chassell, Michigan. Joe and Tami Newago currently run the business, which was started in 1998 by Joe's parents, Alan and Kathy Newago.

Joe tends to the business of fishing from his tug, the Thomas C. Mullen, in the Michigan waters of Lake Superior. He runs a year-round gillnet tug with two or three crew to help. The crew catches and filets the fish on board. Some of the catch goes to area restaurants that maintain a demand for freshly caught whitefish and lake trout.

Meanwhile, Tami tends the shop in Chassell, selling retail fresh lake trout and whitefish filets. Herring is usually available in November and the fall can also bring in walleye, but lake trout and whitefish are the basis of their business.

"Occasionally, we might have a little salmon," Tami says, "but Joe does not target the salmon fishery because of the sport interest in the species."

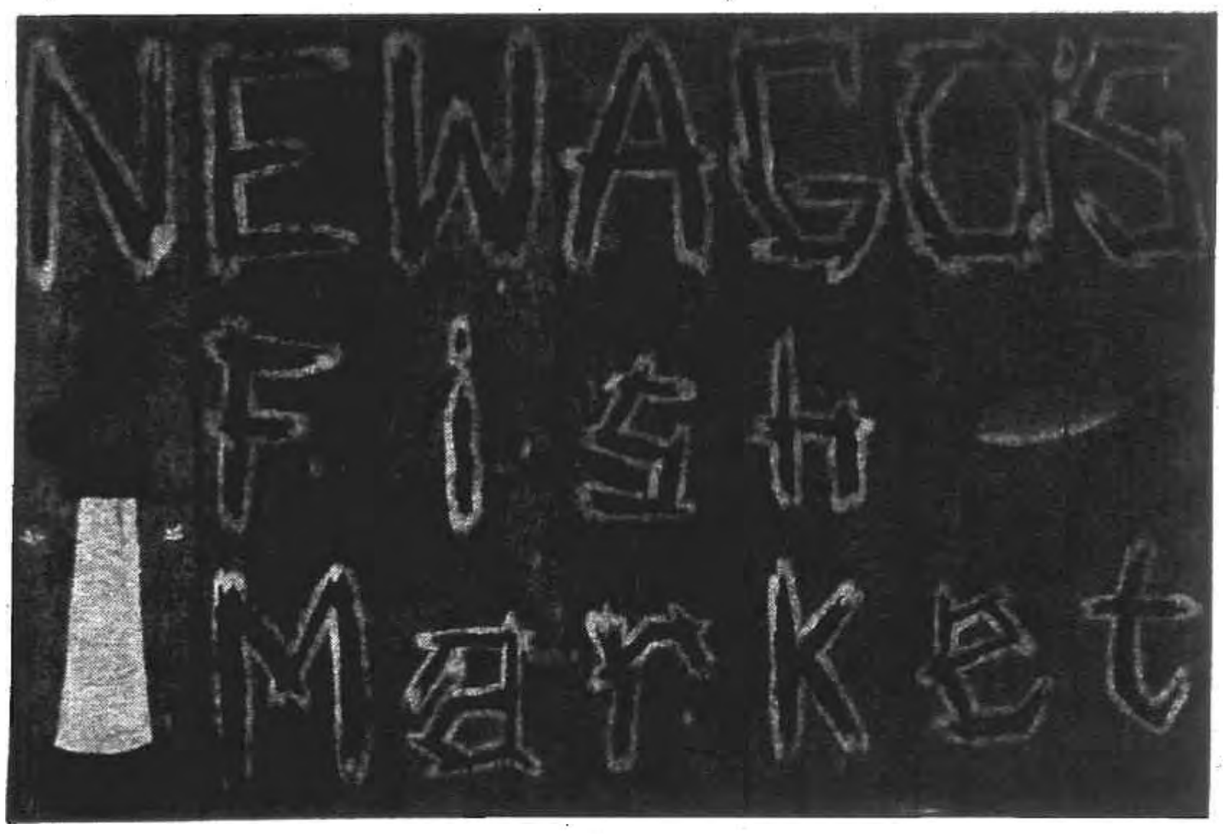
In addition to the fresh and maple-smoked fish, Newago's offer tasty pickled fish—whitefish, trout, walleye and herring—excellent inclusions for holiday entertaining. They also specialize in a homemade fish spread, great on crackers of any sort, which is made by Tami and Kathy and packaged in a variety of sizes.

Last, but not least, on the list of taste treats is a smoked fish sausage, again a family recipe, and a marvelous, unique fare for holiday parties—or any occasion. Tami describes it as "a kielbasa style sausage with jalapeno peppers."

There's a role for everybody in this family business. Grandpa Alan and Grandma Kathy still actively help out, and Joe and Tami's four children get into the action as well. Joe, age 12, and Ariel, age 10, man the till during the busy season, while Hayleigh, age 8, Katie, age 6, help wait on customers. Jake, age 4, is the official door opener at the shop.

To contact Newago's Fish Market, or other tribal fish markets, please see listing of businesses below.

Kathy Newago displays the variety of products for sale at Newago's Fish Market, Chassell, Michigan. Newago's is a family-run enterprise offering fresh lake trout and whitefish filets, tasty pickled fish—whitefish, trout, walleye and herring—a fish spread, and smoked fish sausage. (Photos by Sue Erickson)



Smoked fish dip

Recipe compliments of Donna Miller, Maple, WI

1 pound smoked fish (or 1 can salmon*)
8 ounce package cream cheese (softened)
2 Tbsp. horseradish
1/4 tsp. cayenne pepper
1 tsp. lemon juice
1 chopped onion (golf ball size)

Mix together and enjoy!

*If you use a can of salmon, add 1/4 tsp. liquid smoke.

Tribal retail & wholesale outlets

Eastern Lake Superior region

Clear Water Cooperative
Jamie Massy
P.O. Box 114
Moran, MI 49760
(906) 643-9147

Bob's Fish
Lakeshore Drive
Brimley, MI 49715
(906) 248-5764

Lothrop Fish Market
Route 1, Lakeshore Drive
Brimley, MI 49715
(906) 248-3640

Wilcox Fishery
Lakeshore Drive
Brimley, MI 49715
(906) 437-5407

Brown's Fish Market
Hwy. 123
Paradise, MI 49768
(906) 492-3313

Central Lake Superior region

Smack's Smoked Fish
Richard Semasky
Pequaming Road
L'Anse, MI 49946
(906) 524-6073

Joe Dowd
P.O. Box 462
L'Anse, MI 49946
(906) 524-5167

Newago Fisheries
Route 1, Box 508
Chassell, MI 49916
(906) 532-FISH (3474)

Peterson's Fish Market
Route 1, Box 219
Hancock, MI 49930
(906) 482-2343

Western Lake Superior region

Jack's Fish
P.O. Box 72
Odanah, WI 54861
(715) 682-2052 or
(715) 682-5631

Peterson's Fisheries
P.O. Box 766
Bayfield, WI 54814
(715) 779-5023

Gurnoe & Sons Fishery
Rte. 1, Box 89
Bayfield, WI 54814
(715) 779-3613

Auntie Grampa's Specialties Inc.
Skip and Debbie Hipsher
HCR 62, Box 44D
Iron River, WI 54847
(715) 372-5221

Live capture the big plus to trap netting

(Continued from page 1)
into the water from which it initially emerged.

The idea is to not entangle any of the many lines attached during the operation. "If you make a mistake with a net, you've got three or four more problems coming your way," Dakota warns, obviously already experienced in the potentials of one goof. That is why at least three sets of hands are best on deck.

The boat, of course, is the big investment item. A trap net boat needs 25 to 26 feet of clean deck behind the cabin. Many trap net boats are older boats converted to trap net vessels by cutting them in half and adding a 10 to 20 foot section, Dakota says. Dakota's boat, formerly a trawler, was built and revamped by Schafer's Boats, L'Anse. Owned by former commercial fisherman Dave Schafer, Shafer's builds boats for the Michigan Department of Natural Resources as well as other agencies.

The conversion not only required the long, free deck, but rearrangement of equipment on the deck to handle the expansive trap nets.

In addition, trap netters need a skiff, used to initially set and to remove nets at the end of the season. Dakota purchased a 20' skiff, also built by Schafer's. When the nets are removed this winter, they will have to go around each net in the skiff and pull each anchor individually.

Another investment figure that factors into starting a trap netting operation is time – time required to learn how to efficiently operate the nets and to learn when and where to set them for the best return. That means studying the fishery through experience.

Like many gill net commercial fishermen, Dakota targets whitefish and lake trout. Although the trap net is not selective by net mesh size, it relies on fish that lead, Dakota says. That means species that will turn if they run into something, allowing the net to guide them into the trap. Salmon don't lead, so are unlikely to be caught in a trap net.

However, if unwanted species are trapped, they can be returned to the water alive. The biggest benefit of the trap net is live capture, guaranteeing totally fresh fish for the market and the ability to return live fish to the lake.

Live trapping also gives more flexibility to the fishermen. If the weather turns ugly and it is difficult to reach the nets on a specific day, the catch remains alive and well within the net.

Dakota generally lifts every three days, making a 60-mile run to reach the five nets currently set. His boat normally shoves off the dock around 6:30 a.m. and returns by noon.

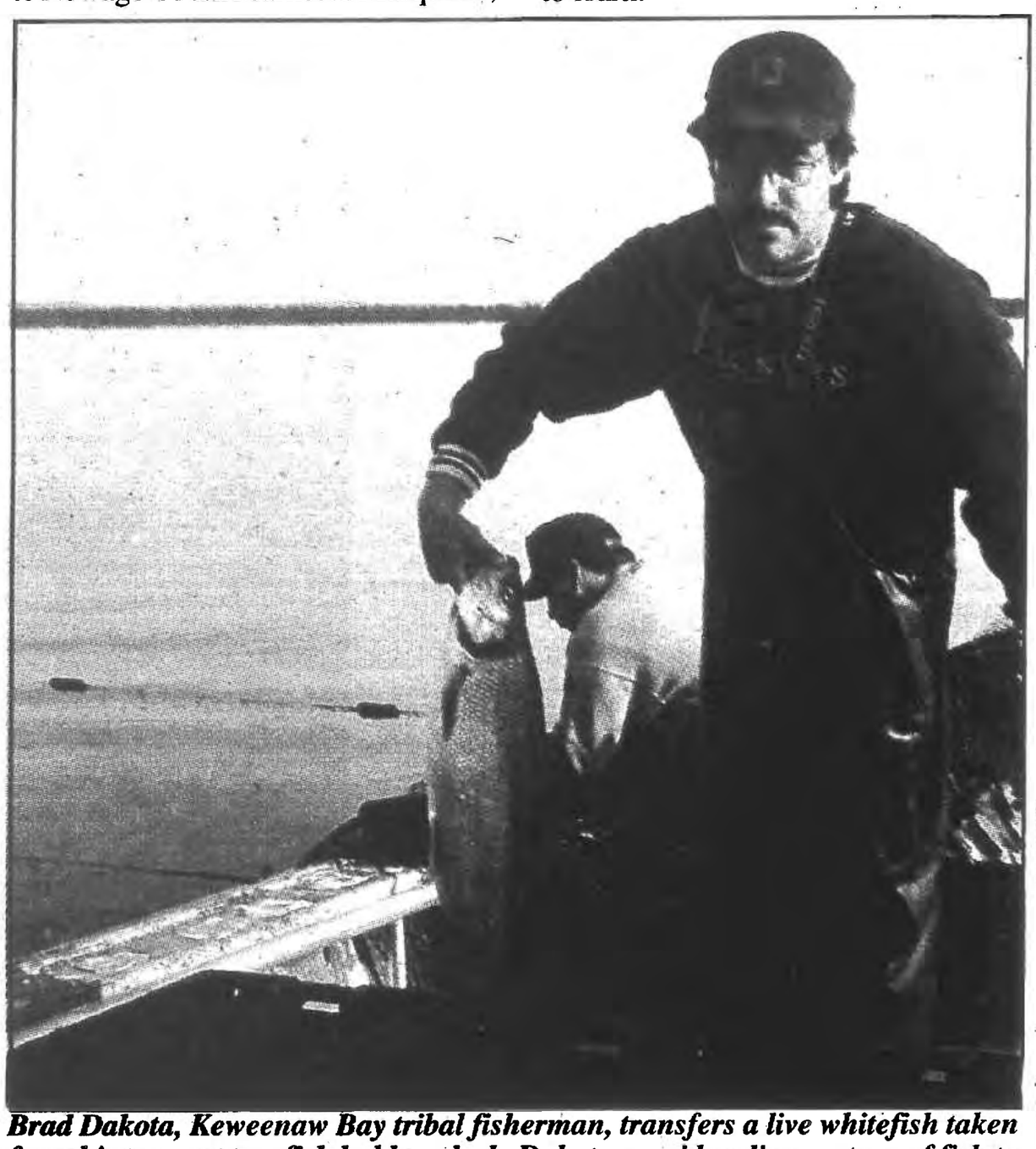
Fortunately, the boat is designed with a planing hull, one which rides on the water, so can cruise up to 33 mph. Dakota usually runs between nets at 20-22 mph, faster than most commercial fishing tugs built with displacement hulls.

Currently, the operation has been bringing in about 250 pounds of lake trout and whitefish each lift. Dakota hopes to see that figure improve as he and his partners "learn the ropes" of the fishery and obtain invaluable "when and where" knowledge of fishermen. The commercial fishing season will close October 31st through November 27th over the lake trout spawning season, but Dakota hopes to return to the lake during the first several weeks in December.

Unlike the more easily managed gill net, trap nets are not suitable for ice fishing, so the season for trap netters is limited.

Dakota markets most of his very fresh fish locally and has supplied some to Newago's Fish Market in Marquette, Michigan, but the partnership is also thinking about opening their own store as a long-range goal.

That will be something to think about during those winter months off the lake and provide a few new "ropes to learn."



Brad Dakota, Keweenaw Bay tribal fisherman, transfers a live whitefish taken from his trap net to a fish hold on deck. Dakota considers live capture of fish to be the big advantage for trap net use. (Photo by Sue Erickson)

Hi-tech tags provide lake trout data

(Continued from page 1)
fish tend to need larger amounts of food in warm water, less in cold water. Also, the information will be used to understand the interaction between lake trout and sea lamprey.

"This project is pure research," Mattes says, "funded with dollars from the Great Lakes Restoration Act administered by the USFWS." A $55,000 grant covers the cost of the tags, tag rewards, and surgical supplies only. Labor and operations are covered by in-kind contributions from cooperators. GLIFWC wrote the proposal, which received support from the Lake Superior Technical Committee and the Lake Superior Committee of the Great Lakes Fish Commission. GLIFWC also manages the grant.

Cooperation from agencies such as the USGS, USFWS, MIDNR, and the Bad River tribe has been crucial to the success of the project to date, Mattes states. The tagging procedure was done in conjunction with annual fall lake trout assessments performed during the lake trout spawning season.

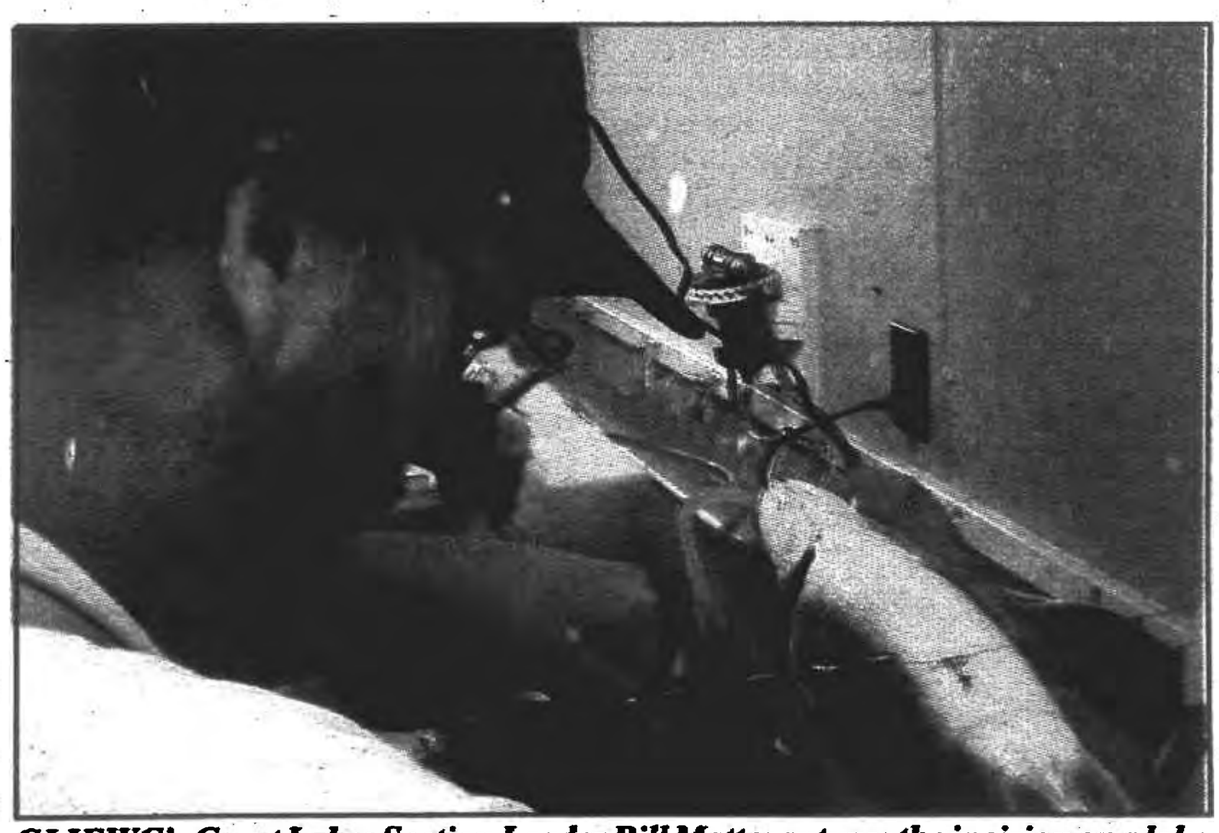
GLIFWC annually checks long-term spawning reefs as well as smaller reefs that historically had spawning lake trout populations. The populations on the long-term reefs appear stable, according to Mattes.

