Mazina'igan
A Chronicle of the Lake Superior Ojibwe
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Spring at the boat landings

The bad ol' days mix with the good

By Charlie Otto Rasmussen
Staff Writer

Odanah, Wis.—Not long after dark, the report of gun shots quiets a pair of loons singing from somewhere on the cold, ice-free lake; launching rocks from a boat dock, a man commands Ojibwe fishermen to get off of *his* lake; elsewhere, a grim-faced business owner pledges to shoot anyone spearing fish near his lakeside bar. Ahhh, the sights and sounds of late 1980s angst over off-reservation tribal fishing. No, wait a second. This all happened last spring.

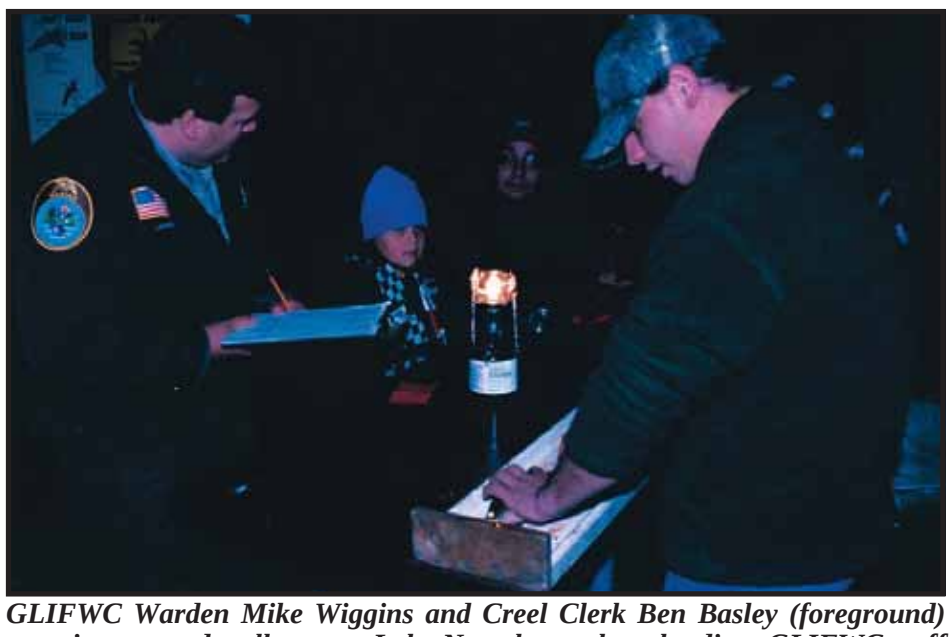
Echoes of the racially charged treaty protest era materialized in April at scattered points throughout the ceded territory, including lakes in Upper Michigan. Dramatically scaled back from northern Wisconsin's beer chugging, epithet-screaming heydays, today's protest endeavors are an exception to the norm, accomplishing little beyond serving notice that the faithful still believe Ojibwe spearfishing is somehow wrong, somehow harmful to the economy, a rape of the environment.

"I don't know if this will ever completely go away," said Chief Warden Fred Maulson of the Great Lakes Indian Fish & Wildlife Commission (GLIFWC). "Education is an ongoing issue. There's still a lot of people who don't understand treaty fishing and some feel the need to harass tribal members by shooting off guns and throwing rocks."

Department of Natural Resources and GLIFWC wardens nabbed one rock-chucker in a joint enforcement action on Big Lac Courte Oreilles in Sawyer County on April 23. The episode earned a $318 citation for an Illinois man policing the waters around his vacation home.

By many accounts, however, the scene at walleye lakes and boat landings has become unremarkable. Maulson, who harvested walleye from Lac du Flambeau area waters as a teen in the hostile 1980s, likens the emerging atmosphere of 21st century spearing to the olden days. The lakes are largely quiet and dark, and people are happy to be replenishing family food stocks for the coming year, he said.

(See Spring, page 17)



GLIFWC Warden Mike Wiggins and Creel Clerk Ben Basley (foreground) examine speared walleye at a Lake Namekagon boat landing. GLIFWC staff count and gather data from every fish speared during the spring harvest. (Photo by Charlie Otto Rasmussen)

Mille Lacs Lake yields good harvest to tribal fishers

By Sue Erickson
Staff Writer

Odanah, Wis.—Mille Lacs Band members were the first to set their nets into the chilly waters of Mille Lacs Lake as the ice began to slowly make way this spring. The first try was on March 24th, but no fish were forthcoming. By March 31st, however, four nets were set, yielding one six-pound walleye and 30 northern pike, with an aggregate weight of about 171 pounds, enough to satisfy a hankering for a taste of fresh fish. It wasn't until about April 12 that the lifts became more substantial for Mille Lacs Band members.

Duane Emery, St. Croix tribal member, hauls in a net at Mille Lacs Lake on April 24. (Photo by Sue Erickson)

The 2005 spring treaty netting and spearing season in the big lake brought in a combined tribal harvest of about 79,847 pounds of walleye, 9,230 pounds of northern pike, 1,543 pounds of yellow perch, 40 pounds of cisco and 288 pounds of burbot.

The remaining walleye quota is 20,153 pounds of walleye and 3,266 pounds of northern pike. Plenty of yellow perch, 105,385 pounds, remain available for tribal members, as do 11,702 pounds of cisco and 12,912 pounds of burbot.

For the Fond du Lac Band and Wisconsin tribes, netting began in Mille Lacs as of April 13. They enjoyed a spree of balmy weather, but still encountered large masses of moving ice on the lake at first, which made for tricky net sets and pulls at times.

The latter portion of the season saw cooler temperatures and high winds that made setting nets and spearing difficult at windward landings. However, despite the struggles, tribal members managed to pull in and spear a record number of fish through the season.

The season appeared to peak from April 18 to April 21. The record nightly pulls for the season were made by the Lac du Flambeau Band that brought in 4,265 pounds of walleye on April 18, and the Fond du Lac Band that netted 4,204 pounds on April 19, with the other bands also experiencing substantial lifts during that time.

Of the total walleye harvest, 74,147 pounds were harvested by net and 5,699 were taken with spears.

Mille Lacs Band members primarily netted and speared within the on-reservation waters of Mille Lacs Lake, and were monitored by Mille Lacs tribal wardens and GLIFWC creel clerks. Fond du Lac set up shop at the Cedar Creek landing from April 19 to April 21, with tribal enforcement and biological staff to monitor the tribe's harvest.

GLIFWC wardens and creel clerks monitored the remaining harvest, manning all open, off-reservation landings each night and morning during the season. Substantial netting effort also took place at the North and South Garrison landings and the Malmo landing.

All fish harvested during the netting and spearing season are counted and weighed with biological informa-

(See Mille Lacs Lake, page 6)

Living history, or maybe—The Russians have landed at Twin Bear Lake

By Sue Erickson
Staff Writer

Twin Bear Lake, Bayfield County–The Bayfield County Sheriff's Department report for the night of April 21st records a call at 9:34 p.m. from a woman who "Reports there is people on a boat with many lights poking in at the beaches. She believes they may have a Russian accent." The sheriff's update reads: " Subjects were Native American spearfishermen."

Also along for the evening was Andy Gokee with his small grandson, pyawasay. Gokee speaks to his grandson in Ojibwe as much as possible, helping the child learn and use his native language. This is probably what the woman construed to be a Russian accent.

Also, out for a night spearing was Marvin Defoe, instructor for Lac Courte Oreilles Ojibwa Community College extension at Red Cliff, with students from his Anishinaabe History and Storytelling classes.

Oblivious of the alarm they were causing on shore, students and instructors plied the shoreline in search of walleyes, while the rookie spearers took turns trying to land a few in the boat. It proved more difficult than it looks.

Defoe theorizes the evening junket teaches "living history." "This will give them an opportunity to live history rather than just learn it," he explains.

It proved to be a first-time experience for the students who had never tried their hand at this traditional Ojibwe method of fishing before.

Defoe started the night out by having students gather wood and build a campfire while he got oil sizzling in a pan for a fish fry before going out on the lake. With bellies full and daylight dwindling, it was soon time to get down to business

GLIFWC wardens Mark Bresette and Mike Soulier checked tribal I.D.s and distributed permits. The bag limit per spearer that night was eight walleyes. Once the boats were loaded up, Defoe gave a brief explanation of the do's and don'ts of spearing prior to heading out onto the lake.

He demonstrated how the spear is held ready in the water as the spearer scans the water with his or her headlamp. Once a fish is located, you quickly hit it with the tines of the spear. However, everything is under water and the spearer has to account for a certain amount of distortion. Things may not actually be where they seem to be, as the students found out.

With "Captain" Defoe at the helm, the small boat headed out onto the still, dark waters of Twin Bear Lake with students Charlotte Sero and Judy Ludwig aboard. Sero was on deck first. Spearers generally stand on the bow, but Defoe had her kneel at first—just to establish her sea legs. It wasn't long, though, and she was standing there, looking like an old pro, scanning the shallows for walleyes as Defoe slowly manipulated the boat through the water.

Not Russians, rather Red Cliff Ojibwe, Andy Gokee and his grandson, pyawasay, prepare for the first night of spearing on Middle Eau Claire Lake. Andy speaks Ojibwemowin (Ojibwe language) whenever possible to pyawasay. That night an alarmed observer on land mistook the Ojibwemowin for Russian, and phoned in a report to the Bayfield County Sheriff about people with Russian accents poking along the lakeshore.

There were fish plenty of fish to be seen. "There's one. Get it," Defoe would coach over and over again, turning the boat if necessary to access the fish. But the spear was plunged many times before Sero finally hauled in a flopping walleye. (This activity was probably what the onshore observer considered to be Russians poking at the beach.)

Next up was Ludwig. She, too, started out on her knees, but experienced difficulty with the headlamp. As Defoe pointed out, the light seemed to be hitting the trees along the shoreline more than the water. The headgear was too big and would not stay put. After a quick readjustment that situation seemed to improve, but try as she may, she was unable to land a walleye that night.

Sero, however, took another turn and managed to bring in another small walleye. The boat came back to the landing well under the bag limit with only two fish for the creel clerks to work up. Fortunately, the spearers didn't have families at home waiting for them to bring back the next day's dinner!

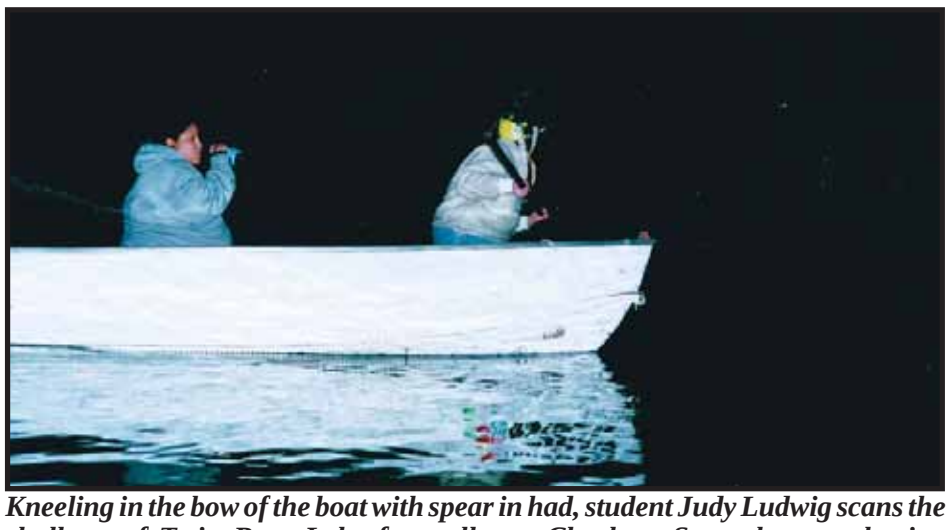
Those aboard Andy Gokee's boat seemed to fair a little better. Darla Gokee brought in seven walleyes, Louis Belanger speared six, and Andy came home with seven.

Regardless of the catch, the students had a good time, learned a traditional method of fishing, even heard the language spoken, and learned how the contemporary spearfishing landings are managed—a pretty good "living history" lesson. Hopefully, the unseen observer got a bit of an education too!

Photos by Sue Erickson

Instructor Marvin Defoe prepares a shore lunch for his students prior to taking them out spearing.

Trying to get a campfire going at Twin Bear Lake landing, Red Cliff's Charlotte Sero uses birch bark to fan a small flame. She, along with other students from the Lac Courte Oreilles Ojibwa Community College extension, were there to learn about spearfishing in conjunction with Marvin Defoe's Anishinaabe History and Storytelling classes.