The crew also located spawning fish on a reef not sampled since the late 1970s, when it was listed as having a poor chance for return. However, this fall they found a fair population of both wild and stocked lake trout on the reef.

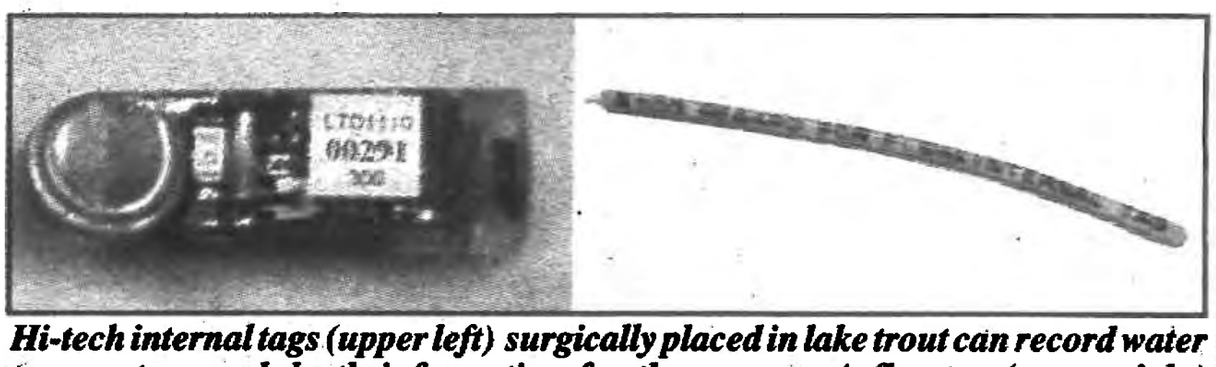
The crew also collected fish for a long-term contaminate analysis study being done by the USGS.

Crew met with some wicked weather conditions during the assessment season. High winds made work difficult, if not sometimes impossible, Mattes says. Red Cliff fisherman Mike Peterson helped retrieve a net in MI-4 on one of those rock-n-rollin' days when it was unsafe for the assessment boat, Ojibwa Lady, to venture out.

Mattes thanks everyone involved in launching the cooperative study, hoping the study fish will be returned so biologists can benefit from the recorded information.



GLIFWC's Great Lakes Section Leader Bill Mattes sutures the incision on a lake trout following the implantation of an internal tag. Tubes serve to aerate the fish's gills while undergoing the three-minute procedure. (Photo by Roger Bergstedt, USGS Station Chief)



Hi-tech internal tags (upper left) surgically placed in lake trout can record water temperature and depth information for three years. A floy tag (upper right) identifies a lake trout carrying an internal tag and offers $100 for return of the ungutted, unfrozen fish with the internal tag.

Your help is needed!

If you capture a lake trout with the pictured floy tag (see above), do not gut or freeze the fish. Please call (715) 682-6619, leave your name and phone number. You will be contacted to receive a $100 reward for the fish plus the internal tag contained in the fish.

GLIFWC greatly appreciates your cooperation.

Searching out mashkiigiminan (wild cranberries)

Crandon, Wis.—"Careful walkin' on that peat out there. If ya' fall through, ya' might be stuck for good." With those words of warning, I pulled on my waterproof hip boots and cautiously followed Pete McGeshick, Jr. into the swamp bordering Big Rice Lake on the Sokaogon (Mole Lake) Reservation. As I kept my sights set on solid ground, Pete located our intended prize, mashkiigimin, the wild cranberry.

Mashkiigiminagaawanzh (cranberry plant) grows in bogs and swamps on carpets of asa'kumig (sphagnum moss) mingled with other wetland plants such as bine'mikci (bog rosemary), bog sedge, wire sedge, waabashkikibag (leatherleaf), mashkiigobag (Labrador tea), and omakakiiwidaasan (pitcher plant).

Low growing, like a slithering snake, and bearing only tiny green leaves to brighten its stem, maskiigiminagaawanzh remains inconspicuous through most of the growing season.

During September and October, its hiding place loses effectiveness, just slightly, as its small berries ripen to a vivid crimson glow.

Even with its telltale berries, mashkiigiminagaawanzh meanders so delicately between neighboring plants that its visual presence remains unobtrusive. Needless to say, gathering mashkiigiminan requires a keen eye and a patient temperament.

As we wandered, Pete recalled his childhood days spent with his cousin, Roger McGeshick, exploring the swamp and snacking on mashkiigiminan (cranberries); the tart flavor forcing their lips to pucker. Frequently, they would find enough berries to bring home and have cooked into a sauce.

Two weeks before my excursion into the swamp, Pete and Roger had revisited the footsteps of their childhood to once again gather mashkiigiminan. Accompanying them had been Pete's daughter, Dorie, his nine-year-old granddaughter, Amber, and a good friend, Richard Ackley.

Pete could not have been happier that his daughter and granddaughter had shown an interest in gathering mashkiigiminan. Along with Roger and Richard, he frequently helps and encourages youngsters to learn the traditional ways. All three elders know the importance of passing their knowledge onto the younger generations.

The intergenerational group had been successful in their quest, gathering enough mashkiigiminan to fill several sandwich-sized plastic bags. Pete's wife, Carol, later rewarded the gatherers by baking their fresh berries into a delicious cake. The wild berries, according to Carol, have a more tart and tangy flavor than their cultivated cousins.

It takes determination and desire to gather mashkiigiminan in the wild. Most people choose to buy the cultivated berries in the grocery store. However, a few people prefer the undomesticated taste of the wild berries. Besides, a few days gathering mashkiigiminan provides anyone with good motivation to enjoy autumn outdoors.

Article and photos by: Karen Danielsen, GLIFWC Forest Ecologist

To the left, Pete McGeshick, Jr., Sokaogon Reservation, displays mashkiigimin. McGeshick frequently helps and encourages youngsters to learn traditional ways. McGeshick knows the importance of passing on knowledge to the younger generations.

Top photo: Mashkiigimin (wild cranberry plant).

"Tree of Hope" headed to D.C.

74-foot MI spruce to be U.S. Holiday Tree

The 2001 U.S. Capitol Holiday Tree, a 74-foot white spruce, was cut in Watersmeet, Michigan on November 13 after a ceremony that included an offering of asemaa by Lac Vieux Desert's Richard McGeshick. Above, Ottawa National Forest Supervisor Phyllis Green, is joined by a group of dignitaries and an American Legion Color Guard during the mid-morning event.

The Tree of Hope will be trucked to its D.C. destination in the "Tree of Hope Caravan," including another truck carrying companion trees and 6,000 ornaments made by Michigan residents. (Photo courtesy of Ottawa National Forest)

Oak wilt disease prompts ban on oak gathering in portions of Oconto and Forest Counties in Wisconsin

Odanah, Wis.—Acting on a motion by the Voigt Intertribal Task Force (VITF), the Great Lakes Indian Fish & Wildlife Commission (GLIFWC) issued an emergency closure order banning the gathering of oak firewood in portions of the Chequamegon-Nicolet National Forest (CNNF).

The order, issued by Neil Kmiecik, GLIFWC biological services director, affects only a designated area in portions of Forest and Oconto Counties in Wisconsin and is in effect for one year.

The VITF took action following consultation with representatives of the CNNF at their October 4 meeting in Odanah. An outbreak of oak wilt, a fungal disease lethal to oak, has been identified in two forest stands. An estimated 50 to 100 trees in the two stands have been diagnosed with oak wilt.

In order to prevent the spread of the disease, the U.S. Forest Service banned the collection of oak firewood by non-tribal gatherers in a wide area surrounding the site of infected trees as of August 28. The ban includes all National Forest lands south of Forest County Highway C, north of Oconto County Highway W, east of State Highway 32, and west of the national forest boundary.

The oak wilt fungus essentially clogs the oak's vascular system. The flow of water and nutrients is blocked, and the infected tree wilts and dies, often within just weeks of the first symptoms.

Since there is no known cure, preventative measures are important. Unknowing firewood gathers could carry infected wood home and transmit the disease to oaks within their respective communities.

Oak wilt commonly spreads either through the root systems of neighboring trees, or beetles feeding on the trees transmit the fungal spores. An infected tree dies within several weeks.

This is the first emergency closure order issued by GLIFWC since off-reservation, treaty seasons have been exercised in Wisconsin's treaty ceded territories.

Art Tainter, Lac Courte Oreilles, gathers boughs from zhingobiig (balsam fir). Tainter gathers only what he needs. He is conscious that to do otherwise, would be to disrespect zhingobiig and the Creator.

Gathering boughs brings financial and spiritual benefits

Lac Courte Oreilles, Wis.—Art Tainter, a Lac Courte Oreilles member, first gathered boughs from zhingobiig (balsam fir trees) when he was just a kid. Now, as an elder, his proficient gathering skills reflect those years of experience. Within an hour, of starting, almost one hundred pounds of boughs lay next to his truck ready to be stacked and bundled.

Like most tribal members, he does not use clippers. He merely snaps off the boughs with a "flick of the wrist." This method requires cold days to help facilitate a clean break. On warm days, boughs tend to twist rather than break.

The length of the broken-off bough usually measures from his finger tips to his elbow. This size allows for better manageability. Oversized boughs become too cumbersome.

Once gathered, he stacks his boughs on a four to five-foot long, broad, smooth, leafless branch of wiigwaas (birch). To expedite the process, on one end of the "stacking" branch, he carves a sharp point over which he easily slides his gathered boughs.

After stacking, he secures the boughs by tying short branches perpendicular to and on each end of the stacking branch. Then, the final step entails lifting the boughs into his truck.

He has been selling boughs to the same wholesaler in Hayward for years. Though he could probably receive more money elsewhere, he appreciates the trust that has developed between him and his wholesaler.

Furthermore, profits alone do not motivate him. Certainly, he could earn plenty of money gathering boughs given his well-developed skills and his strong work ethic. However, he gathers only what he needs. To do otherwise, would be to disrespect zhingobiig and the Creator.

He gathers boughs primarily to spend time in the woods. As taught by his elders, he listens attentively to the woods and hears the stories told by giizhig (sky), nibi (water), wiiyagasenh (dirt), mitigoog (trees), and awesiinhyag (animals). From these stories, he learns respect.

He knows that today's youth must listen to these stories. He empathizes with the struggles they face and the difficulties they must overcome. He wants them to realize that solutions can be found in the woods.

He hopes they can learn that a day consumed in gathering boughs provides much more than just a pocketful of cash. If they listen, they will understand.

Making wreaths with cigonagan (princess pine)

Red Cliff, Wis.—Bitsy (Elizabeth) Andrews learned wreath-making from her sister, Mary. A Fond du Lac member, Bitsy has lived at Red Cliff with her husband, Mike Andrews, since the 1980's. Family and friends at Red Cliff genuinely value receiving one of her wreaths.

As a matter of fact, everyone admires her wreaths so much that many have expressed an interest in learning her craft. She willingly shares her knowledge and often teaches several people simultaneously. She has even held classes for community members.

To begin a wreath, Bitsy and Mike harvest cigonagan (princess pine), giizhik (northern white cedar), zhingobiig (balsam fir), wiigwaas (birch bark), and oginiig (hawthorn berries). Bitsy's sister, Barb, and nephew, Ty, sometime help with the harvest.

Bitsy uses a coat hanger, rounded into a circle, to form the frame of the wreath. Then using twine, she ties cigonagan all the way around the hanger. For fragrance, she adds a few branches of giizhik and aninaandag, and for decoration, she adds wiigwaas and oginiig.

It takes several hours to complete one wreath. Yet, in the company of others also making wreaths, time passes quickly. And Bitsy rarely makes wreaths alone. Someone always wants to join her.

The time spent wreath-making allows those gathered to drink tea, share stories—good and bad, cry a little, and laugh a lot. A finished wreath at the end of the day just adds to the overall gratifying experience.

Even little ones can enjoy wreath-making. Four-year-old Ty helps by trimming the cigonagan. However, like most youngsters, he gets bored sooner than later.

Mostly, Ty provides entertainment with his precocious statements and funny antics. His uncle, Mike, adds his own brand of silliness which just encourages Ty all the more.

When Bitsy makes a wreath, she thinks of the person to whom it will be a gift. She likes to personalize her wreaths. She often adds a fabric tie of asemaa (tobacco) and maybe a branch of mashkiki (sage). She might add other items depending on the recipient's needs or qualities.

Bitsy prefers to make wreaths for family and friends, not even keeping them for herself.

Bitsy does not sell her wreaths. She prefers to make wreaths for family and friends, not even keeping them for herself.

However, she has no bad feelings for those who do sell wreaths. It provides a good supplemental income, one which her sister chooses to partake in. Furthermore, selling finished wreaths can provide better income than merely selling bouquets of cigonagan to wholesalers.

Making wreaths, whether for commercial or personal use, can be exceptionally rewarding. It affords the opportunity to relax with friends and compose a design with wild plants. It requires only an accomplished teacher, like Bitsy, and amiable companionship to help pass the time.

Making wreaths can be exceptionally rewarding. It affords the opportunity to relax with friends and compose a design with plants. Shown above is Mike and Bitsy Andrews, Red Cliff.

Articles and photos by: Karen Danielsen, GLIFWC Forest Ecologist

Seeding the ceded territory

Cooperative rice restoration efforts continue

By Peter David, GLIFWC Wildlife Biologist

Photos by Sue Erickson

Lac Vieux Desert, Mich—It sounded like rain. That's a good sign, noted Dan North, Great Lakes Indian Fish & Wildlife Commission (GLIFWC) wildlife technician, as he arched another handful of manoomin (wild rice) seed into the wind that was blowing across the surface of Lac Vieux Desert.

As the seeds paused at the peak of their arc, they straightened up in the air, pointing their long awns skyward, then plunged in parallel into the water below, hitting with a sound like heavy rain. The good seed sank rapidly towards the sediment, where the long awn and the tiny hairs along it would help embed the seed to the optimal depth for germination the following spring; empty hulls in contrast simply floated away with the breeze on the surface. "I like that sound of rain; it means there aren't a lot of empties," Dan explained. "It's a good breeze too; it helps to spread out the seed in the air."

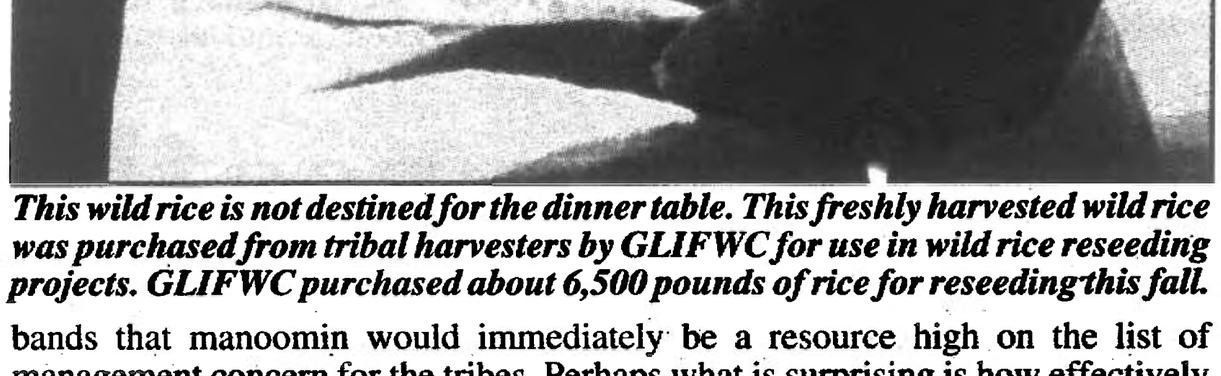
On this beautiful fall day, with sunny light falling on bright blue waters and early fall colors, handful after handful of rice seed was being launched into the wind in an effort to reseed the historic rice beds on the lake. It was being done as part of a larger effort to restore some of the abundance of wild rice, which has been lost from the lands ceded by the Ojibwe in the treaties of the mid 1800's.

Wild rice was once a common component of the ceded territory landscape, and its presence there largely explains the Ojibwe's presence in this region. According to the Ojibwe's migration story, this nation undertook a long exodus from the Atlantic seaboard in search of the place "where the food grows on the water," a sojourn which brought them to the lands around western Lake Superior. It is little wonder that the Ojibwe consider manoomin to be a special gift of the Creator; and view the rice region as a religious motherland.