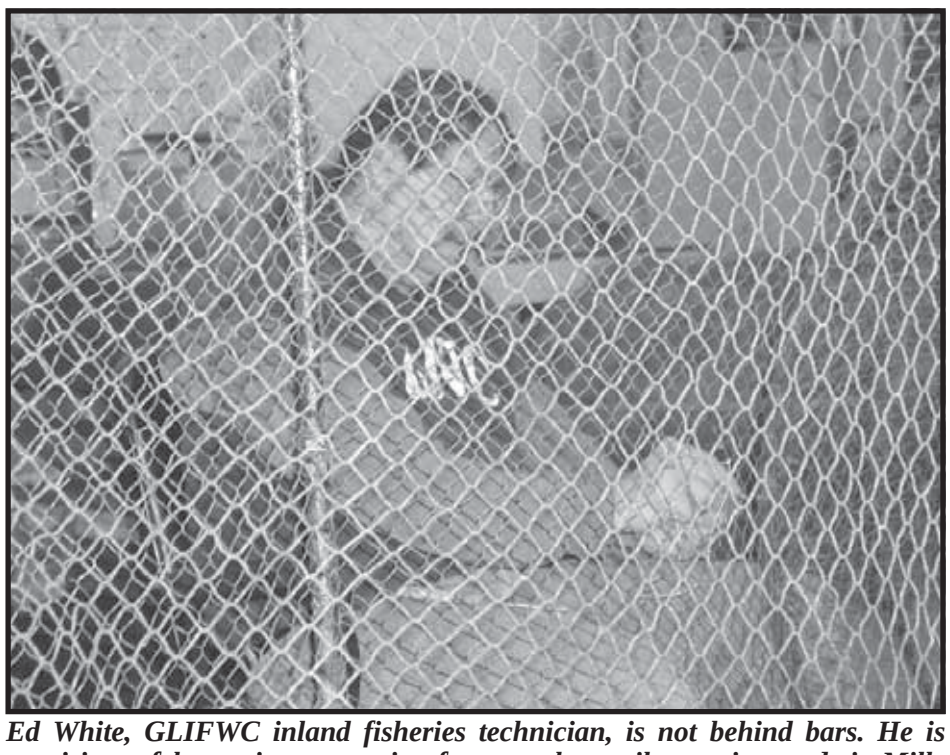


Kneeling in the bow of the boat with spear in had, student Judy Ludwig scans the shallows of Twin Bear Lake for walleyes. Charlotte Sero observes, having already successfully speared one walleye.

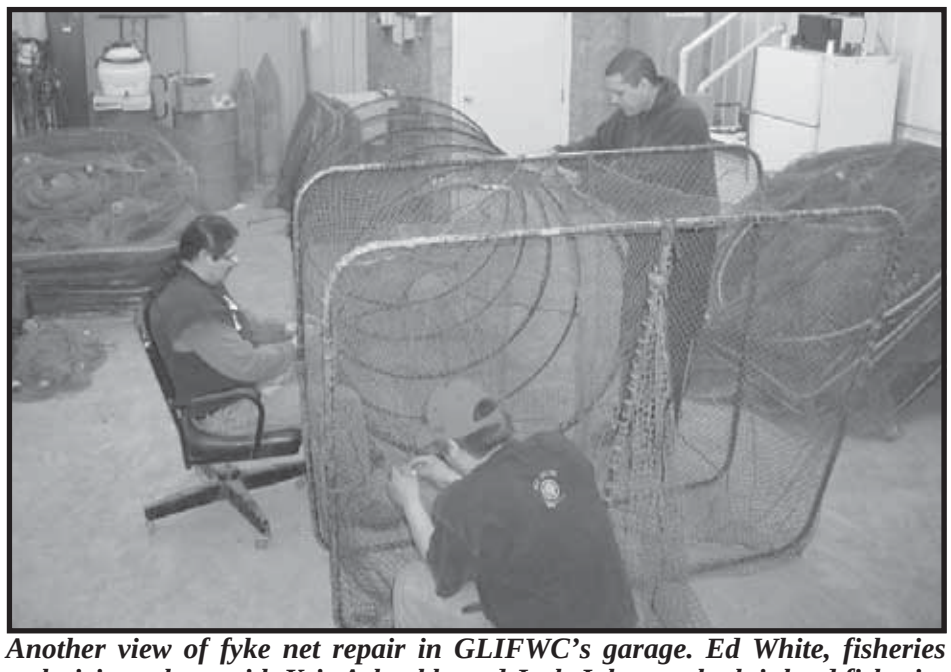
On the cover

Frank Conners Jr. and his family spent a mid-April evening on Lake Namekagon in northwest Wisconsin during the spring spearing season. (Photo by Charlie Otto Rasmussen)

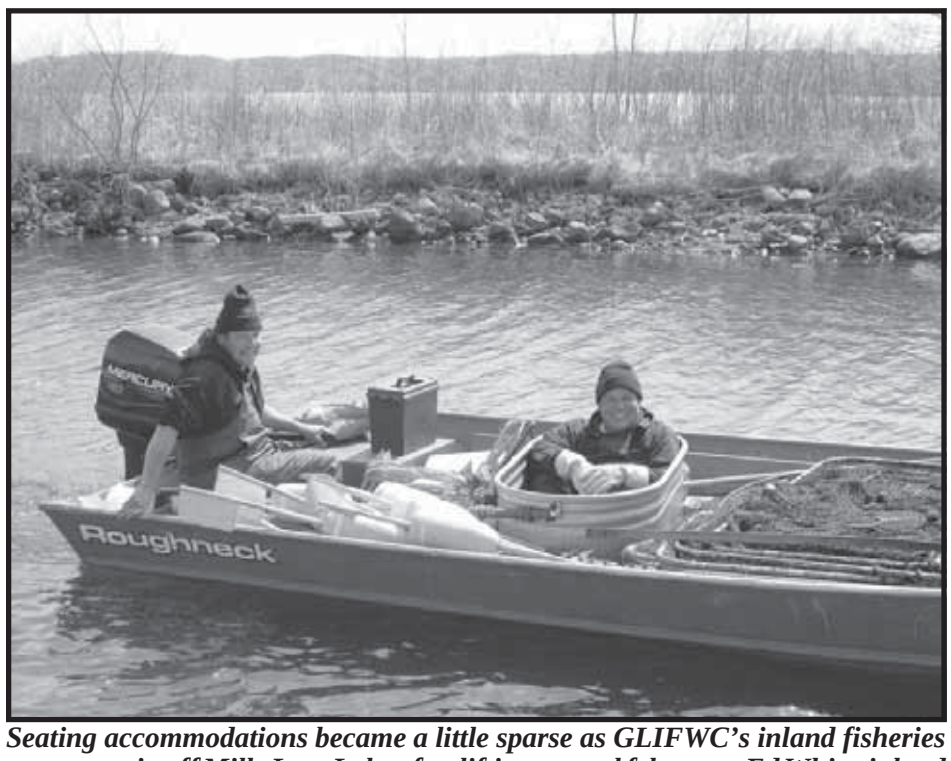
Mille Lacs northern pike tagging study a success



Ed White, GLIFWC inland fisheries technician, is not behind bars. He is repairing a fyke net in preparation for a northern pike tagging study in Mille Lacs Lake this spring. The study was performed cooperatively by GLIFWC and the Minnesota Department of Natural Resources. (Photo by Butch Mieloszyk)