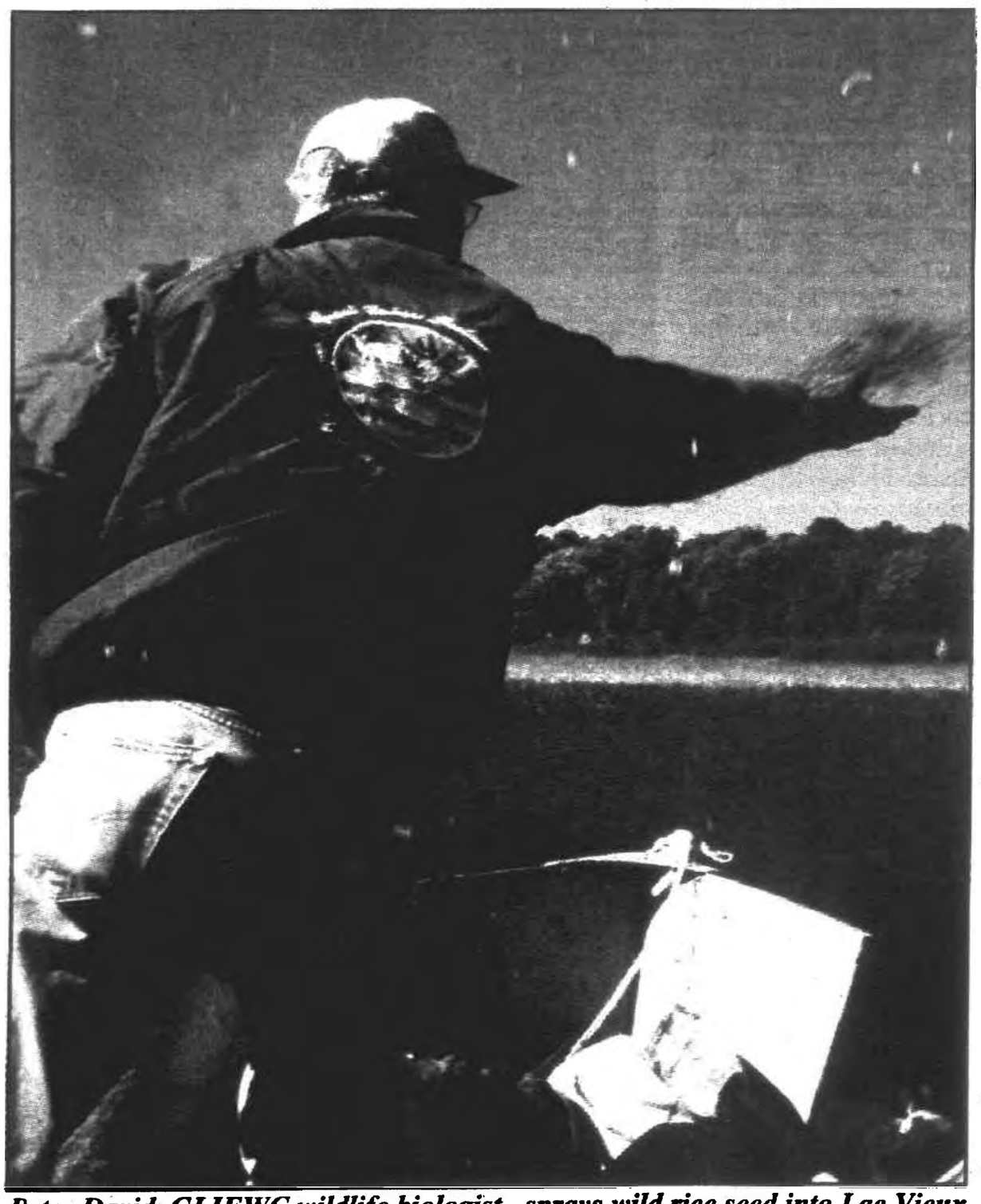
Wild rice also provided tremendous sustenance value to other native American tribes. The Menominee, for example, take their name from this plant. It also quickly became a staple for the early European explorers who came to exploit the rich furbearer resources, which flourished in rice country.

Yet despite its ecological values and its cultural significance, there has been a marked decline in the abundance of manoomin in the ceded territories. Through the disturbance of natural hydrological regimes and other negative impacts, the habitats that support wild rice have been under attack. This plant was once so common that it is believed to have contributed to more geographic place names than any other plant in North America, but today it has disappeared from many of the historic sites mentioned in the journals of the early European explorers, or recalled in the memories of tribal elders. Rice Bay on Lac Vieux Desert is just one of those sites.

Given this background, it should not have been surprising that when federal courts upheld the existence of off-reservation treaty rights for a number of Ojibwe bands that manoomin would immediately be a resource high on the list of management concern for the tribes. Perhaps what is surprising is how effectively this concern has served to create partnerships that focused new attention on this otherwise often over-looked resource.



This wild rice is not destined for the dinner table. This freshly harvested wild rice was purchased from tribal harvesters by GLIFWC for use in wild rice reseeding projects. GLIFWC purchased about 6,500 pounds of rice for reseeding this fall.



Peter David, GLIFWC wildlife biologist, sprays wild rice seed into Lac Vieux Desert, one of several lakes benefiting from GLIFWC's reseeding efforts. GLIFWC also provides wild rice seed to any tribal governments interested in reseeding as well as to state or federal agencies for their reseeding projects.

The program began simply enough in 1987 when GLIFWC tossed a few hundred pounds of seed into a historic rice lake in northeast Wisconsin in cooperation with the Nicolet National Forest. Since then, this program has expanded to include a long list of cooperators, and now typically results in 4-7 tons of rice being sown annually. A number of elements were necessary to make this happen.

First, there was the great cultural significance to the Ojibwe as has already been mentioned. This was the catalyst to the entire effort.

Next there were the court decisions, which upheld the existence of the treaty rights. This empowered the tribes to become active in off-reservation natural resource management.

A third important key is that real opportunities for restoration existed, on both historical sites which have lost their rice, but which may still be able to support it, and non-historic sites, particularly artificial flowages, which often provide excellent habitat for manoomin, but which are unlikely to be seeded naturally because of the plants very limited natural dispersal.

A fourth, *critical* cog that was needed was willing partners. This was particularly important because, although the tribes' right to harvest *off*-reservation resources came with the responsibility to help manage them, the tribes had no

(See Interest in reseeding, page 13)

Looking for some new places to rice?

The following locations are some of places where rice has been established in cooperative seeding efforts.

Black Brook Flowage—Amsterdam Sloughs Wildlife Area—Burnett County, Wisconsin
Chequamegon Waters Flowage—Taylor County, Wisconsin
Chippewa Lake—Bayfield County, Wisconsin
Crooked Lake—Gogebic County, Michigan
Gile Flowage—Iron County, Wisconsin
Lac Vieux Desert—Gogebic County, Michigan
Lea Flowage—Rusk County, Wisconsin
Little Turtle Flowage—Iron County, Wisconsin
Pershing Wildlife Area Flowage—Taylor County, Wisconsin
New Woods Wildlife Area Flowage—Langlade County, Wisconsin
Phantom & North Fork Flowages at Crex Meadows Wildlife Area—Burnett County, Wisconsin
Rat River (2 sites)—Forest County, Wisconsin
Scott Creek Impoundment—Oneida County, Wisconsin
Spring Creek Wildlife Area Flowages—Price County, Wisconsin
Wilson Flowage—Price County, Wisconsin

Reaping the benefits of seeding the Raspberry River

Red cliff tribal youth bring home wild rice

By Sue Erickson
Staff Writer

Red Cliff, Wis.—The Raspberry River manoomin (wild rice) stand yielded about 80 pounds of green rice to youthful ricers from the Red Cliff reservation this fall.

The youth and their instructors harvested the newly established rice bed using cedar ricing sticks and poles constructed during Red Cliff's Ricing Club meetings last year.

Mark Duffy, Red Cliff conservation officer, estimates another 200 pounds were gathered by Red Cliff ricers from the Raspberry River bed this year.

The opportunity to harvest in the Raspberry River sloughs resulted from Red Cliff's seeding efforts over the last seven to ten years. Through the Circle of Flight (COF) program Red Cliff has seeded the area with 50-200 pounds of seed obtained through the Great Lakes Indian Fish & Wildlife Commission, a COF cooperator. COF is an inter-tribal program aimed at wetland restoration and enhancement projects. Establishing, or re-establishing, rice beds on or near reservations has been a primary goal of the program. Raspberry's now flourishing rice bed is a tribute to that effort.

Fifteen youth and six adults from Red Cliff, along with some visitors from Lac Courte Oreilles, set up rice camp at the tribe's Raspberry River Campground on September 15-16. They were largely members of Red Cliff's Ricing Club, one aspect of the tribe's Family Preservation and Support Program, according to Dick Young, Red Cliff youth programs, who coordinated the rice camp this year.

Red Cliff youth, often first-time ricers, received instruction on ricing techniques from Keith Newago, Red Cliff, who shared the "do's and don'ts" of traditional ricing and demonstrated how to knock rice into the boats.

Also on hand at the camp was Diane Defoe, Red Cliff, as the cultural and language instructor. Defoe shared stories about ricing and talked about the traditional significance of manoomin to the Ojibwe people.

Youth discovered that harvesting manoomin is only one part of an involved process to get the rice from the water to the dinner table. They were shown how to dry and parch the rice at the campsite.

Drying is important to prevent spoilage and enables the rice to be stored for processing later. Parching rice in large kettles over a fire makes the outer husks dry and brittle, so they easily crack open, but this part of the process must be carefully watched to prevent burning. The parched rice was finished using the Newago family's equipment.

All in all, it was a weekend well spent. Youth went home with manoomin for the family table, a good-for-a-lifetime rice-harvesting skill and some cultural enrichment for their minds and hearts.

The Ricing Club also donated a portion of the manoomin from the Raspberry River to the tribe for use during Red Cliff community feasts.

The Raspberry River is one of several sites on the reservation that has been seeded over the years. Establishing wild rice beds on the reservation has a twofold purpose, according to Duffy. One, the rice provides nourishment for the waterfowl, and two, if the bed is abundant, Red Cliff members have an opportunity to rice near home, a luxury appreciated by many.

Duffy is optimistic that Raspberry's wild rice bed will be self-sustaining and provide sustenance for wildlife and tribal members for some time to come.

Interest in reseeding wild rice grows

(Continued from page 12)

off-reservation land base to manage. Thus, out of necessity, GLIFWC reached out for cooperation from other agencies managing public lands and waters of the ceded territories.

And finally, a little of that green lubricant (money) is essential to get any kind of restoration project going, although rice restoration is significantly aided by the fact that it is not a big ticket venture.

Fortunately, we discovered there was a great latent interest in rice restoration waiting for a catalyst to trigger it into action. Over the years the list of cooperators has grown steadily to include the Forest Service, but also the US Fish & Wildlife Service, the Bureau of Indian Affairs, the Wisconsin and Michigan Departments of Natural Resources, GLIFWC member tribes, and even local lake associations, sports-persons groups, and interested individuals. And new partners are still being added.

So how does the process actually work?

Fairly simply, actually. GLIFWC, or cooperators, identifies potential seeding sites and do a basic evaluation of the water for rice's known habitat requirements, which includes things like water depth and clarity, substrate type, etc. Depending on the site, a social evaluation is done as well, to determine if support is needed from other property managers or lakeshore owners before proceeding.

If a site is targeted for seeding, a simple division of labor and expenses with cooperators is generally followed. The Commission concentrates on seed procurement, purchasing it from individual hand harvesters, and delivering it to cooperators. The cooperators, in turn, do most of the actual sowing, although GLIFWC may participate if the cooperator is inexperienced, or the project is unusually large. (Cooperators at Lac Vieux Desert have included staff from the Forest Service and the Lac Vieux Desert Band.)

Cooperators also generally follow a set of seeding guidelines, which maximize our success. These guidelines include seeding rates, committing to multiple years of seeding, and fall sowing. However, we try to keep some flexibility in our approach, and hopefully learn a bit more as we go along by doing so.

The out-of-pocket costs for all parties are pretty low. Support from the Bureau of Indian Affairs' Circle of Flight Program allows us to cost sharing for any rice seed planted in off-reservation waters of the ceded territory. GLIFWC absorbs the labor and expenses associated with obtaining the rice, and the cooperator typically absorbs the same costs associated with planting it. The low cost and relative simplicity of this program makes it possible for nearly any group to get involved if they are interested.

And do these seedings actually work?

Not always, but GLIFWC and its partners are establishing a pretty good track record.

One way to measure this is by the level of harvest that is coming from seeded sites. In Wisconsin, which has off-reservation harvest data for both state and tribal ricers, the percentage of rice coming from seeded sites has been gradually growing. In 2000, when a number of important natural beds failed to produce harvestable stands, the percentage jumped significantly, with nearly a third being reported from relatively recently seeded sites. (2001 harvest figures are not yet available.) This is despite the fact that many seedings are not necessarily motivated by a desire to provide human harvest, and other seeded sites are not yet well known by pickers.

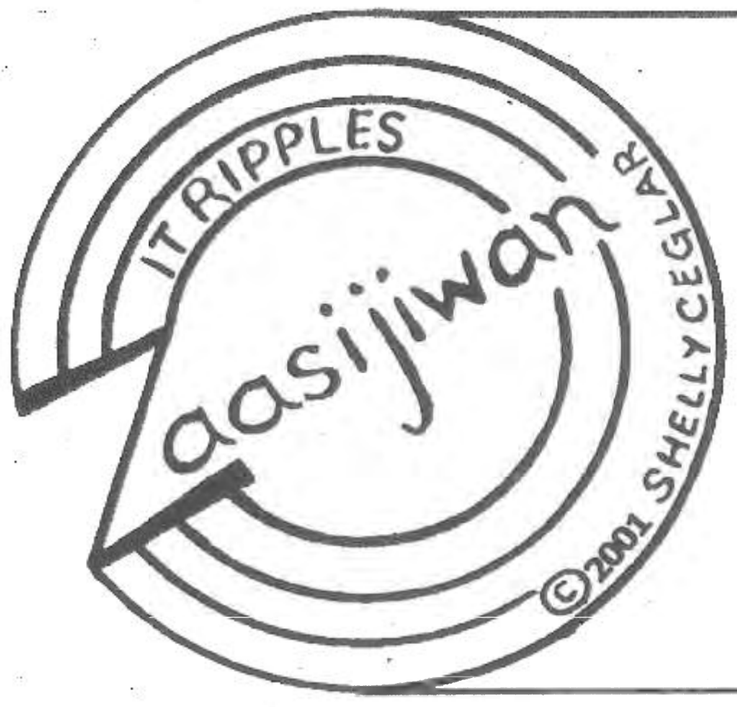
Miles Falck, GLIFWC wildlife biologist, lets a fistful of wild rice seed fall into Lac Vieux Desert. The lake's wild rice beds were diminished as a result of high water levels created by a dam.

So, is this cooperative rice seeding really ecological restoration? The answer depends largely on which ecological scale is used for reference. And perhaps, whether you are a restoration purest or pragmatist.

At a site-specific scale, many of the seeded sites were not historically rice beds, and its hard to define this as restoration at that scale. However, viewed at a landscape scale, this is an important form of restoration. GLIFWC is attempting to restore some of the *historic abundance of rice on the landscape*. And although there is interest in returning rice to the historic beds whenever that is possible (including sites like Lac Vieux Desert), from a practical perspective many historic sites have probably been lost forever. In this situation, the only way to restore some of the historic abundance is to find new locations, and many of the artificial waterfowl impoundments which currently exist offer great opportunity in that regard. And to a migrating rail or ring-necked duck, the exact location of a rice bed may be much less of an issue than the matter of whether it exists at all.

These new beds may also be important in restoring some of the natural gene flow in rice populations. Little is known about the genetic variability of this species across the landscape. However, initial work conducted with the University of Wisconsin-Madison suggests that very limited genetic interchange took place between the populations studied, despite being a wind pollinated plant. Its not unreasonable to presume that as beds disappeared from the landscape and the

(See Reseeding the ceded territory, page 15)



Biboon—It is Winter

**Mino-bimaadiziwin. Nindaanishinaabew niin.
Ningichi-mookamaaniwgaye. Ninojibwem. Aandi endanakiiyan?
Anishinaabe'aki na?, Mashkigo'akin?, Wemitogozhiwaki na?
Agongosiwaki na?, Aniibiishaki na?
Zhaaganaashiiwaki na? Animaawaki na?**

**(The good life. I am Indian (inherently good person), me.
I am American also. I speak Ojibwe. Where are you from?
Indian Country? Canada?, France?,
Sweden?, Orient?, England?, Germany?)**

Bezhig—1

OJIBWEMOWIN
(Ojibwe Language)

Double vowel system of writing Ojibwemowin.
—Long vowels: AA, E, II, OO
Waabooz–as in father
Gaye–as in jay
Ziibiing–as in seen
Noongom–as in moon
—Short vowels: A, I, O
Apane–as in about
Esiban–as in tin
Ojibwe–as in only

—A glottal stop is a voiceless nasal sound as in A'aw.

—Respectfully enlist an elder for help in pronunciation and dialect differences.

Nouns to Verbs: Language to Country

Ojibwe with conjugations!
Ojibwemo—S/he speaks Ojibwe.
Ojibwemowin—Ojibwe Language.
Ojibwemon—Speak Ojibwe!
Ojibwmodaa—Let's all speak Ojibwe!
Ojibwewin—Being of Ojibwe descent.
Ojibwewi—S/he is of Ojibwe descent.
Nindojibwew—You are of Ojibwe descent.
Ojibwewiwag—They are Ojibwe.
Nindojibwewimin—We are Ojibwe.
Ojibwewaki—Ojibwe Country.
Ojibwewinini—Ojibwe man.
Ojibwekwe—Ojibwe woman.