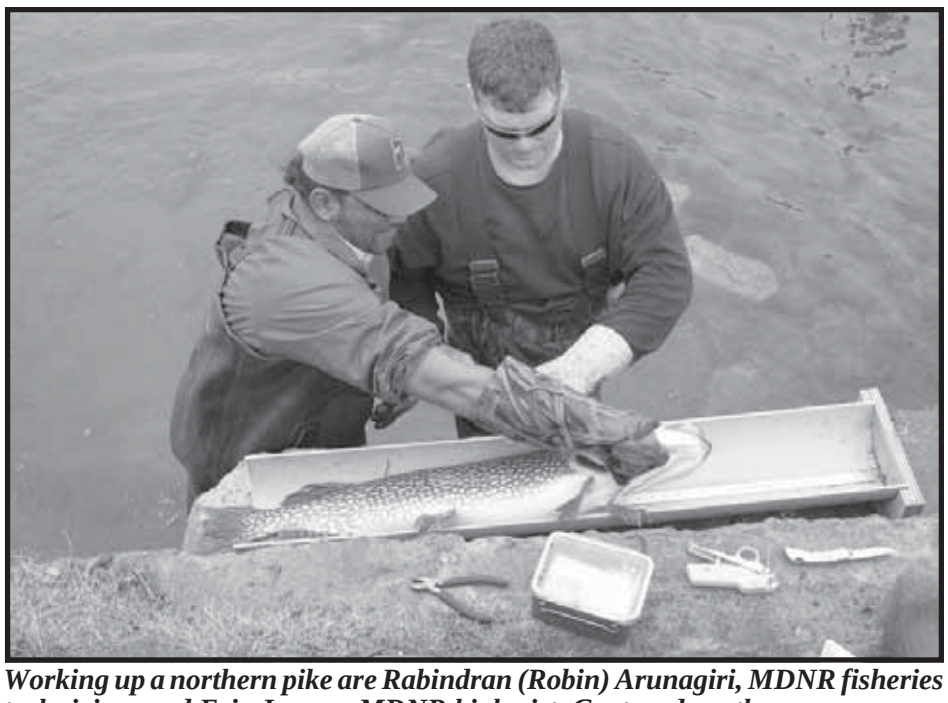


Another view of fyke net repair in GLIFWC's garage. Ed White, fisheries technician, along with Kris Arbuckle and Josh Johnson, both inland fisheries aides, tackle a fyke net from all sides, basically busy sewing up holes and tears. (Photo by Butch Mieloszyk)

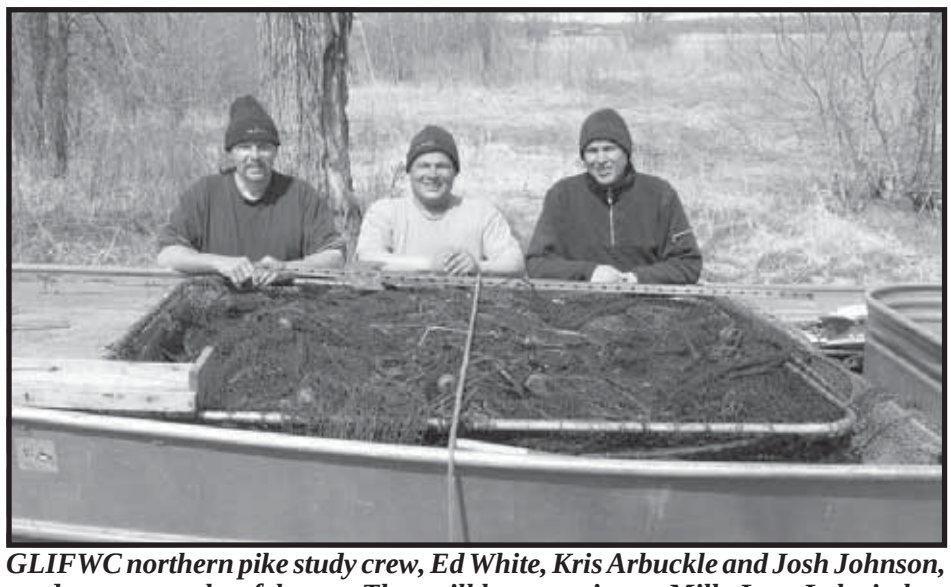


Seating accommodations became a little sparse as GLIFWC's inland fisheries crew came in off Mille Lacs Lake after lifting several fyke nets. Ed White, inland fisheries technician is at the helm and Kris Arbuckle, fisheries aide, is the guy in the tub. (Photo by Nick Milroy)

Hauling in a fyke net from Mille Lacs Lake. Fyke nets were set near historical northern pike spawning habitats, especially in creeks and sloughs, where they are likely to spawn. Since northern pike usually spawn before the ice is completely out, working the nets around the ice was sometimes tricky. (Photo by Nick Milroy)



Working up a northern pike are Rabindran (Robin) Arunagiri, MDNR fisheries technician, and Eric Jensen, MDNR biologist. Captured northerns were measured, sexed, and given two tags before being returned to the water alive. The number of northerns captured, a little over 7,000, exceeded the study's expectations. The target number was 2,000 fish. (Photo by Nick Milroy)



GLIFWC northern pike study crew, Ed White, Kris Arbuckle and Josh Johnson, ready to set another fyke net. They will be returning to Mille Lacs Lake in late May and early June to set gill nets to recapture northern pikes. (Photo by Nick Milroy)

Draft bill seeks to enhance role of GLIFWC officers

By Sue Erickson, Staff Writer

Odanah, Wis.—A revised draft bill addressing the role of GLIFWC's officers in Wisconsin's ceded territory is scheduled to come before Wisconsin's Joint Legislative Council on June 1st for a vote. If approved, it will move to the state legislature for possible enactment.

The revised draft bill is the result of work stemming from the Legislative Council's Special Committee on State-Tribal Relations. GLIFWC Policy Analyst James Zorn and Chief Warden Fred Maulson have worked with the Committee in preparing the draft, which, if passed, will benefit both state and tribal, off-reservation enforcement efforts.

"I'm very pleased with the piece of legislation we are putting forward," Zorn says, "It's a common sense kind of bill which will essentially enable credentialed state and GLIFWC officers to more efficiently enforce the law by making use of each others' skills and capacities."

Zorn views the proposed legislation to be a result of a great joint effort, acknowledging especially the cooperation and assistance received from the Wisconsin Attorney General's Office and the Wisconsin Department of Natural Resources in formulating the bill.

He identifies the bill's five highlights as:

☑ GLIFWC wardens would be able to access the transaction information for management of enforcement (TIME) system. Using TIME, officers in the field can quickly retrieve information on criminal investigations, suspected criminals, outstanding warrants, and drivers' license and vehicle registration information.

☑ GLIFWC's enforcement vehicles would be included in the Wisconsin statutory definition of "authorized emergency vehicle." Under this definition, statutes relating to rules of the road, vehicle equipment, and related topics specific to authorized emergency vehicles would apply to GLIFWC's enforcement vehicles.

☑ GLIFWC's wardens would be included in the definition of "peace officer" under the criminal code. This would allow them the benefits and protection afforded to other law enforcement officers carrying out their duties, such as enhanced penalties for those who assault an officer and immunity from certain laws while performing their duties.

☑ Qualified GLIFWC wardens stationed in Wisconsin would be certified by the Wisconsin Law Enforcement Standards Board and authorized to make an arrest if responding to an emergency situation that poses a significant threat to life or of bodily harm, or acts that the warden believes, on reasonable grounds, constitute a felony.

☑ Under "mutual aid" provisions, GLIFWC wardens would by authorized to render aid or assistance to a Wisconsin peace officer in an emergency or at the request of the Wisconsin peace officer under specified conditions.

Chief Maulson regards the bill as a giant step up in terms of streamlining law enforcement in the state. "GLIFWC's wardens are fully trained and certified officers. It makes good sense to use that training when needed in the enforcement of state laws as well. The bill essentially makes GLIFWC's enforcement expertise available to state use," he says. "Sounds like a win-win situation!"

Doing his part in preventing the spread of aquatic invasive species, GLIFWC Warden Jonas Moermond, stationed at Lac du Flambeau, powerwashes his enforcement boat. All GLIFWC wardens have powerwashing units available and take care to inspect and clean their boats and equipment after use.

At Mille Lacs Lake, GLIFWC Warden Jim Mattson, stationed at the Mille Lacs reservation, checks the tribal i.d. of Wayne LaBine, Mole Lake, before issuing a netting permit. Permits are issued on a daily basis. (Photo by Nick Milroy)

Everybody seemed happy as the spring spearing season opened in Wisconsin! April 11, opening night of 2005 off-reservation spearing season brought Red Cliff tribal member Randall Vorhees and his father Daniel (not pictured) out to Middle Eau Claire Lake, Bayfield County, in pursuit of walleye. Manning the landing is GLIFWC Warden Mark Bresette, starting out a long series of nights monitoring spearing activities in Wisconsin as well as netting at Mille Lacs Lake later in the season. (Photo by Sue Erickson)

GLIFWC wardens to instruct safety courses

Boater Safety classes slated for summer

Odanah, Wis.—Once again GLIFWC conservation officers will be offering safety courses this summer and fall. Most GLIFWC officers are certified safety instructors and offer on-reservation classes in Hunter Safety, Boating Safety, ATV Safety, and Snowmobile Safety.

This summer Boating Safety courses will be available at Bad River, Lac Courte Oreilles, Lac du Flambeau, Mole Lake, Red Cliff and St. Croix. In the fall Lac Courte Oreilles, Bad River and Red Cliff will offer ATV Safety classes. Hunter Safety classes will be offered at Lac Courte Oreilles, Red Cliff, Bad River, Lac du Flambeau and Mille Lacs. Definite times and dates have not been established for the classes. Contact GLIFWC's satellite conservation on-reservation enforcement office for further information. Satellite office numbers and staff are as follows:

Note: Michigan tribes contact your local GLIFWC enforcement office about Michigan regulations.

Satellite office	Warden	Office Phone
Bad River	Vern Stone Michael Wiggins	(715) 682-8243
Lac Courte Oreilles	Mark Thayer	(715) 634-4333
Lac du Flambeau	Jonas Moermond	(715) 588-7676
Mole Lake	John Mulroy Roger McGeshick	(715) 478-7615
Red Cliff	Mark Bresette Mike Soulier	(715) 779-5182
St. Croix	John Mulroy	(715) 866-8126
Mille Lacs	James Mattson Matt Bark	(320) 532-3881
Bay Mills	Duane Parrish	(906) 248-3244
Keweenaw Bay	Tim Tilson James LaPointe	(906) 353-7789
Lac Vieux Desert	Ruben Gonzales	(906) 358-0343

Twenty off-reservation spring spearing seasons in Wisconsin

The Butternut Lake legacy lives on

By Sue Erickson
Staff Writer

Odanah, Wis.—In 1985 Wisconsin Ojibwe exercised their first off-reservation, spring spearing season in Wisconsin. So, the close of the 2005 season marked twenty years of exercising spring spearing in ceded territory lakes and twenty years of successful self-regulation of an intense and fast-moving season.

The first season drew to a close with trouble at Ashland and Price Counties' Butternut Lake—a prelude of the protest and violence that haunted spring spearing landings throughout the 1980s.

Over one hundred people were at the landing the final night of the 1985 season, primarily non-Indian protesters, with about twenty law enforcement officials. There were angry shouts, pushing and rock-throwing from a crowd that was barely under control.

Then Wisconsin Department of Natural Resources Chief of Enforcement George Meyer later commented that they were fortunate to keep peace that last night of spearing: "We hung on by our fingernails the last night to keep peace. If there had been ten more people on each side, we might not have been able to keep the situation under control."

The 1985 season drew to a conclusion with a total harvest of 2,761 walleye and 86 muskellunge.

Butternut Lake was to be the scene of several confrontations over the years between protesters and tribal spearers. One of the most remarkable was in 1989 following a season of rampant protesting, threats and violence.

The final night of spearing was, once again, at Butternut Lake, but this time treaty supporters had rallied from all over Wisconsin, Michigan, Minnesota and from other points across the nation. In a show of tribal solidarity, a line of cars miles long pulled out of the Lac du Flambeau reservation that evening and headed to the Butternut Lake landing in support of treaty rights. They were met by a mob of protesters, but numbers of treaty supporters finally outnumbered protesters.

The air was tense throughout the night with massive law enforcement present. The tribal supporters stood firm and proud, peacefully and slowly nudging protesters off a small knoll at the landing. An estimated 1,600 people were present at Butternut Lake that night, and it seemed to signal a turn-around, a long-needed nay-saying to the ever-mounting spring protests.

By the conclusion of the season, costs to curtail the protesters were estimated to be two million dollars. The ugliness of the protest began to turn heads of the public, and many began to recognize the racist element in the movement. The protest received national publicity, making an ugly scar in northern Wisconsin's image.

In 2005 a vestige of the ugly protest lingers at Butternut Lake. During the 2005 season, reports of hecklers were once again filed—seemingly insignificant in light of the lake's history—but still an indicator that hateful sentiments are still alive.

Lac Vieux Desert's Richard Burke and daughter, Michaela, bring a nice one aboard. (Photo by Ruben Gonzales)

Wayne Basina, GLIFWC creel clerk, measures walleye brought in from Twin Bear Lake. (Photo by Sue Erickson)

MI & WI 2005 spring harvest round-up

By Sue Erickson, Staff Writer

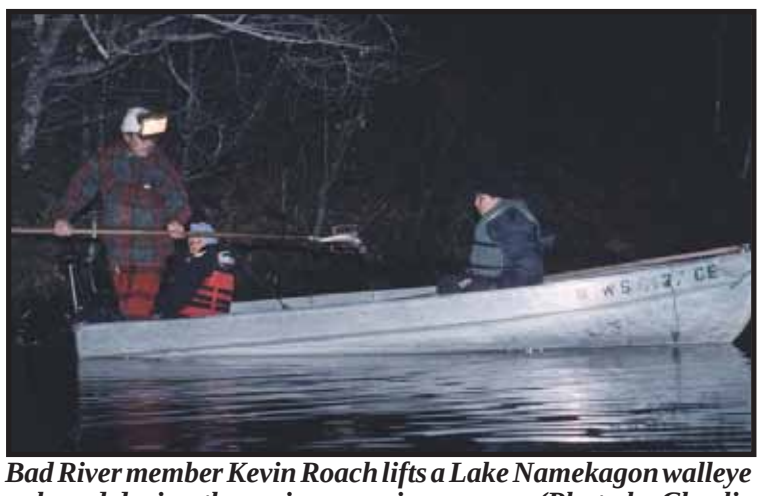
Odanah, Wis.—The off-reservation spring spearing season in Wisconsin opened on April 11th with St. Croix and Red Cliff tribal members first out on the lakes. The season drew to a close on May 7, resulting in a 27-day harvest. The total number of walleye speared in 2005 was 26,877 out of a tribal declaration of 43,692, or about 62 percent of the declaration.