Niizh—2

Circle the 10 underlined Ojibwe words in the letter maze. (Translations below)

A. Inashke! Migizi bimise iwidi ziibiing.

B. Ogichidaa miigaazowag. Gidanimi'aamin.

C. Nookomis dibaajimo apane biboong.

D. Gaye aadizookaanag, niwii-noondawaag onaagoshing.

E. Esiban, waabooz, mooz, wawiyadendaagoziwag.

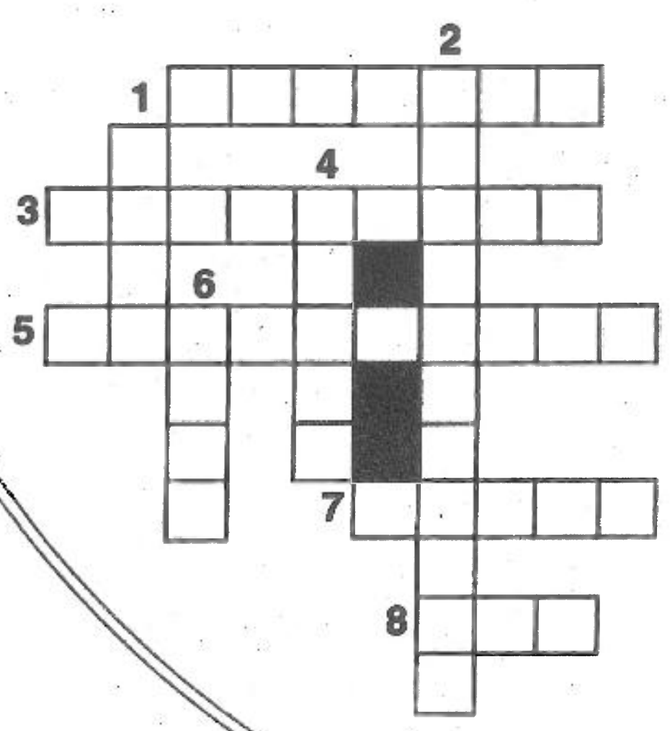
F. Aadizookaanag, gikinoo'amaagewag. Bizaan! Noondaw.

G. Apegish minoseyeg.

Z	D	M	A									
K	I	B	O	M	C							
O	B	I	M	I	S	E						
I	A	T	B	G	A	L	S					
M	A	Z	N	I	S	P	N	I				
A	J	S	X	Z	I	A	E	B	B			
I	I	H	Z	I	A	N	M	G	V	A		
R	M	O	Q	Z	C	G	G	W	I	L	N	
J	O	G	I	C	H	I	D	A	A	S	U	
M	P	B	D	Y	K	Q	E	A	Z	F	H	
O	N	A	A	G	O	S	H	I	N	G	T	

Niswi—3

**IKIDOWIN
ODAMINOWIN
(word play)**



Down

1. Me, I.
2. Lets all speak Ojibwe!
4. Always.
6. Woman.

Across:

1. Rabbit.
3. S/he tells stories.
5. Germany.
7. Oh wow!
8. Earth, land.

Niiwin—4

Conjugations—All nations
Mashkigowin—A Canadian-noun.
Animaawi—S/he is of German descent.
Agongosiwaki—Sweden/Norway land.
Madoodoomo—S/he speaks Finnish.
Zhaaganaashiimowin—English language.
Gichi-mookomaanikwe—American woman.
Aniibiiishiwinini—Asian man.
Anishinaabe'akiing—In Indian Country. (the location)

—ikwe
—mowin
—waki
—winini
—mo
—win
—wi

***Goojitoon! Try it!
Translation below.***

1. Matt odanakii Madoodoo____.
2. Mashkigo_____ giigooyike zaagai'ganing.
3. Ninzaagitoon Anishinaabe____.
4. Animaa_____ adaawe oodanaang noongom.
5. Howha! Agongos____ dash Aniibiishi____.

Translations:
Niizh—2 ***A.*** *Look! Eagle s/he is flying over there by the river.* ***B.*** *Warriors they are fighting. We all are praying.* ***C.*** *My grandmother she tells stories always when it is winter.* ***D.*** *Also sacred stories we will hear them when it is evening.* ***E.*** *Raccoon, rabbit, moose, they are comical.* ***F.*** *Sacred stories they teach. Be quiet! Listen to someone.* ***G.*** *I wish you all good things.*
Niswi—3 ***Down:*** ***1.*** *Niin.* ***2.*** *Ojibwemodaa!.* ***4.*** *Apane.* ***6.*** *Ikwe.* ***Across:*** ***1.*** *Waabooz.* ***3.*** *Dibaajimo.* ***5.*** *Animaawaki.* ***7.*** *Howha!* ***8.*** *Aki.*
Niiwin—4 ***1.*** *Matt, he is from the country Finland.* ***2.*** *The Canadian man he goes fishing at the lake.* ***3.*** *I love it the Indian language.* ***4.*** *The German woman is shopping in town today.* ***5.*** *Wow! He is Swedish and he speaks the Japanese language.*

There are various Ojibwe dialects, check for correct usage in your area. Note that the English translation will lose its natural flow as in any foreign language translation.

Ojibwe Migration Journey builds environmental coalition

Retraces original Anishinaabeg migration to Madeline Island

"One hundred and fifty years from now—Seven Generations—a story will be told how a long, long, long time ago at the turn of the second millennia, the Anishinabe and other indigenous people stepped forward to save the Great Lakes for future generations. Today, using indigenous sovereignty, treaty rights, ceremonies, knowledge, and beliefs, we must begin. We must work closely with those newer people who also wish a future for their descendants. But we cannot wait for their leaders nor must we any longer ask their permission. If their governments cannot go forward then we must embrace as our own any one who wishes to walk side-by-side; some will have facts we need; some already are our mother's children."

—Migration Journey website information

By Sue Erickson
Staff Writer

Madeline Island, Wis.—*"Here the Waterdrum made its seventh and final stop on the migration. The Sacred Fire was carried here and here it burned brightly. This island was called Moning-wun'-a-kawn-ing (the place that was dug) by the Ojibway. It was later called Madeline Island...The main body of the Anishinabe people gathered here and they became strong and powerful."* Edward Benton-Benai describes the conclusion of the Ojibwe migration from the East Coast to Madeline Island in *The Mishomis Book*. He estimates the journey occurred around 900 AD and took about 500 years.

In September 2001 Anishinaabeg once again arrived at Madeline Island, concluding a 2,200-mile trek which began in mid-July at Gaspe, New Brunswick.

The Journey retraced the path of Ojibwe ancestors who carried the Sacred Fire to Madeline Island. However, participants in the contemporary Migration Journey carried an urgent message of environmental concern.

On September 14th a Sacred Fire, encirlced by a ring of cedar, burned at Madeline Island's Ojibwe Memorial Park on September 14th during a ceremony and feast marking the successful conclusion of the Migration Journey.

The Journey averaged between 50 and 90 miles per day. Participants carried a staff over the miles by walking, running, or cycling. Participant numbers would wane and grow. At one point there were only four to five and at other times, up to 40 participants.

Stopping at each of the major seven stopping places cited in the migration story, the Journey carried a message of concern for the well being of Mother Earth and especially for Earth's water.

The seven major stopping places revisited by the 2001 Migration Journey included:

✔Turtle-shaped Island (along river)
✔Niagara Falls
✔Detroit River
✔Manitoulin Island
✔Sault Ste. Marie
✔Duluth
✔Madeline Island

According to Tom Mattinas, Canadian Ojibwe and spiritual advisor, at each major stop, ceremonies were performed, and "we learned what they did back then."

"We retraced the ancestors' road and gave a message about the need for change to natives and non-natives," Mattinas explains.

He is convinced that industries, often controlled by foreign investors, are responsible for bringing a state of crisis to the environment and jeopardizing the safety of the water. Consequently, he seeks to build a coalition to bring about change necessary to protect the environment from further degradation.

Concluding a 2,200 mile journey with a feast and ceremonies at Madeline Island this fall, supporters joined participants in the Migration Journey, which began on the East Coast and followed the route of the Ojibwe migration to Madeline Island. Above, Thomas Mattinas, spiritual leader from Ontario, provides a prayer prior to the concluding feast of the journey. (Photo by Sue Erickson)

"This journey is about mobilizing people. It is not one individual vision that will make the change happen. It will take a group of people. Every one of us has a responsibility to protect mother earth because we are the custodians of the country. We have lost that custodianship, and we must reestablish it," states a message on the Journey's website.

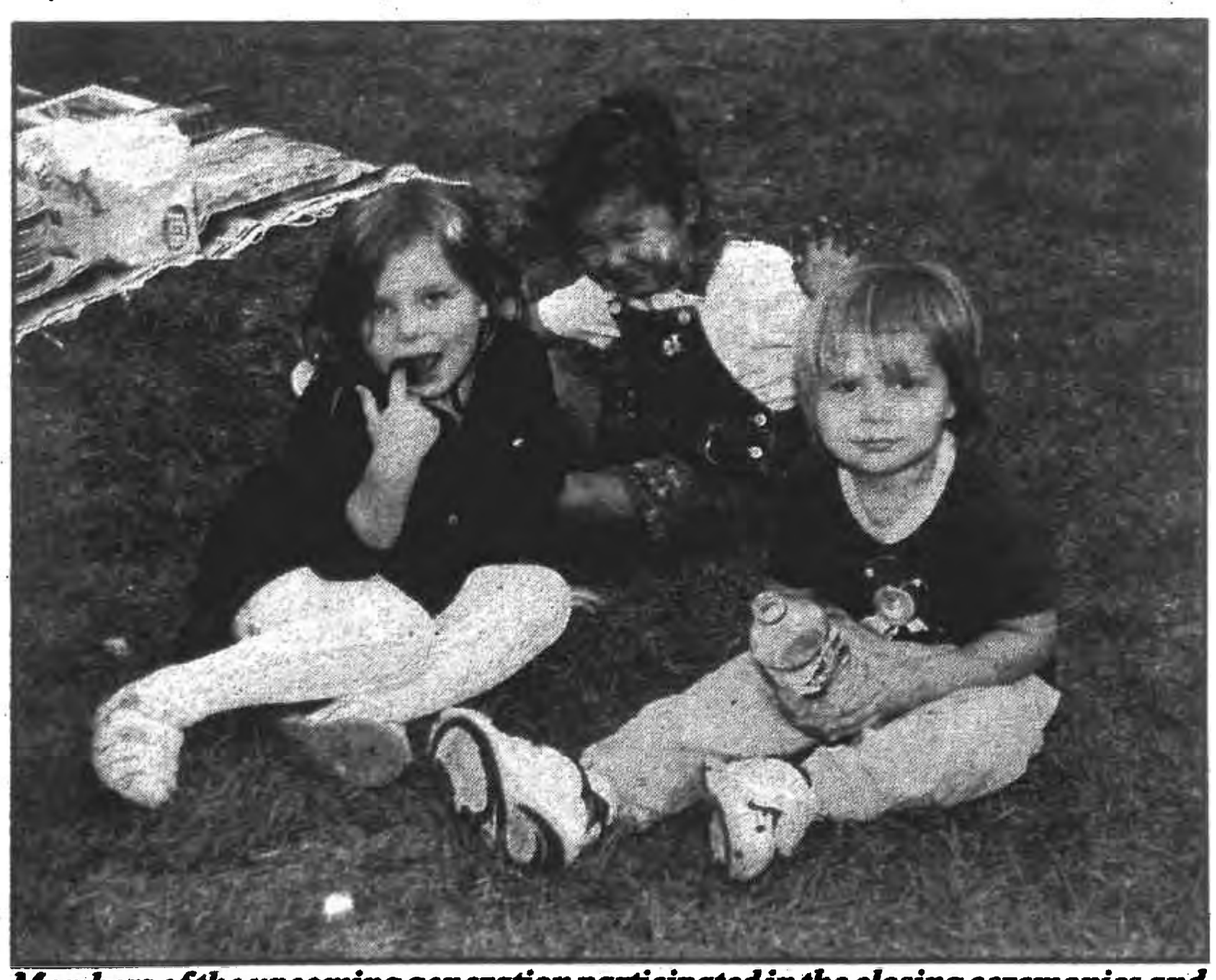
Butch Stone, Bad River, stayed with the Journey from beginning to end. He considers the Journey an effort on behalf of the next seven generations, for the water, the air, and the earth.

But for Stone, the Migration Journey was just one leg in a continuing effort. For him environmental advocacy began in 1996 when he found himself sitting on a railroad track running through the Bad River reservation, blocking the path of a train carrying sulfuric acid to the White Pine Mine in Michigan. Stone, along with other activists and ogichidaa (warriors), were instrumental in stopping the transport on potentially unsafe tracks through the reservation.

From that point, Stone recognized the need for ogichidaa as protectors of the water and the earth.

In 2000, he was instrumental in planning and implementing the Walk Around Lake Superior, bringing environmental awareness to communities around the Lake. In 2001, he finished the Migration Journey, and planning for another segment in the ongoing public education endeavor will be in process this winter, he says.

Both Stone and Mattinas express a real sense of urgency about their mission. "How long will it be until there is no clean water?" Stone asks. "Maybe 20 years?"



Members of the upcoming generation participated in the closing ceremonies and feast for the Migration Journey, a journey concerned about the environmental legacy we leave for future generations. Enjoying a grassy spot at Ojibwe Memorial Park on Madeline Island are Isabella and Silas Stone-Dahl (forward) and Jake Cadotte. (Photo by Sue Erickson)

Reseeding the ceded territory

(Continued from page 13)

remaining beds became more isolated, the likelihood of genetic interchange declined. This might reduce the long-term viability of the remaining beds. This landscape level restoration may be helping to literally fill a void in the transmission of genetic material between the populations of this plant.

This work is just one part of GLIFWC's manoomin management program. Coupled with abundance and harvest monitoring, and education and research efforts, GLIFWC tries to promote wherever it is biologically appropriate, while trying to expand its understanding and appreciation of rice. With the cooperation of all its partners, GLIFWC tries to ensure that the seventh generation yet to come will still find places in the ceded territory to knock a little rice, and the future generations of ducks and rails and rice worms will find some as well...maybe even on the waters of Lac Vieux Desert.

Zebra mussel surveillance in lower St Croix shows no increase in numbers or upstream distribution

By Sue Erickson, Staff Writer

Afton, Minn.—Preparing for a reconnaissance mission on the lower St. Croix River, staff from the National Park Service (NPS), the U.S. Fish and Wildlife Service (USFWS), and the Great Lakes Indian Fish and Wildlife Commission (GLIFWC), hauled assorted scuba gear aboard two small boats docked in Afton, Minnesota. The August 27 mission was part of an ongoing surveillance effort, checking for the possible spread of zebra mussels in the lower St. Croix system.

The 2001 surveys had some good news. They indicate fewer zebra mussels in the surveyed section of the lower St. Croix and no upstream increase in distribution. This could be attributed to high water levels experienced in the spring of 2001, says Byron Karns, NPS biological technician.

Zebra mussels have entered U.S waters aboard foreign ships in ballast waters. With few natural predators, the prolific mussels quickly reproduce, taking over native mussel beds, even clogging drainage systems. Zebra mussels were first noticed in the Twin Cities area on the Mississippi River in 1992.

There are approximately 40 species of native mussels in the St. Croix system. According to Nicholas Rowse, USFWS, zebra mussels can completely cover the shells of native mussels and ultimately suffocate them. They also compete for nutrients in the water, depriving native mussels of sufficient food. Of particular concern to biologists are mussel species federally listed as endangered, such as the winged maple leaf and the Higgins eye mussels, which have been found in the St. Croix River.

With team and gear aboard, the boats head out on the river, slowing as they pass a few fishing boats lazily bobing on the river's gentle waves. They steer towards predetermined navigational points on the river, attempting to replicate past surveying efforts.

Counting "zeebs" (zebra mussels) on the lower St. Croix River during fall surveys. Nicholas Rowse, US Fish & Wildlife Service), counts zebra mussels and returns native mussels to the river as Phil Doepke, GLIFWC inland fisheries biologist, records data. Information is taken from a bag of mussels retrieved by diver Bob Whaley, National Park Service. (Photo by Sue Erickson)

Zebra mussel surveillance on the lower St. Croix takes place in June, August and September annually, with 92 potential reference sites.

Monitoring for zebra mussels in the St. Croix began in 1993 when the St. Croix Zebra Mussel Task Force was formed. The Task Force is comprised of personnel from the USFWS, NPS, GLIFWC, Wisconsin Department of Natural Resources, and the US Geological Service.

The first zebra mussel was found on a boat in Hudson, Wisconsin in 1994; however, surveillance teams found relatively few adult mussels and no evidence of reproduction until the August 2000 dive, according to Rowse. Possibly reproducing populations were found along the lower six miles from Kinny Narrows to Prescott, Wisconsin. Reproduction seems to have taken place downstream from Hudson.

Once at the determined checkpoint, two members of the team squeeze into wet suits and flippers, don scuba tanks, put on their masks, and roll gently backwards off the edge of the boat into the river. Two team members stay on board and watching the diver's as a standard diving safety measure. They spread a 50-foot, bright yellow transect line at the river's bottom and scout for mussels along the line. Retrieved mussels are placed in a mesh bag and brought aboard the boats once the entire 50-foot line has been explored.

Many of the zebra mussels they uncover are juveniles and are very difficult to detect. They are but tiny, silvery, innocent-looking spots often on the back of a native mussel. Native mussels found are inspected and returned to the water. Zeebs are counted and destroyed.

Areas checked are largely in the shallows less than 15' deep with a sand and gravel bottom rather than in deeper waters with muddy bottoms, says Rowse, because sand and gravel provide better support for their shells. Docks, piers, underwater pipes, of course, are also attractive zebra mussel habitats.