The 2005 harvest in Wisconsin was less than the 2004 walleye harvest of 27,546 walleyes. The 2000 spring walleye harvest remains the record for the tribes with 30,367 walleyes harvested from Wisconsin's ceded territory lakes that year.

The muskellunge harvest was up slightly in Wisconsin. The tribes harvested 229 muskellunge out of a total declaration of 1,733. This represents about 13 percent of the declaration. In 2004 the tribes took 207 muskellunge from a declaration of 1,509, also about 13 percent of the declaration.

In Michigan, the Lac Vieux Desert Band speared 4,063 walleyes in a season that lasted from April 15 through April 29. Their total harvest guideline for the season was 7,800 walleye, so they harvested about 52 percent of the total guideline. They met their harvest guideline of 2,550 walleyes from Lake Gogebic and fell short by one fish from the harvest guideline for Lac Vieux Desert, taking 309 walleye out of a guideline of 310.

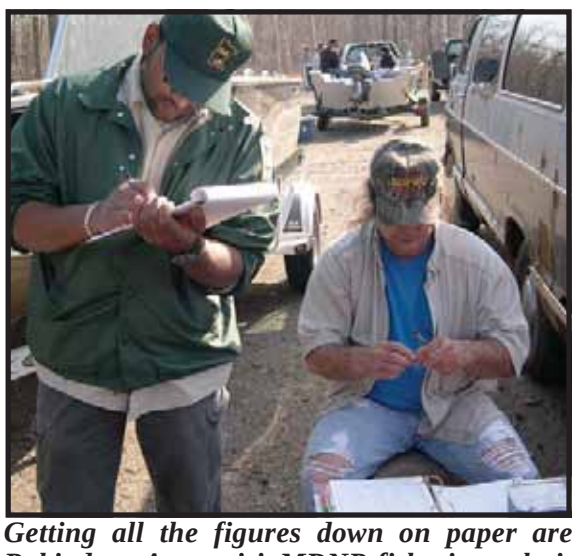
GLIFWC enforcement officers and creel teams monitored all open landings nightly. Nightly catches were called into the office in order to readjust bag limits on each lake speared on a daily basis.



Bad River member Kevin Roach lifts a Lake Namekagon walleye onboard during the spring spearing season. (Photo by Charlie Otto Rasmussen)

Not too many people have one of these—a personalized fish measuring board! GLIFWC Biologist Nick Milroy's measuring board boasts skull and crossbones grahics and has his name inscribed. (Photo by Sue Erickson)

GLIFWC staff stand ready to monitor tribal harvest at Mille Lacs Lake's Cedar Creek landing. Pictured are Dave Parisien, creel clerk, Joe Dan Rose, inland fisheries section leader, Enforcement Chief Fred Maulson, and Jake Parisien, creel clerk. (Photos by Nick Milroy)



Getting all the figures down on paper are Rabindran Arunagiri, MDNR fisheries technician, and Jake Parisien, GLIFWC creel clerk.

Theresa Edgington, GLIFWC creel clerk, measures a walleye at South Garrison landing. Matt Bark, GLIFWC warden, stands by.

State of Wisconsin eliminates Deer Management Unit 5

But tribes keep Unit 5 intact

By Jonathan Gilbert, Ph.D., GLIFWC Wildlife Section Leader

Odanah, Wis.—In December 2004 the Wisconsin Natural Resources Board (NRB) decided to eliminate Deer Management Unit (DMU) 5 and include the east half of the unit into DMU 6 and the west half in DMU 2.

The tribes do not believe that this action was taken in accordance with legal standards as outlined in the *Voigt* decision, nor do they believe that the action will solve any management problems. Thus, the tribes intend to keep DMU 5 intact and not to recognize the elimination of DMU 5 by the NRB.

There are two reasons that the tribes rejected this decision by the NRB. The first reason is that the NRB did not follow the process laid out in the *Voigt* Deer Stipulation for consulting with tribes prior to making decisions that effect deer management. The second reason is that this decision did not solve any management problem; in fact the decision potentially made the problem worse.

During the *Voigt* Treaty Rights trial the tribes and the state reached several important agreements, or stipulations. One of the stipulations reached during the deer trial says that the state must attempt to reach consensus with the tribes prior to making any decision which affects deer management. The NRB took this action unilaterally with no consultation or attempts at consensus with the tribes. The NRB ignored its obligation under the *Voigt* stipulations, and thus the tribes rejected the decision.

However, the decision itself was a poor decision. It only made a management issue worse and did nothing to solve the issue. The tribes rejected the decision also because it will result in poorer deer management than before the change.

Deer population management in Wisconsin, including the ceded territories, is accomplished using a set of blocks of land which are called deer management units. These DMU's must be large enough to provide good information to biologists, yet should also be composed of similar land cover and land use.

Typically DMU's are bounded by roads or rivers or other recognizable boundaries. In each DMU there is a deer population goal established and a harvest objective is determined each year, depending on whether the population is above or below the goal. Harvested deer are registered from the DMU in which they were killed. Deer ages are collected and reported by DMU and reproductive rates are also collected by DMU. The DMU has become the backbone of deer management in Wisconsin.

One of the principal strengths of the Wisconsin deer management system is the consistency of the season structure and the configuration of DMU's. Deer biologists use information from past seasons to help predict what will happen in the coming season. This is possible because of the consistency of the DMU's and season structures.

In December 2004 the Wisconsin Natural Resources Board decided to eliminate Deer Management Unit 5. The tribes do not believe that this action was taken in accordance with legal standards as outlined in the Voigt decision, nor do they believe that the action will solve any management problems. Thus, the tribes intend to keep DMU 5 intact. (Photo by Charlie Otto Rasmussen)

DMU's have changed in the past, especially in southern Wisconsin, in response to management issues. However, each time a DMU is changed, deer biologists lose the history of that deer management unit, and thus it makes predicting results for up-coming seasons more difficult than it already is. It is for this reason that biologists are generally loath to changes in DMU boundaries.

Those who advocated for the elimination of DMU 5 thought that they could solve a management problem. The problem they saw was an unequal distribution of deer between private and public land. They see more deer on private land and less on public. They thought if they could separate the east half of DMU 5 (primarily private land) from the west half (primarily public land) that this would reduce this unequal distribution of deer.

If DMU 5 was simply split, perhaps this would have been true. However the resulting DMU's would have been too small to properly manage. So these advocates suggested absorbing the east and west half into DMU's 6 and 2, respectively.

By eliminating DMU 5 the NRB has discarded more than 50 years of harvest history and other information on deer population status in that unit. This is a terrible loss and one which will have implications on harvest management for many years.