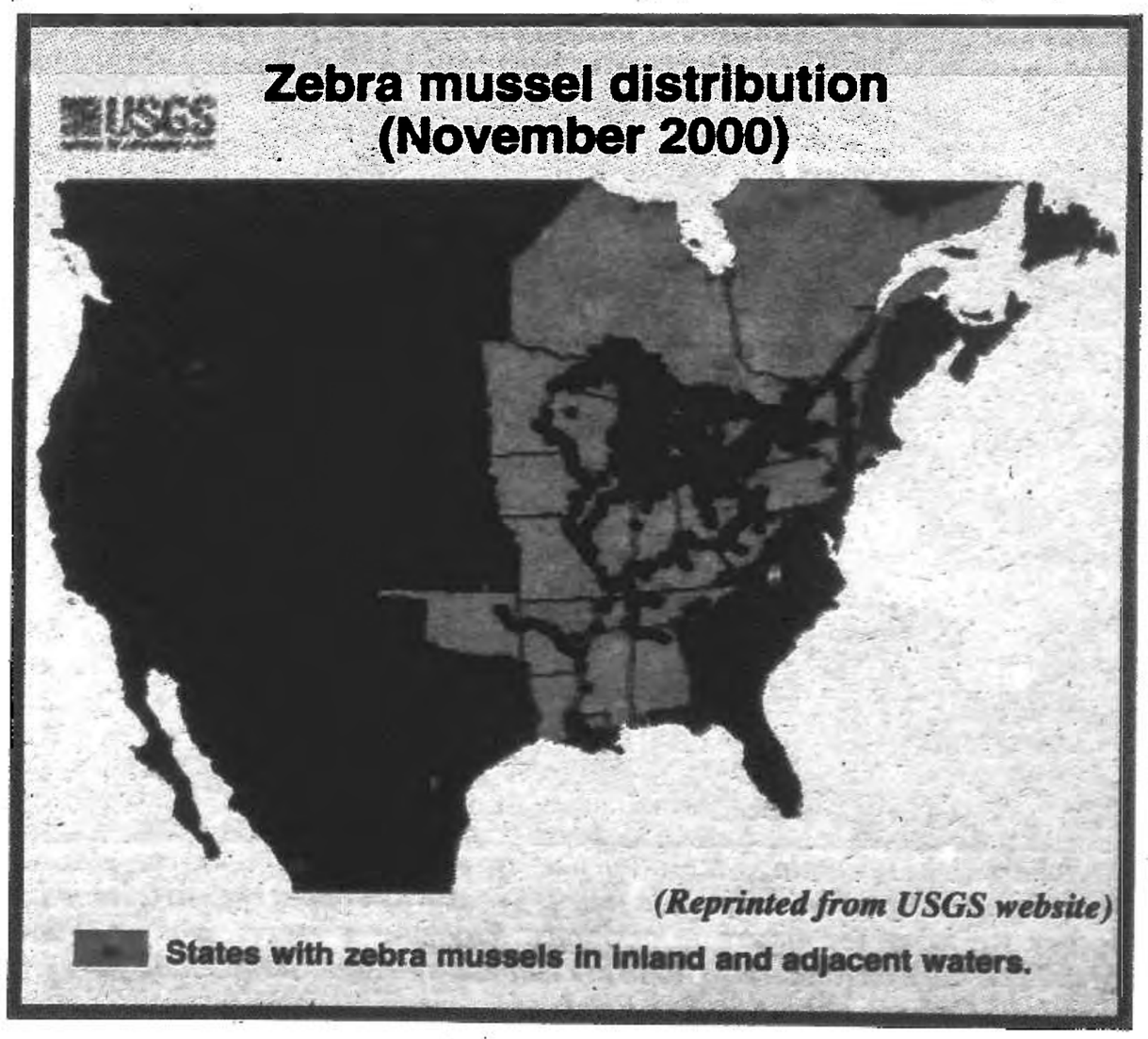
Since 1994, sporadic adult zebra mussels have been found in the St. Croix River, according Karns. Karns, along with Rowse and Bob Whaley, NPS ranger, are veteran divers for zebra mussels. Survey teams estimate zebra mussel distribution has expanded at a rate of roughly two miles upstream per year, carried up the river largely by attaching to boats.

Heightened public awareness can help prevent the spread of zebra mussels. Measures, such as routinely washing the hulls of boats when they are being pulled and allowing boats to dry for three to four days before boating in new areas, will help keep the zebra mussel invasion in check.

Presently, boats are not permitted to travel up the St. Croix River above High Bridge, for fear they may be transporting zebra mussels to uninfested reaches of the stream, according to Phil Doepke, GLIFWC inland fisheries biologist.

Doepke says that Lake Metonga, Forest County, is one inland Wisconsin lake within the ceded territories where zebra mussels have been found. People boating in the lake should take precautions to clean and dry their hulls to prevent transporting the mussels to other bodies of water.

As part of safety procedures Phil Doepke, GLIFWC inland fisheries biologist, observes as Byron Karns, National Park Service, prepares to dive for zebra mussels in the lower St. Croix River. Upper right, a veliger zebra mussel is but a tiny speck next to adult, host native mussels. (Photo by Sue Erickson)



(Reprinted from USGS website)

Fall walleye assessments include five new Michigan lakes

Wisconsin's Turtle-Flambeau shows abundant juvenile walleyes

By Sue Erickson
Staff Writer

Odanah, Wis.—Electrofishing crews completed their fall round of juvenile walleye assessments and put away the electrofishing boats until breaking ice signals the beginning of another spring season. The fall assessments, which target juvenile walleye for population estimates, were "fairly tame this year," according to Phil Doepke, Great Lakes Indian Fish & Wildlife Commission (GLIFWC) inland fisheries biologist.

Doepke and crews surveyed a total of 120 lakes in Wisconsin, Michigan and Minnesota this fall. The fall list included three "new" lakes in Michigan which GLIFWC has not previously assessed, including Bob, Sudden and Vermillac Lakes.

They also surveyed Parent and Stanley Lakes, both have been surveyed once several years ago. The crew also collected walleye from these lakes for mercury analysis.

Notwithstanding a few typical problems, including bad weather conditions, a downed generator and the usual broken props, the fall season went smoothly for the crews, who patrol the shorelines of designated lakes from dusk sometimes until dawn.

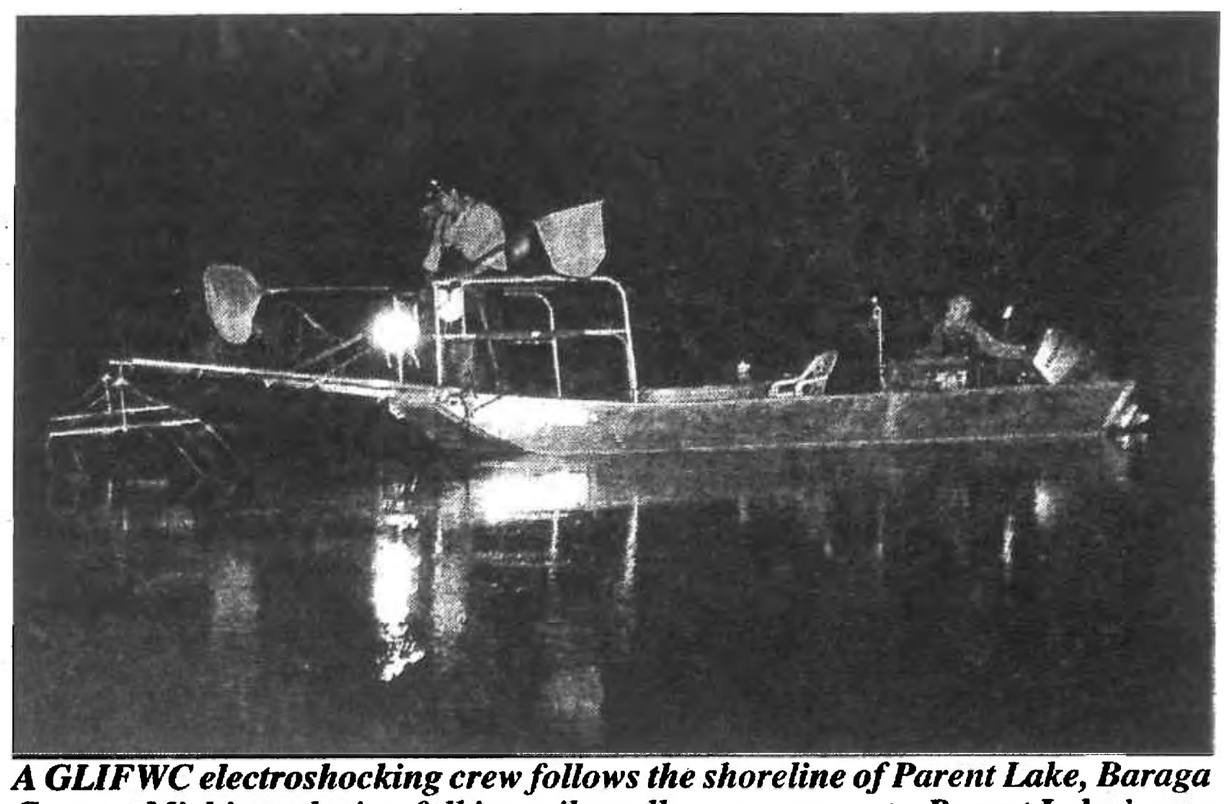
A total of eight boom-shocking boats and crews completed the fall surveys. Besides GLIFWC's four boats and crews, GLIFWC contracted a boat and crew from both the St. Croix and Bad River tribes. Boats and crews from the Mole Lake and the Fond du Lac tribes also participated in lakes of particular interest to their tribes.

GLIFWC crews target Age 0 and Age 1 walleye. Age 0 walleye are usually 4-7 inches and were hatched in the spring of the year. Age 1 walleye are typically 9-11 inches in the fall and were hatched in the previous year's spring.

Young walleye, less than two years old, move close into shore when water temperatures drop below 70 degrees Fahrenheit, making the fall an effective time to sample these juvenile walleye.

Electrofishing boats travel along the shoreline in 2-4 feet of water at a pace comparable to walking along the shoreline.

A generator in the boat sends out 2-4 amps of electricity into the water in front of the boat. When the boat is about five feet from a fish, the electricity causes the fish's muscles to involuntarily contract, preventing the fish from swimming away, Doepke explains.



A GLIFWC electroshocking crew follows the shoreline of Parent Lake, Baraga County, Michigan during fall juvenile walleye assessments. Parent Lake is one of several Michigan lakes included in the fall assessments this year. Eight boom-shocking boats and crews assessed a total of 120 lakes this fall. Above, crew members, Dale Corbine and Ed Wiggins, scoop stunned walleye into a holding tank of the boat driven by crew leader, Phil Doepke, GLIFWC inland fisheries biologist. (Photo by Sue Erickson)

The boat's floodlights reveal the stunned fish to the netters on the bow who scoop the stunned fish into a holding tank aboard the boat with dip nets. They target walleye less than 15 inches.

An aerator in the tank allows the fish to recover from the electrical shock, keeping them healthy until they are measured and counted—a process called "working up the fish."

"The abundance of young walleye indicates the success of natural reproduction and the survival of stocked walleye," Doepke says.

A good catch, such as the September 18th catch on Wisconsin's Turtle Flambeau Flowage, Iron County, can make a long night of it for electroshocking crews. Chuck Smart and his crewmen, Dale Corbine and Tom Houle, captured 2800 walleye that particular night, spending many hours "working up" their bounteous catch.

Statistically, Smart's crew captured 500 Age 0 walleye per mile of shoreline on the Turtle Flambeau Flowage. The mean for Age 0 is 20 per mile of shoreline.

While a lot of work for the crew, the large numbers of juvenile walleye in the Turtle Flambeau suggests a bright future for state and tribal fishermen on this important mixed-fishing lake.

Scale samples are also taken from a representative number of captured fish. Aging scales will be part of inland fisheries section's winter work. Scale samples are used to determine growth rates and the number of walleye per year class.

Doepke commends all crews for an excellent job of collecting data this fall. Staff will be preparing preliminary reports in preparation for the December Technical Working Group (TWG) meeting.

The TWG, composed of state, tribal and federal biologists, share statistical information and begin the process of establishing walleye quotas for the 2002 fishing season in Wisconsin ceded territory lakes.

Wisconsin lakes yield modest autumn catch

By Charlie Otto Rasmussen
Staff Writer

Sarona, Wis.—After the short 2001 spring spearing season, treaty fishermen from Lac Courte Oreilles and Bad River returned to a few of ceded territory lakes this fall in search of walleye.

LCO fishermen concentrated their efforts on Long Lake in Washburn County from late September into early November. Using 3.5-inch mesh gill nets, tribal fishermen captured 230 walleye and also kept 56 cisco—an inland version of the popular herring found in Lake Superior.

"We've released dozens of smallmouth bass and a lot of large crappies," said Lac Courte Oreilles fisherman Mark Bisonette in late September. "All the walleye were in deep water, and as you got closer to the shoreline, crappies and bullheads started showing up."

Following the initial placement of six gill nets, LCO fishermen fine-tuned their set locations to zero in on walleye and avoid non-target species. The nets were strung along the east shore of the lake where the Tomahawk Scout Reservation protects much of the shoreline from development. This same expanse of forest witnessed the unusual black bear attack on a sleeping Boy Scout from Ashland in 1999.

Lac Courte Oreilles fishermen pick walleye out of a gill net set on Long Lake in Washburn County, Wisconsin. GLIFWC creel teams and conservation wardens monitored the harvest which ran from late September to Early November. (Photo by COR)

Throughout the fall season, LCO fishermen set their nets in the early evening and pulled them at dawn. By keeping the nets in the water for a brief period, fishermen released virtually all of the non-target fish back into the lake in good condition. Conservation wardens from the Great Lakes Indian Fish & Wildlife Commission monitored the harvest, both on the water and at the boat landing where a creel team measured and recorded each harvested fish.

"It's been pretty quiet overall," said GLIFWC Conservation Warden Ken Rusk. "The fishing is fairly slow and there haven't been any incidents at the boatlanding or near the nets. In fact, one state fisherman asked for help identifying an infection he found on a fish he'd caught."

Several fishermen from Bad River also spent time on the water, spearing less than a dozen walleye from the Turtle-Flambeau Flowage in Iron County.

While fall netting is common on Lake Mille Lacs in Minnesota, Ojibwe bands generally make sporadic trips to Wisconsin lakes. The lightning-fast spearing season in April 2001 however, left some treaty fishermen with fewer fish to distribute to family and friends who rely on the annual catch. From eastern Minnesota to Upper Michigan, lakes experienced an almost unilateral warming after ice-out. The warm-up was fast, causing walleye to spawn quickly and move out of spearing range into deeper water.

On-rez safety classes continue to grow

On-reservation safety classes sponsored by the Great Lakes Indian Fish & Wildlife Commission's (GLIFWC) satellite enforcement offices continue to draw good attendance from both tribal and non-tribal members.

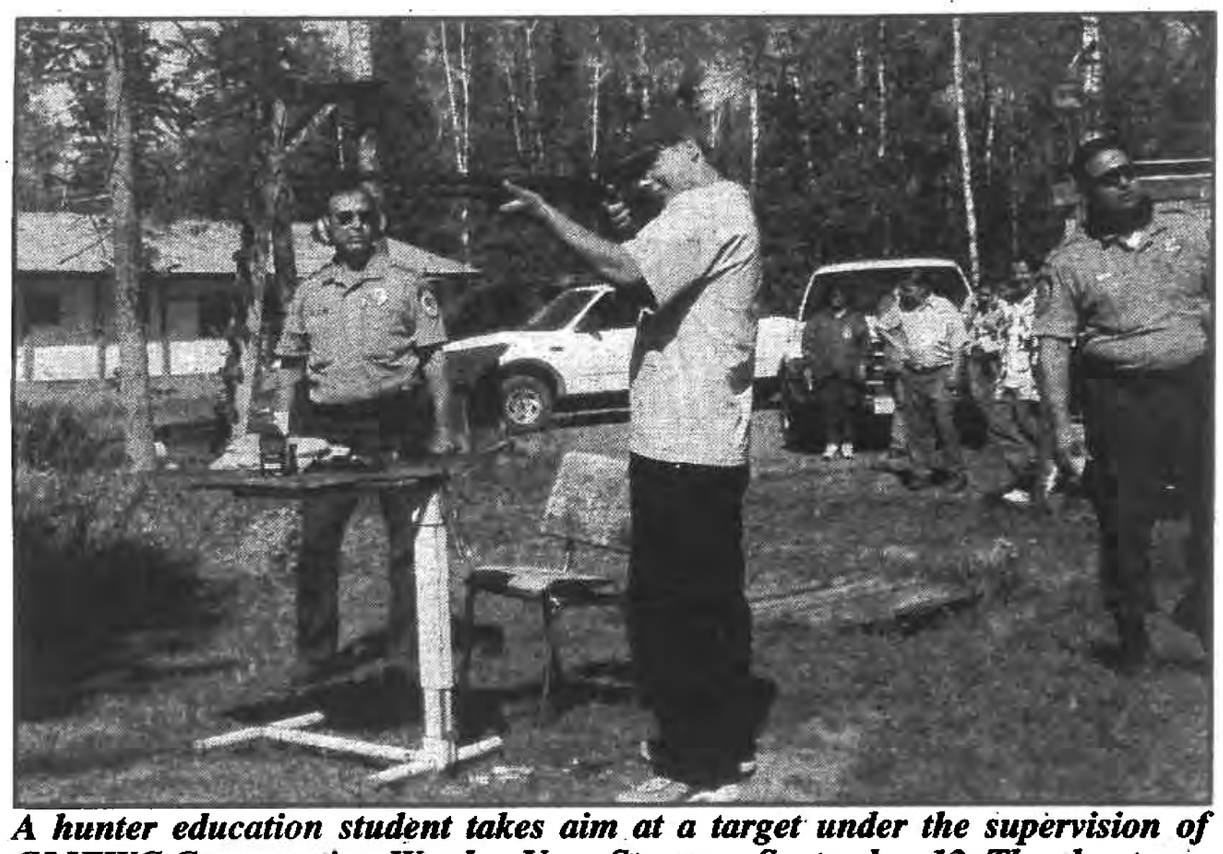
While the Hunter Safety course continues to be the big draw, a variety of other classes, including, ATV Safety, Boating Safety, and Snowmobile Safety have been offered this year.

GLIFWC conservation officers who are certified instructors teach the safety courses. Persons interested in on-reservation safety classes should contact a GLIFWC enforcement office for more information.

Safety classes 2001

Tribe	Class	Tribal Members	Non-Members
Bad River	Hunter	8	5
Bad River	Hunter	10	0
Bad River	ATV	8	2
Lac Courte Oreilles	ATV	5	1
Lac Courte Oreilles	Boating	0	40
Lac Courte Oreilles	Boating	4	0
Lac Courte Oreilles	Hunter	20	20
Lac Courte Oreilles	Snowmobile	12	1
Lac du Flambeau	Hunter	18	2
Mole Lake	Hunter	8	4
Red Cliff	Hunter	14	2
Totals		**107**	**77**

GLIFWC's Ken Pardun, St. Croix area warden and Western District supervisor, takes cover and takes aim during a nighttime exercise held at the Sports Hollow Range, Ashland this fall. Seventeen GLIFWC wardens participated in the day and nighttime exercises to qualify with firearms. (Photo by Sue Erickson)



A hunter education student takes aim at a target under the supervision of GLIFWC Conservation Warden Vern Stone on September 13. The shoot was held on the Bad River reservation at the home of Bill Erickson. Students also received archery instruction from local hunting guide, Mike Noskoviak. (Photo by Charlie Otto Rasmussen)

Preparing for the possibilities

GLIFWC officers train under a variety of conditions

By Sue Erickson
Staff Writer

Odanah, Wis.—Warden Ken Pardun moved cautiously but quickly over a dark field, his 40-caliber Glock held ready in his right hand and a flashlight in his left.

An overcast sky offered no moonlight to break the blackness of night, as he warily moved in, scanning to the left and right. Wham—a target suddenly pops up to the right. Pardun swings, aims and fires a round. Seconds later another target whips up from the darkness to the left. Pardun swings to the left, aims, fires, then scans in preparation for another possible attack.

It all happens fast during the nighttime firearms qualifying shoots which occur quarterly for Great Lakes Indian Fish & Wildlife Commission (GLIFWC) enforcement officers. One by one the officers go through a course which simulates a real life situation, shooting at targets that pop out from unexpected places. Firearms instructors follow and later comment on each officer's performance.

"The idea is to replicate situations which our wardens could potentially face in the field," states Chief of Enforcement Jerry White. "This is why we hold both day and night qualifying shoots outside, during a variety of weather conditions and circumstances that simulate possible, real-life scenarios." The idea is to make officers prepared and comfortable if confronted with a situation as a matter of both personal and public safety.

Seventeen GLIFWC officers participated in the day and nighttime firearms qualifying shoots on October 9th in Ashland. All officers qualified. Should a GLIFWC officer have difficulty during a qualifying shoot, that officer is given remedial training immediately, White says.

With four firearm qualifying sessions annually, GLIFWC officers gain experience in all types of weather and using a variety of equipment, such as boats, ATVs, or snowmobiles, all which are substantially different from inside target shooting. "It's important to understand the limitations that weather or other conditions may impose on an officer's performance," White observes.

He also emphasizes that, while the need to use firearms is rare, preparation for situations is critical simply because the weapons are lethal and because conservation officers in the field deal with people who are frequently armed, either with firearms, bows, or knives.

Enforcement officers employ a "use of force continuum," White says, which starts with communication skills, may advance to use of equipment such as a baton or chemical agents, and finally, to the use of a firearm. Consequently, officers receive training on each step of the continuum, hoping to avoid the last alternative—use of a firearm.

Firearms qualifying shoots are run by Sgt. John Mulroy, senior instructor and Warden Chris Kessenich, both certified firearms instructors. Warden Jim Stone will be training as a firearms instructor this fall at NE Wisconsin Technical College, Green Bay, White says.

In addition to firearms training offered by GLIFWC, some GLIFWC officers participate in training sessions offered by local law enforcement agencies. GLIFWC maintains a mutual aid agreement with most local law enforcement agencies, and GLIFWC officers have been called upon to assist in operations in the past. This pertains to both law enforcement and Emergency Medical Services.

"In terms of providing mutual assistance, there's something of an ethical bond between law enforcement officers," White notes. "We'll all help out, when help is needed."

GLIFWC's next quarterly firearms qualifications will take place in January, when officers also practice and become re-certified in ice-rescue skills.

GLIFWC thanks Don Wedll, welcomes Curtis Kalk

The GLIFWC Board of Commissioners recently passed a resolution thanking Don Wedll, Mille Lacs Natural Resources Commissioner and representative to the Board, for his years of service. Wedll is currently working as a coordinator for long-term planning for the Mille Lacs Band. He was succeeded as Mille Lacs Commissioner of Natural Resources by Curtis Kalk.

Whereas, Don Wedll was the Mille Lacs representative to the Great Lakes Indian Fish & Wildlife Commission's Board of Commissioners from July 1985 to July 2001, and served as the Board's vice-chair and on the Board's Executive Committee for a number of years.

Whereas, Don Wedll was the Mille Lacs representative to the Voigt Intertribal Task Force from its inception in 1983 to July 2001.

Whereas, Don Wedll, as a representative to the Great Lakes Indian Fish & Wildlife Commission and as the Mille Lacs Commissioner of Natural Resources, has been a staunch advocate and defender of treaty rights, tribal sovereignty, and tribal natural resource and environmental management prerogatives.

Whereas, Don Wedll was instrumental in achieving recognition and implementation of treaty rights in the 1837 and 1842 ceded territories, and particularly in achieving the successes realized in the *Mille Lacs v. State of Minnesota* Case.

Whereas, Don Wedll played a substantial leadership and unifying role in the intertribal efforts to gain recognition and implementation of ceded territory treaty rights.

Whereas, Don Wedll's duck drawings will be sorely missed at meetings.

Now therefore be it resolved that we, the Board of the Great Lakes Indian Fish & Wildlife Commission, wish to express our sincere gratitude and appreciation to Don Wedll for his dedication and service to our organization and to our member tribes.

Don Wedll, Mille Lacs Coordinator for Long-term Planning, left, and Curtis Kalk, Mille Lacs Commissioner of Natural Resources. (Photo by Charlie Otto Rasmussen)

Binational Program to Restore and Protect Lake Superior celebrates 10-year anniversary

By Ann McCammon Soltis
GLIFWC Policy Analyst

Ashland, Wis.—The Binational Program to Restore and Protect Lake Superior recently celebrated ten years of accomplishments in ensuring the long term protection of the Lake Superior basin.

Begun in 1991, the Program brings together federal, state, provincial and tribal governments committed to the long term health of the Lake Superior basin.

The governments are advised in their efforts by the Lake Superior Forum—a group of 26 volunteer citizens equally committed to the well-being of the Lake Superior basin.

The three groups that comprise the Binational Program, the Task Force of senior managers, the Workgroup of technical experts, and the Forum, met together in Ashland, Wisconsin on November 2, 2001.

The meeting was designed to celebrate the accomplishments of the Program over the last decade, to increase communication between the three groups and to brainstorm about future priority activities for the Binational Program.

As part of the meeting, the participants broke into subgroups to discuss various aspects of the basin ecosystem – from sustainability to human health to chemical contaminants. Several themes emerged from the discussions.

First, there is a great deal of good work going on in the basin that must continue.

Second, there was a recognition that additional work needs to be done to inform local units of government and others about how the Binational Program can help them make more informed decisions.

Over the next few months the Workgroup will review and discuss the recommendations and determine how best to proceed.

Ceded territory news briefs

Sokaogon and EPA score court victory

But State files an appeal to U.S. Supreme Court

A September 21 decision from the U.S. Court of Appeals, Seventh Circuit, upheld the Environmental Protection Agency's (EPA) grant of treatment-as-state (TAS) status under the Clean Water Act to the Mole Lake/ Sokaogon Chippewa Community in 1995.

In effect, the decision supports the tribe's authority to regulate the water quality on the reservation by establishing its own water quality standards.

The State of Wisconsin challenged the EPA's determination by filing an appeal in November 2000. However, the court ultimately rejected the state's arguments.

The decision reads in part: "Because the Band has demonstrated that its water resources are essential to its survival, it was reasonable for the EPA, in line with the purposes of the Clean Water Act and the principles of Montana, to allow the tribe to regulate water quality on the reservation, even though that power entails some authority over off-reservation activities." The State of Wisconsin filed an appeal with the U.S. Supreme Court on November 2.

List of exotic fish in Lake Superior grows

The tubenose goby has made a debut in the Duluth/Superior harbor of Lake Superior, adding to a long list of exotic fish species introduced to Lake Superior primarily via the shipping industry.

Wisconsin Department of Natural Resources (WDNR) biologists believe a vessel from the St. Clair River, which connects Lake Huron and Lake Erie, transported the fish. According to a WDNR report, this is the first occurrence of the tubenose goby outside of the Western Erie/St. Clair River area. To date, biologists are unsure of the potential impacts the tubenose goby might impose on the Lake Superior ecosystem.

Talking turkey at Lac du Flambeau

Wild turkeys on the Lac du Flambeau (LdF) reservation are entering their second full winter in the north. A total of 31 turkeys were released on the reservation in February 2000 in an effort to test habitat requirements of wild turkeys in northern latitudes.

According to Larry Wawronowicz, LdF Natural Resources Department director, tribal members have reported sightings of turkeys with young at several sites on the reservation, and a spring gobbler count indicated survival of toms through the 2000-2001 winter.

Wawronowicz watches with a guarded optimism as another winter approaches to once gain test the survival skills of the wild turkey population. Another gobbler count will be held in spring 2002 to provide insight on how the gobblers fared.

Earth scores a victory in the WI Senate

Cyanide ban and "No Special Treatment" bills pass

On November 6 the Wisconsin Senate passed two bills on a 19-14 vote. SB 160 bans the use of cyanide in all Wisconsin mines; SB 271 removes environmental exceptions for the mining industry, bringing up groundwater and hazardous waste standards for mining to levels required of other industries. While the Senate vote represented a substantial environmental victory in the state, the State Assembly still must pass the bills.

GLIFWC attends groundwater summit

On October 30, 2001, GLIFWC staff attended a one day meeting to discuss the subject of Wisconsin's groundwater in Waukesha, Wisconsin. The participants identified a number of issues that impact the quality and quantity of groundwater and recommended policy and legislative changes necessary to update the current framework for groundwater protection.

The issues identified ranged from research topics that should be pursued, to the need for coordinated data management, to the need for policy changes in the are of high capacity well regulation. Results and recommendations from the meeting will be available in mid-2002 from the Groundwater Coordinating Council at www.dnr.state.wi.us/org/water/dwg/GCC/.

Bad River watershed treated with lampricide

No non-target mortality evident

The U.S. Fish and Wildlife Service (USFWS) Lamprey Control Program treated several rivers within the Bad River watershed with a lampricide, TFM, this fall. "Again, I was impressed with the care that USFWS took to reduce non-target mortality caused by the application of TFM," states Rick Huber, Bad River fisheries specialist. In a report to the tribe, Huber says there was evidence of sea lamprey mortality, but no evidence was found of non-target species dying due to the application of the lampricide,

A major concern with the chemical treatment for sea lamprey is the possible impact on other fish species within the river systems.

However, great care in applying the lampricide reduces the threat of non-target mortality. In this case, water chemistry and toxicity testing at the White River Dam preceded application of the lampricide. Data from those tests helped determine the optimum lethal concentration of the lampricide needed to kill 90% of the sea lamprey larvae without also killing non-target species.

The Bad River band also hired severral tribal members to observe the application process and check for mortality of other fish in treated rivers.

Meeting an unmet need

St. Croix Waters Fishery begins yellow perch production

By Sue Erickson
Staff Writer

Hertel, Wis.—Some things are worth waiting for, and it was a long wait for the St. Croix Band, who began planning an aquaculture facility over twelve years ago.

However, as the doors swung open during the October 1st grand opening, it was obvious the long struggle that pushed an idea into a reality was worth the wait.

The St. Croix Waters Fishery is housed in a 170,000 square-foot building located on the banks of Loon Creek, Burnett County. The complex is home to a hatchery, grow-out facilities, processing, storage and shipping operations, as well as a laboratory and administrative offices.

In addition, an adjoining 5000 square foot building is devoted to an interpretive/conference and education center. The education center is yet to be developed.

Revenues from the tribe's gaming operations played a large role in financing the construction of the new business, which offers an opportunity for the tribe to diversify and provide about 25 to 30 jobs at the onset.

St. Croix Tribal Planner Dick Hartman, who has worked with the project since its inception twelve years ago, envisions further opportunities for employment as the operation takes hold.

Once into full production of yellow perch, one of the primary species to be reared, employment could increase to 35–45 full-time employees.

Other employment opportunities could also develop in conjunction with the aquaculture business, such as trucking, developing additional products, packaging, and producing special cuts.

One of the hurdles in the twelve-year struggle towards an operational aquaculture related to the very high water quality standards for discharged water.

The facility uses a recirculating system, drawing water from the ground, recirculating it through the operation, and ultimately discharging it into Loon Creek. Hartman says the operation will bring in and discharge 500 gallons per minute.

Loon Creek is tributary to the Yellow River, which in turn is a tributary to the St. Croix River, an Outstanding Water Resource (OWR).

The St. Croix's OWR standing called for high water quality standards for discharged water and brought the tribe through the entire Environmental Impact Statement process, which was both time-consuming and costly.

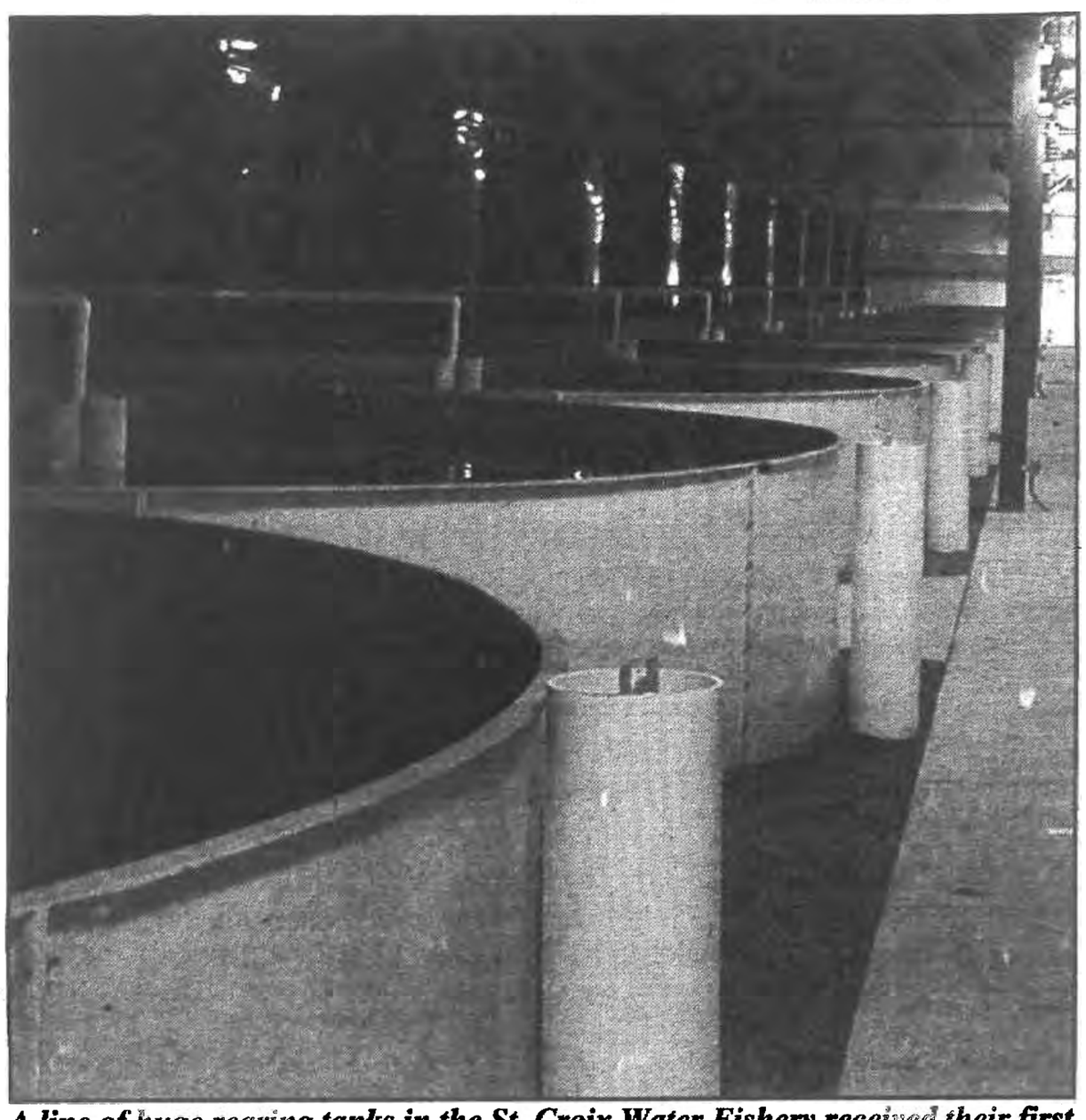
St. Croix's aquaculture facility is meeting the high standards for discharged water developed by the Wisconsin Department of Natural Resources, releasing nearly purified water into Loon Creek.