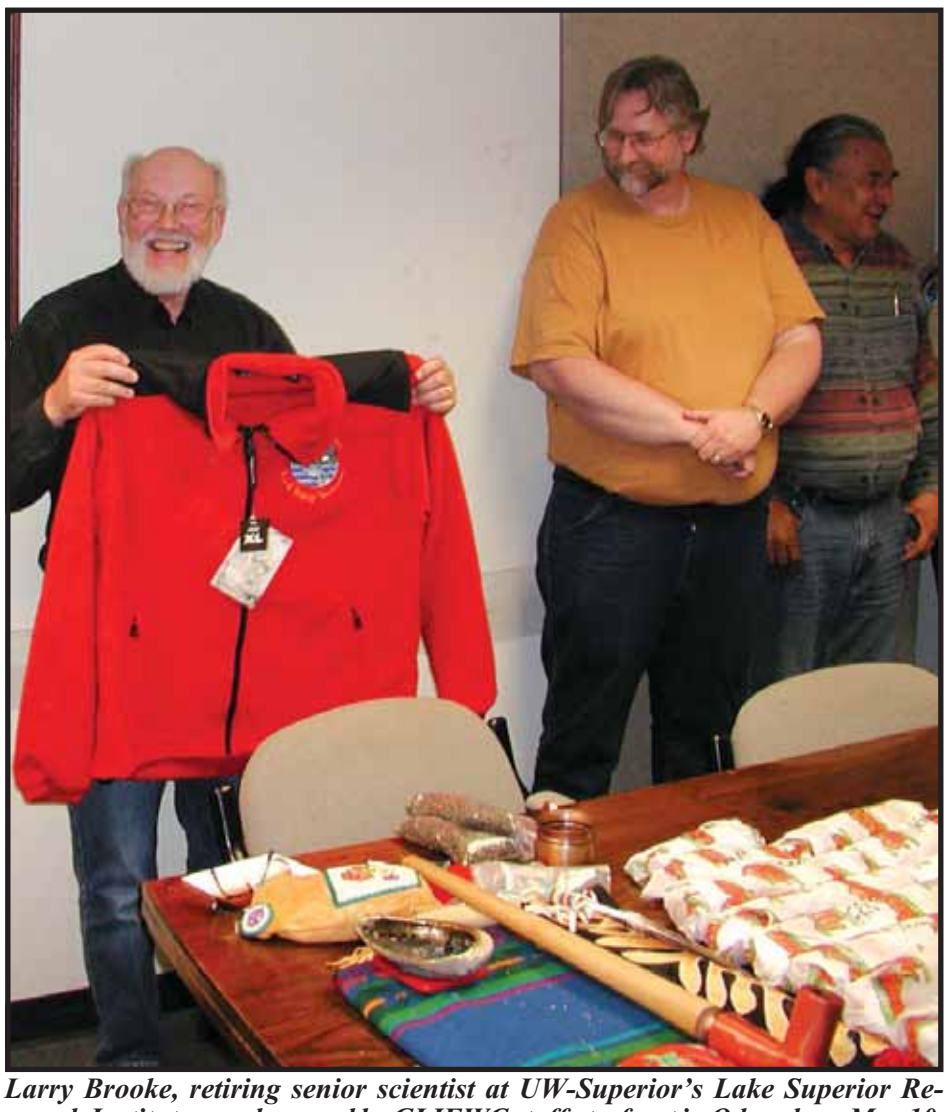
The new units which come after splitting DMU 5 and absorbing the halves in DMU's 2 and 6 also have public and private land. In fact old DMU 5 had 53% public land, the new DMU 2 has 37% public land and the new DMU 6 has 38% public land.

So the new units have much less (in percentage terms) public land than the old units, which potentially could result in a much higher harvest rates on public land than would have occurred in the old units. This higher harvest will further reduce deer density on public land and just make the management problem worse.

So it is clear from a variety of perspectives that the elimination of DMU 5 and absorbing it into DMU's 2 and 6 was a poor decision, one which was contrary to current law and one which will result in a worsening management situation.

The NRB of the Department of Natural Resources ignored its obligations under the *Voigt* decision when the decision was made. The NRB was acting on bad or incomplete information when the decision was made.

For these reasons the tribes have rejected this move. Tribes will continue to make harvest declarations for DMU 5, and tribal hunters will continue to register deer harvested in Unit 5.



Larry Brooke, retiring senior scientist at UW-Superior's Lake Superior Research Institute, was honored by GLIFWC staff at a feast in Odanah on May 10. Pictured here with gifts, including a "GLIFWC" fleece jacket and wild rice, Brooke has worked with GLIFWC since 1991 to study contaminants in wildlife, wild rice and most notably, fish like walleye and lake trout commonly consumed by tribal members. (Photo by Charlie Otto Rasmussen)

Mille Lacs Lake harvest

(Continued from page 1)

tion, such as sex and length, recorded on a portion of them. Additional creel and enforcement staff is hired to accommodate the demands of the season, both in Minnesota and Wisconsin.

The Minnesota Department of Natural Resources also had staff at some of the landings, recording information as harvests were creeled.

National forest sugarbush site yields sweet rewards

By Karen Danielsen
GLIFWC Forest Ecologist

Lac Courte Oreilles Reservation, Wis.—For years, Edmund Thomas, a Lac Courte Oreilles (LCO) tribal member, tapped his neighbor's ininaatigoog (sugar maples) to make syrup for family and friends. However, this year, with his neighbor turned snowbird and incommunicado somewhere in Arizona, Edmund looked to national forest lands as a location for gathering ziinzibaakwadaaboo (maple sap). He contacted GLIFWC to find out how this could be accomplished.

With GLIFWC's assistance, the LCO tribal government and the Chequamegon-Nicolet National Forest jointly prepared and signed a site management plan establishing a new tribal sugarbush on national forest lands just a few miles from Edmund's home. Thus, this year, Edmund had a new iskigamizigan (sugarbush) from which to gather ziinzibaakwadaaboo.

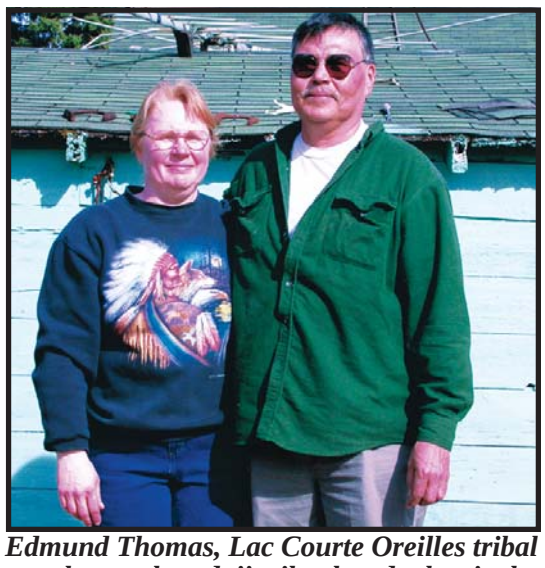
Edmund learned about gathering ziinzibaakwadaaboo while living with his aunt and uncle, Sophie and Henry Jacko, on the Bad River Reservation. He would help his uncle with the firewood; lots of firewood needed to be cut and stacked for boiling down the ziinzibaakwadaaboo.