In October, St. Croix Waters Facility formally began production of their primary species, yellow perch. Beginning with about one million fingerlings, the facility will be able to market a fresh product within seven to nine months.

Readiness for market depends on fish size, Hartman says. About three yellow perch to a pound would result in a harvestable size fish. The final fillet would be about 44% of the whole fish.

Feeding the yellow perch market is lucrative due to the decline in the yellow perch fishery in Lake Michigan and Lake Erie. The species is in high demand and low abundance. Many local buyers currently depend on buying imported fish from smaller aquaculture facilities, Canada, or Lake Erie.

The St. Croix Waters Fishery plans on harvesting the yellow perch daily, providing an extremely fresh product to the market. Capabilities to produce other species will be researched in the future, Hartman says. For now, the yellow perch market is lucrative and an excellent starting point for the fledging business.



A line of huge rearing tanks in the St. Croix Water Fishery received their first yellow perch fingerlings in October, officially starting production in St. Croix's new aquaculture facility. (Photo by Sandy King)

News from Keweenaw Bay

KBIC-USFWS sign new Hatchery Isolation Agreement

The Keweenaw Bay Tribal Council has agreed to enter into a two year Hatchery Isolation Agreement with the U.S. Fish and Wildlife Service (Service). This 2001-03 agreement will provide a valuable tool to enhance the Great Lakes federal broodstock.

The Keweenaw Bay Indian Community (KBIC) will lease one of their hatchery buildings to the Service. In exchange, the Service will stock lake trout yearlings into Keweenaw and Huron Bays and provide hatchery training for KBIC staff. This agreement will build on the success of the three previous agreements.

An added benefit of the new agreement is that Michigan Department of Natural Resources will also isolate a strain of lake trout at the KBIC hatchery and KBIC will receive walleye fingerlings from that agency. For more information contact Mike Donofrio at (906) 524-5757 or e-mail kbnrd@up.net.

New KB conservation district

In August, the Keweenaw Bay Indian Community (KBIC) received a grant from the U.S. Department of Health and Human Service's Administration for Native Americans (ANA) program to establish a tribal conservation district. Once formed by the Keweenaw Bay Tribal Council, the district will be recognized by the U.S. Department of Agriculture.

The new district will strengthen KBIC's management of their natural resources. The program will be carried out through four objectives: 1) development of a mechanism to administer the conservation district; 2) provide capacity building training for the Tribal Council, Conservation district committee, and various KBIC staff; 3) assessment of existing and historical resources including air, soil, water, plant, animal; and 4) development of an integrated resource management plan.

USDA has worked with each state since the 1930s in funding county conservation districts. Most counties in the United States have conservation districts, but there are only 28 tribal conservation districts throughout the United States. The Keweenaw Bay Conservation District will be the first tribal district in the Midwest. The Keweenaw Bay District will give tribal members a local voice in the administration of a district. An eight member board will be composed of seven KBIC elected members and one Tribal Council member. Their duties will include the administration of the district.

This ANA grant will be administered by the Keweenaw Bay Natural Resources Department. For more information, call (906) 524-5757 or email kbnrd@up.net.

EPA Brownfields Assessment Demonstration Pilot

The Environmental Protection Agency (EPA) has selected the Keweenaw Bay Indian Community (KBIC) for a Brownfields Assessment Pilot. Brownfields Economic Redevelopment Initiative is designed to empower states, communities, and other stakeholders in economic redevelopment to work together in a timely manner to prevent, assess, and safely clean up brownfields to promote their sustainable reuse.

The KBIC, which is located in the northwestern region of the Upper Peninsula of Michigan, has a membership of 3,267. The unemployment rate in the community is 38 percent. The community is a federally recognized Indian Tribe representing the interests of the L'Anse and Ontonagon Bands of Lake Superior Chippewa Indians.

The community has targeted Sand Point, a 95-acre waterfront property on the L'Anse Indian Reservation, for this Brownfields Pilot. The community owns Sand Point, which contains about six billion pounds of industrial copper mining sands deposited along a 2.5 mile waterfront of Lake Superior. The sands were discharged into the Lake by a copper stamping mill early in the 20th century, and are suspected to contain copper, lead, cadmium, and other heavy metals.

The community's objective is to transform Sand Point into a recreational park, which will expand the community's growing recreational base. Pilot funds will be used to research the history of the Sand Point area to determine the nature of the suspected contamination, measure the level of contamination through surveys and sampling, identify options for cleanup and reclamation, and develop a preliminary reclamation plan for recreational development.

For further information, including specific Pilot contacts, additional Pilot information, Brownfields news and events, and publications and links, visit the EPA Brownfields web site at: http://www.epa.gov/brownfields/.

Northern forest restoration?

Just add conifers (only if it were that simple)!

By Dr. James Meeker
Associate Professor, Northland College

This column is the first of two articles addressing the regeneration of conifers in the northern forests. This piece summarizes the natural history of forests in the region and describes the critical role that conifers play in regulating stream flow. The second column will address tree planting and deer exclosure techniques that landowners may use to promote conifer restoration.

Imagine the landscape in Northern Wisconsin some 10,000 years ago. The glaciers had just retreated north and out of the Lake Superior basin. In some places huge chunks of ice lay partially buried in rock debris, and as they melt they begin to create small kettle lakes. Other areas are flat outwash plains with sand and gravel deposits, indicating the spots where large rivers had been removing the glaciers' meltwater.

Dr. James Meeker

Over much of the surface in what we now call the northwoods a glacial till has been deposited. (Till is unsorted debris deposited directly by the glaciers. It is either plastered down on the surface of the earth beneath the glaciers, or deposited from debris within or on top of the glaciers and laid down as the ice sheet melted. Digging through till, one can find a mix of clay, silt, sand and rock in a wide variety of sizes from small pebbles to giant boulders.) Everywhere one looks there are easily dispersing, early colonizing herbaceous plants.

Forests also formed on this landscape, as the new landscape "aged." Most of the plants and animals that composed these new forests re-settled into the area by traveling from places south of here, areas not covered by glacial ice. These "refuges", such as the Appalachians or the Ozarks, provided the species pool for the newly forming forests. The first forests to develop on this glaciated landscape were dominated by spruces and firs that either survived near the edges of the glaciers or were early in moving into the open landscape.

After several thousand years, during a period of approximately 7,000 to 4,000 years ago, the climate began to get warmer and drier, better suited for pines and oaks. This change was especially felt inland, away from the influence of the Great Lakes. Finally, beginning about three thousand years ago, the climate cooled slightly relative to the previous warm period, and the "pre-settlement" forests formed, those forests that existed just at the beginning of European influence.

What did these pre-settlement forests look like?

In any glaciated region the different substrate types (or soils "to be") left in the wake of the retreating ice sheets played a major role in determining the different forest types.

Glaciers scoured debris from the north and deposited it in a number of landscape features, each with a different nutrient content and moisture holding capacity. In our region (perhaps defined by the northern tier of counties bordering Lake Superior) four main substrate types dictated what the pre-settlement vegetation looked like.

In general, we had: 1) northern dry forests on the outwash, sandy soils, 2) northern swamp conifer forests on depressions and ancient lakes made by the glaciers, and 3) northern hemlock-hardwood forests (also called mesic forests) on the tills. One more vegetation type that occupied the larger Lake Superior clay plain has been called 4) the boreal forest, although it is quite different form the true boreal forests north of Lake Superior.

The northern dry forests were dominated by the native pine species (red, white and jack pine) and periodic fires influenced their composition and structure. It has been estimated that on "average" the return time for stand clearing fires was about 50 to 100 years. The swamp conifer forests were dominated by black spruce and tamarack, and sometimes white cedar (white cedar was more common before the cutover). One notable feature of these northern wet forests is that they grew on highly organic, peaty soils.

Northern hemlock-hardwood (mesic) forests occupied most of the land area in northern Wisconsin. These were the forests that grew on the glacial tills. (Tills have better moisture holding capacity and more available nutrients than the sandy outwash plains.)

On till soils the dominant tree species included sugar maple, hemlock, yellow birch, and basswood. There were also scattered white pine and red oak in these forests. The classic disturbances of the northern hemlock-hardwood forests were quite different from that of the pine forests. The most common type of disturbance was a single tree (or small group of trees) falling down, creating a gap in the forest.

Since the dominant tree species of this forest type are very shade tolerant (sugar maple and hemlock), these species would be the ones to prosper in these gaps, perpetuating a forest of similar species composition. This is the idea of a climax forest, and stand leveling disturbances were a rare event in these forests, occurring infrequently at intervals of 1,200 years.

One of the most obvious contrasts between those pre-settlement forests and today's forests would have to be differences in the conifer component. Many of the forests in Northern Wisconsin, and in the lowland clay plain of Lake Superior especially, have a reduced conifer component relative to the time prior to the cutover (~1900).

Conifer trees in this region that are less abundant today include white cedar, eastern hemlock, white spruce and white pine. Why has this occurred? There are many reasons including: 1) loss of a seed source after the devastating fires following the cutover, 2) impeded regeneration due to the increased browse levels inflicted by white-tailed deer, and 3) specific ground moisture requirements that may make their regeneration difficult. In addition, Canada yew, and evergreen shrub that was once found in great numbers throughout the region, is now relegated to deer inaccessible ravines in deep snow country.

Why is the lack of conifers a critical loss?

In addition to increasing structural and species diversity, providing important habitat for assorted wildlife, and offering thermal cover for streams, these conifers provide watershed protection by retarding spring runoff and reducing the erosional capacity of the falling rain drops, thereby slowing the overall erosional rates.

For example, the snow cover under conifers in the late winter is less than that under a nearby deciduous canopy, since a portion of the annual snowfall is captured by the evergreen foliage and sublimated into the atmosphere, never reaching the ground. Hence the amount of snow that will melt in the spring under conifers is less.

Additionally, the rate at which the snow pack melts is also reduced under conifers, due to the permanent shade under conifers relative to the direct spring sun on the snowpack under deciduous trees prior to leaf out. Hence the flooding pulses are reduced both by volume and rate in conifer dominated systems, protecting overall ecosystem health by reducing the sediment loading in the streams, rivers, and coastal wetlands in these areas.

For the above mentioned reasons I have worked throughout the local area (e.g. with the Bad River Tribe, the Apostle Islands National Lakeshore, The Nature Conservancy and others, including my own land) to investigate the present status and regeneration capacity of these conifers.

I mention white cedar and hemlock in this column and save Canada yew and white pine for another time. White cedar and hemlock were once particularly abundant in fire protected areas of the ravine county in western Iron County (e.g. Potato River areas on the Bad River Reservation, Vaughn Creek of Iron County). Remnants of these once dense conifer stands remain in a small portion of the area. Additionally, prior to settlement, both hemlock and white cedar dominated the slopes of a number of the rivers in this region, as evidenced by the abundance of remnant, charred stumps still present today.

Our studies have shown that there are differences in the long term (1800 to present) recruitment of both hemlock and white cedar between lower elevation sites (clay plain) compared to the higher elevation sites. Of all our study areas, only sites at elevations greater than 1000 feet ASL (or about 400 feet above Lake Superior), have seen substantial recruitment of both cedar and hemlock in the 20th century.

Overall, the known snowfall gradient from the Iron County border of the Bad River Reservation (Gurney mean snowfall = 137 inches per season) to that of the Bad River corridor (estimated at 57 inches per season at Ashland) appears to influence the present day vegetation by its effect on white tailed deer densities. In these higher elevations sites, with greater mean snow fall depths, deer have traditionally been absent after the first heavy snow falls of December.

(See Northern forest restoration, page 22)

Aspen-dominated forests have replaced the diverse pre-settlement mosiac of trees that included hemlock, cedar, and Canadian yew—evergreens facing long-odds at becoming reestablished across their historic range. (Photo by COR)

Second Annual Niigaanaash Spirit Run honors Archie McGeshick, Sr.

Lac Vieux Desert, Mich.—"Many reminders that day, the eagles, the whirlwind that swept all the running numbers away when there was no wind at all, the blue skies, sunshine and 50 degree weather instead of the predicted cold, wind and rain, were all Archie showing us that he is still here with us," writes Elizabeth Martin, Niigaanaash Spirit Run race director.

The Second Annual Niigaanaash Spirit Run drew 68 runners and walkers to Lac Vieux Desert on October 14th to participate in an event honoring Niigaanaash (Archie McGeshick, Sr.), Lac Vieux Desert spiritual leader. The day turned out beautiful despite dire weather predictions.

Approximately 68 runners and walkers took part in the second annual Niigaanaash Spirit Run at Lac Vieux Desert. (photo submitted)

Following the run, runners visited Archie's gravesite for a time of prayer and to see a new headstone marker placed at his grave. The Resort Casino as well as family members and friends provided food and a feast for runners during the event.

Martin especially thanks the many elders "who helped cook, serve and clean up and just be there to show their respect for Niigaanaash." She also thanks the LVD Tribal Council for their support.

Race results were as follows:

One Mile Female:

1st	Ancella McGeshick	7:44
2nd	Laura Hartzog	8:11
3rd	Priscilla McGeshick	8:49
4th	Vera Klingman	9:01
5th	Farrah Jackson	9:18

One Mile Male:

1st	Andrew VanZile	7:58
2nd	Tyrone McGeshick	10:44
3rd	Bobo	11:39
4th	Ben McGeshick	12:22
5th	Ralph McGeshick	12:42

5K Event: Female:

O/A Lana McGeshick 26:05

Male:

O/A Derrick McGeshick 21:53

Age Group Winners:

Chelsea McGeshick	31:05
Leona Antone	34:53
Autumn Antone	37:06
Betty Martin	26:53

Age Group Winners:

Leelyn VanZile	24:52
Chris Fox	26:51
Rico Denny	34:50
Robert VanZile	29:45
Neil Kmiecik	25:35
Mike Hazen	31:04

GLIFWC mourns the loss of runner Gene Connor

Staunch advocate of tribes and treaties

Webster, Wis.—On October 19th Eugene (Gene) Patrick Connor, age 73, of Webster, Wisconsin walked on, leaving a legacy of strength, endurance and community support. Eugene, along with his wife, Eva, helped carry the treaty staff over many a hard mile during marathon runs in support of tribes and treaty rights. This is but one way Eugene demonstrated his solidarity with the Ojibwe tribes throughout his lifetime.

Born on July 25, 1928, in Chicago, Ill., to Lafayette and Marie Connor, Eugene attended school in Chicago. He enlisted in the U.S. Army on August 5, 1946, and was honorably discharged on January 22, 1960, after serving his country for 13 1/2 years. He served during World War II and the Korean War, receiving the Army of Occupation Medal, World War II Victory Medal, UN Service Medal, National Defense Service Medal, Good Conduct Medal, and the Korean Service medal with four Bronze Stars. Following his discharge, he returned to Webster and worked with his father, Lafayette Connor, as a barber.

On October 13, 1973, Eugene married Eva Cadotte at their residence in Webster. Also in 1973, he began a career working for the St. Croix Tribe that spanned 29 years and included work with a variety of programs. His first position with the tribe involved working with historical burial sites. More recently, he worked as the director of the St. Croix Tribal Elderly Program. He was appointed to the Preservation Board for Burial Sites in 1995 by the state of Wisconsin.

Always very active in his community, Eugene served as a member of the Great Lakes Inter-Tribal Historical Society, a Boy Scout leader, a member of the Parish Council for St. Johns, as a hunter's safety instructor for area youth, a school board member, Knights of Columbus member, and a rifle instructor for the Webster School District.

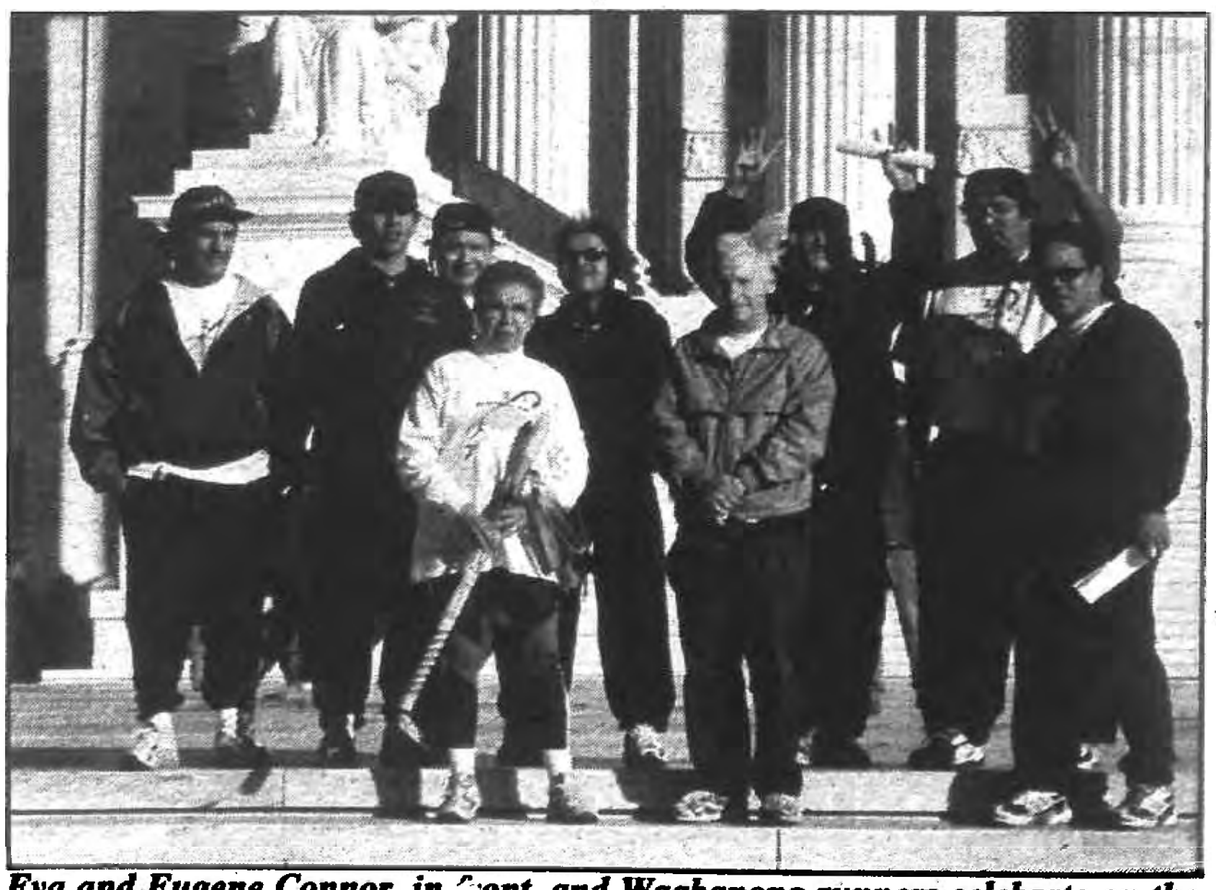
Eugene and Eva, participated in various marathons and in the local 5K-run/walk events. One of the most inspirational journeys for Eugene and Eva was the Waabanong Run from Wisconsin to Washington, D.C. They were core team members in a run that carried the treaty staff from Lac du Flambeau to the steps of the U.S. Supreme Court. They left Wisconsin on November 11, 1998, Veterans Day, and arrived in Washington, D.C., on November 28, 1998. The journey was made in support of treaty rights of Ojibwe Bands of Minnesota and Wisconsin. Eugene was also a member of the Wild River Ridge Runners of Grantsburg. Eugene was a wonderful contributor to the community.

He was preceded in death by his parents, Lafayette and Marie; stepsons, James and Vance Staple.

He is survived by his wife, Eva, of 29 years; stepchildren, Cynthia (Dean) Daniels of Grantsburg, Gwen (Andy Mihaly) of Webster, Dennis Staples of Webster, Maxine Holmes of Danbury, Jan (Jeff Larson) of Webster, and Perry Staples of Hertel; 13 grandchildren; 17 great-grandchildren; many cousins, other relatives and friends.

A Mass of Christian Burial was held October 24 at St. John's the Baptist Catholic Church in Webster. Father Bill Murphy and Father John Drummy officiated the service. Music was provided by organist Nancy Jappe, the Trinity Choir and vocalist Sharalanee Taylor. Internment followed at St. John's Catholic Cemetery in Webster.

Pallbearers were James Schlender, Stu Clem, Neil Kmiecik, Gary Kmiecik, Bob Dueholm, and Howard Bichler. Honorary pallbearers were Russell Connnor, Tom Tourtillotte, Dick Hartman, Dake Smith, Larry Rand, and Ivan Cadotte.



Eva and Eugene Connor, in front, and Waabanong runners celebrate on the steps of the U.S. Supreme Court building, Washington, D.C., at the conclusion of the Waabanong Run on November 28, 1998. Eva and Eugene were part of a core team which relayed the treaty staff from Lac du Flambeau, Wisconsin in support of Ojibwe treaty rights. (Photo by Sue Erickson)

Northern forest restoration

(Continued from page 21)

In addition, even in high snow country, white cedar regeneration is much more limited than hemlock due to its more exacting ground moisture requirements (white cedar only appears successful in seep areas, where ground water supply is more constant). So, until about the late 1970's, winter deer numbers were low in the deep snow areas, resulting in better conifer survival.

Recently however, due to increased deer abundance, we have seen more browse activity on conifers in areas that hadn't, up until now, experienced it. Our studies also show no cedar regeneration since 1920, even in wetter areas both in high and low elevation sites.

As for hemlock there was some regeneration at all elevations through the 1930's, and in the snow belt up through the 1970's. But now, even hemlock regeneration appears stagnant. Next time I will discuss the special case of Canada yew, an evergreen shrub highly favored by deer, and some preliminary results of deer exclosures that were established to monitor herbivory trends over time.

(Jim Meeker is an Associate Professor of Natural Resources and Biology at Northland College, Ashland, Wisconsin, and is active in regional conservation issues.)

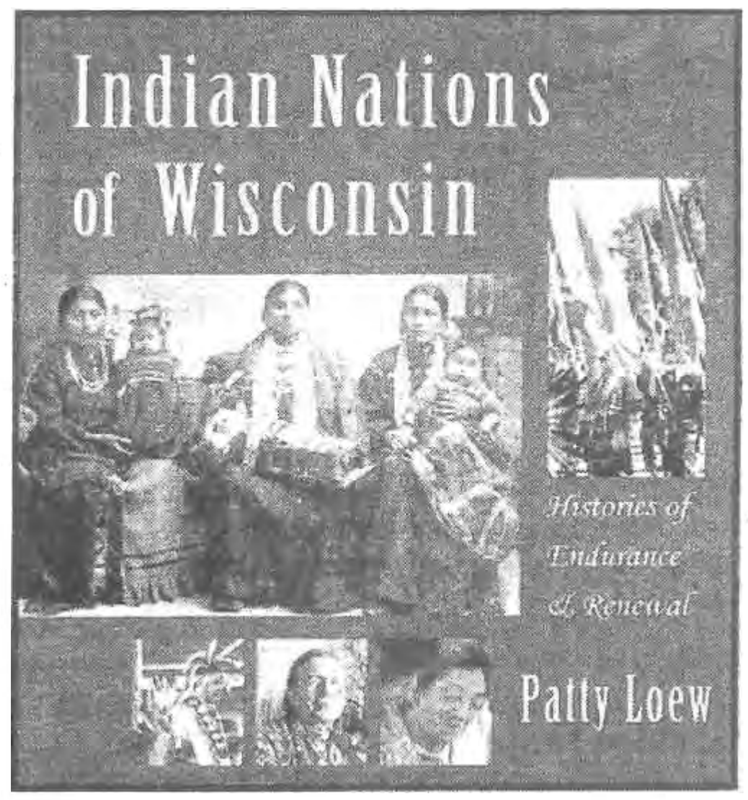
Book reviews

"Indian Nations of Wisconsin" by Patty Loew traces history of Wisconsin's 12 Indian Nations

Madison, Wis.—Tribal histories of Wisconsin's 12 Indian nations—told with the active collaboration of elders and historians from each nation—form the nucleus of the latest book published by the Wisconsin Historical Society Press, Indian Nations of Wisconsin: Histories of Endurance and Renewal by Patty Loew.

The book presents concise histories of the 12 Indian nations whose presence predates Wisconsin statehood and who have maintained a continuous presence in the state: the Ho-Chunk, Menominee, Potawatomi, Oneida, Mohican, Brothertown, and six bands of Ojibwe.

Loew, a member of the Bad River Band of Lake Superior Ojibwe and co-host of Wisconsin Public Television's news magazine "WeekEnd," also serves as an assistant professor of life sciences communication at the University of Wisconsin-Madison. She has produced several documentaries, many of them award-winning, including "No Word for Goodbye," "Spring of Discontent," "Throwaway Future" and "Nation Within a Nation."



Her own Native American ethnicity is not the key to the book's uniqueness, says Loew. "I think that what is important is not so much that I am Native American, but that people in each of the 12 tribal communities discussed in this book collaborated in its development. I think what is significant is that the elders, historians and cultural liaisons in each community shared oral history, suggested resources and helped edit their stories."

Among her conclusions from working with this diverse range of tribal representatives is that Native people think about history differently than non-Natives. The chronology of names, dates and events—linear history—is the stuff of which traditional history books are made. Not so among Native Americans, she says.

"For them, history is spatially driven. There is a strong sense of place around which people and events are remembered, often with songs and stories. Dates are reduced to 'a long time ago' or 'when my mother was a little girl.'"

Loew's unique perspective on Wisconsin Indian history—that of an academic historian balanced against that of a Native American descendant—not only gave her unusual entrée to the stories and historical documents of the 12 Indian nations she visited, it left her feeling conflicted about how to tell their stories.

"In writing this book, I encountered a certain tension between writing something that looked like a history book and something that felt true to the way many Native people view their past," says Loew. "It ended up with elements of each, I think."

Loew says she hopes anyone with a casual interest in Native Americans or Wisconsin history will read the book, but she's particularly hopeful that teachers will read it, noting that several teachers have told her they have difficulty finding resources for teaching Native American history. She is also collaborating with the Wisconsin Historical Society's Office of School Services on another Native American history geared to elementary school-age children.

Indian Nations of Wisconsin: Histories of Endurance and Renewal can be purchased from the Wisconsin Historical Museum shop at 30 N. Carroll St., Madison, or from local bookstores around the state, on-line booksellers, or the University of Wisconsin Press. Contact UW Press at 773-568-1550 or online at www.wisc.edu/wisconsinpress/.

The book is available in jacketed clothbound ($39.95 ISBN 0-87020-335-5) and paperback ($21.95 ISBN 0-87020-332-0) editions.

Book outlines native responses to multi-national mining and oil corporations

By Sue Erickson
Staff Writer

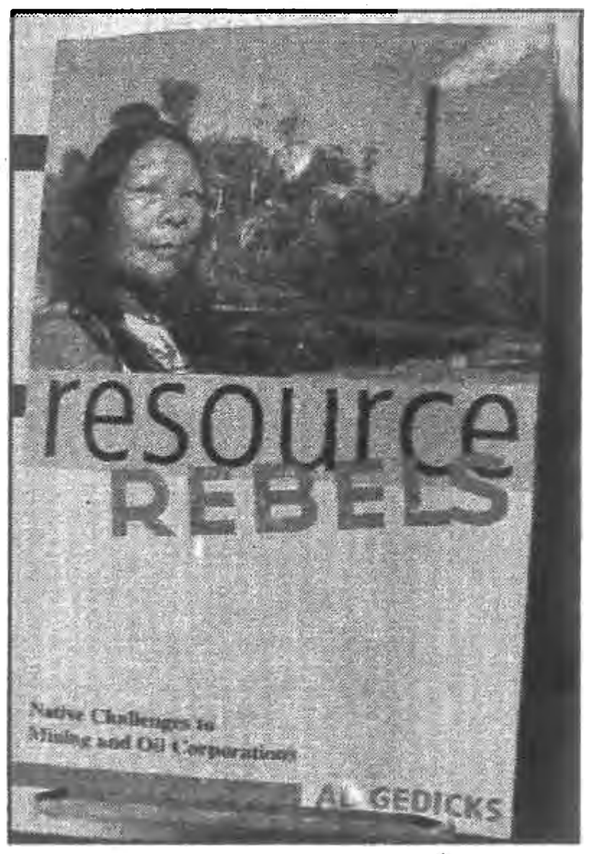
The struggle of Wisconsin tribes to protect their homelands from environmental degradation as a result of a proposed mining project is one of numerous such struggles around the globe by indigenous people. These struggles are documented by Al Gedicks in his newly released book, *Resource Rebels: Native Challenges to Mining and Oil Corporations.*

Gedicks' book details the massive and ongoing environmental destruction related to metal and oil extraction around the world and the growing resistance launched by native people against corporate giants such as Kennecott/Rio Tinto Zinc and Exxon.

Spanning continents and races, a movement of native people refusing to be further victimized by corporate greed, has become an effective avant-garde to thwart further ecological destruction and promote environmental justice.

Gedicks tells the stories of these resource rebels in a clear and easy-to-read style, leaving the reader with a deep appreciation for the far-reaching impact of oil and metal extraction and the growing commitment of native peoples to protect the land and water.

Al Gedicks is a professor of sociology at the University of Wisconsin, La Crosse. He is also executive secretary of the Wisconsin Resources Protection Council and director of the Center for Alternative Mining Development Policy.



A dedicated activist and environmental advocate, Gedicks previously authored the book, *New Resource Wars: Native and Environmental Struggles Against Multinational Corporations.*

For additional information on the book call (617) 547-4002, or email southend@southendpress.org, or go to www.southendpress.org (ISBN 0-89608-640-2).

GLIFWC publications

A Guide to Understanding Ojibwe Treaty Rights: 2001 Edition—The guide contains the pertinent treaties, discusses the nature of treaty rights, provides historical background on the treaty rights, and details tribal resource management and GLIFWC activities. $3.00 each

Chippewa Treaties Understanding & Impact—Revised in 1999, this publication is aimed at 4-8th grade students promoting cultural awareness and background information on Chippewa treaties. 1st one is free $1.75 each thereafter.

Seasons of the Chippewa—The 2000 edition details GLIFWC activities and harvest totals for major off-reservation tribal hunting, fishing, and gathering seasons. (c) 2000 1st one is free $2.75 each thereafter.

Fishery Status Update—As a follow-up to the 1991 Casting Light Upon the Waters, the Joint Fishery Steering Committee released this report summarizing findings from the last nine years of joint assessment and fishery management activities. These are available at no charge.

BIZHIBAYASH: Circle of Flight—This publication features twenty-one tribal and inter-tribal wetland and waterfowl enhancement success stories. These are available at no cost.

Plants Used by the Great Lakes Ojibwa—Available in unabridged and abridged versions, this book includes a brief description of the plant and it's use, a reproduced line drawing, and a map showing approximately where each plant is distributed within the ceded territories. The abridged version is much the same but without the drawings, maps and descriptions. The unabridged version is $20.00 and the abridged version is $6.25. Prices include postage. Contact Jeremizh Manzer, GLIFWC Biological Services Division at the above number for quantity pricing information.

Where the River is Wide: Pahquahwong and the Chippewa Flowage—This book provides a look at historical events as they occurred in the Chippewa Flowage. Some events have been overlooked or forgotten as the region enjoys the benefits of the Chippewa Flowage as it is today. The book is seventy-two pages and includes black and white photos. $12.00 each.

With an Eagle's Eyes: The Great Lakes Indian Fish & Wildlife Commission This is a 25-minute video produced in 2000. $8.00 each

GLIFWC also has posters and brochures. Many of GLIFWC's publications are available on our website at www.glifwc.org. For more information contact GLIFWC's Public Information Division at (715) 682-6619 or e-mail pio@glifwc.org.

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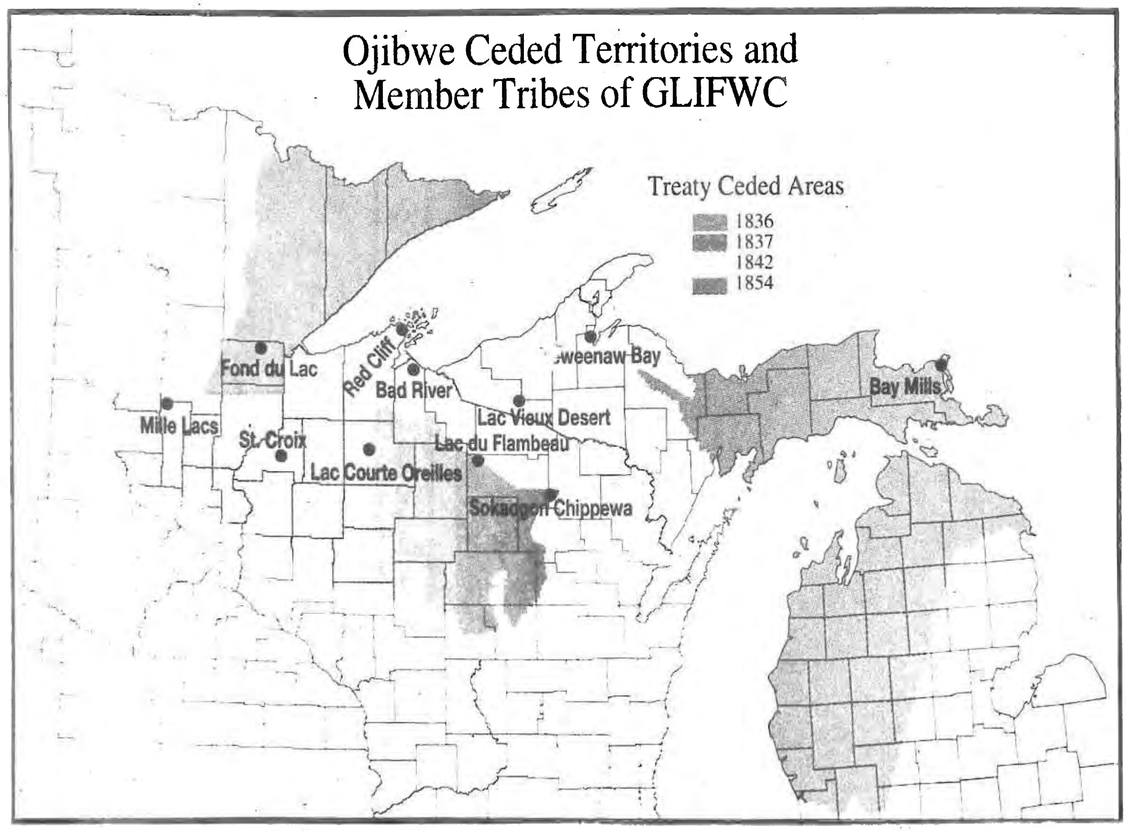

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A Chronicle of the Lake Superior Ojibwe