Back then, his aunt and uncle used a large, black cast-iron kettle for boiling and tin molds to make the finished product, ziiga'iganan (sugar cakes). Edmund and his cousins loved eating ziiga'iganan.

Nowadays, Edmund makes zhiiwaagamizigan (syrup) with help from his wife, Jean, and their children. Though their youngest children may not yet fully appreciate participating in this activity, Edmund knows that at some level it touches them. He knows that, even now, they understand the significance of the gifts offered by the ininaatigoog.

Before gathering ziinzibaakwadaaboo, the family shares in an offering of asemaa (tobacco) giving respect to the ininaatigoog. Edmund teaches this ceremony to his children as it was taught to him by his aunt and uncle.

Then Edmund taps the trees, hangs the buckets, and waits as ziinzibaakwadaaboo flows. He enjoys being in the woods at this time of year—the silence before the arrival of songbirds and the scent of life emerging from winter's frost. He doesn't mind waiting.



Edmund Thomas, Lac Courte Oreilles tribal member, gathered ziinzibaakwadaaboo in the Chequamegon-Nicolet National Forest. Edmund makes zhiiwaagamizigan with help from his wife, Jean and their children. (Photo by Karen Danielsen)

When enough ziinzibaakwadaaboo has filled the buckets, he prepares a fire in an outdoor oven he and his relatives built, using materials from a century-old chimney. He allows the fire to burn long enough to become steady, but not too hot.

He pours the ziinzibaakwadaaboo into a 2x3x8 galvanized stainless steel container, which he places on a grate over the fire. Stirring occasionally, repeatedly stoking the fire, he again waits, waits through the first boil. As the boiling continues, he skims away surface foam and, with it, any impurities.

Once the liquid has been sufficiently reduced from its lengthy outdoor first boil, he transfers it to a smaller pot, permitting Jean to begin the second and final boil indoors on the kitchen stove.

Putting to use her candy-making skills, Jean carefully boils the liquid until it thickens and develops a distinctive clear amber color. Finally, this delicious zhiiwaagamizigan is ready for a stack of pancakes.

When Edmund removes the tree taps, he leaves in their place small wooden pegs. These pegs help keep out fungi and insects as the trees heal. This technique seems to work; the holes caused from one year's tapping frequently cannot be seen the next year.

A feast soon follows, celebrating the gifts of the ininaatigoog. Edmund raises his pipe, sings, and offers asemaa. Even though, this year, the family collected far less ziinzibaakwadaaboo than is typically, they honor and appreciate this, knowing they could have none.

As Edmund and Jean place the last jars of zhiiwaagamizigan on their storage shelves, they pull out their nets preparing for fishing season. After that, preparations begin for their gitigaan (garden), followed by berry season, ricing season, and then hunting season.

For this family, living through the seasons does not mean circling a date on a wall calendar; but rather taking notice of plants and animals, paying attention to changes in the weather, and responding to nature's subtle signals announcing the time for harvest.

Fee-exempt camping at national forest campgrounds

As the warm weather approaches, camping becomes a favored activity. Through an agreement between participating GLIFWC member bands and the U.S. Forest Service, tribal members exercising treaty rights may camp for free and without length of stay restrictions for most campgrounds in the **Chequamegon-Nicolet, Ottawa, Hiawatha, and Huron-Manistee National Forests.**

Member bands that have ratified the agreement include Bad River, Bay Mills, Keweenaw Bay, Lac Vieux Desert, Red Cliff, and Sokaogan (Mole Lake). Member bands that have not yet ratified the agreement include Lac Courte Oreilles, Lac du Flambeau, Mille Lacs, and St. Croix.

Some fee-exempt campgrounds still maintain length of stay restrictions between June 15 and August 15. The Forest Service states that these campgrounds experience high visitation rates during these summer months. This provision will be periodically reviewed to ensure that these restrictions are not interfering with the exercise of treaty rights.

In addition, some campgrounds operated by concessionaires will not have fee or length of stay exemptions until the solicitation and awarding of new concessionaire contracts. Expiration dates for the existing contracts will continue until 2009.

For fee-exempt camping in National Forest campgrounds you must:

1. Be a member of a band that has ratified the Tribal/USFS Campground Agreement.
2. From your tribal conservation department or other person designated by your band, **obtain a tribal camping permit, the list of fee-exempt camp grounds, and the booklet entitled *Regulations Summary: National Forest Treaty Gathering and Camping.***
3. Follow the camping registration procedures at the campground. Generally, this involves providing information requested on a registration form or envelope.
   a. Indicate the number of days that you plan on camping on both the tribal camping permit and on the campground registration form.
   b. Instead of paying a fee, give the camping permit to the campground registration personnel or place the permit in the envelope.
4. Camp only at the campsite for which you have registered.

Birch bark harvest

The Chequamegon-Nicolet National Forest has prepared maps identifying proposed timber harvests locations. These maps may be of use to tribal members interested in gathering birch bark prior to the birch being cut.

Please be aware that GLIFWC has prepared other maps of areas not planned for timber harvest, but likely contain significant numbers of birch trees for tribal bark gathering. These maps were published in the Fall 2002 ***Mazina'igan*** supplement. Contact Karen Danielsen, GLIFWC, P.O. Box 9, Odanah, WI 54861, phone (715) 682-6619 ext. 125 or email kdaniels@glifwc.org if you would like copies of the proposed timber harvest maps or the ***Mazina'igan*** supplement.

Rolls of wiigwaas (birch bark). (Photo by Sue Erickson)

Emerald ash borer alert!

By Karen Danielsen
GLIFWC Forest Ecologist

Odanah, Wis.—The non-native emerald ash borer, *Agrilus planipennis* Fairmaire, continues its appalling decimation of ash trees in the United States and Canada. As reported in the spring 2004 edition of *Mazina'igan*, this insect originated from Asia and likely arrived in North America via Asian ash wood products used for stabilizing cargo in ships or for crating heavy consumer products.

Since its first detection in southeastern Michigan in May 2002, it has spread throughout Michigan, Ohio, Indiana and Ontario, Canada. It has even been detected in Maryland, apparently an isolated incident resulting from a shipment of nursery stock ash trees sent from Michigan in 2003.

The emerald ash borer attacks all ash species growing within the Great Lakes Region including aagimaak (black ash, *Fraxinus nigra* Marshall), baapaagimaak (white ash, *Fraxinus americana* Linnaeus), green ash (*Fraxinus pennsylvanica* Marshall), and blue ash (*F. quadrangulata* Michx.). The American mountain ash (*Sorbus americana* Marshall) is not a true ash and does not appear to be susceptible to this insect.

Ash trees rarely survive an infestation of emerald ash borer. In urban or suburban areas, individual healthy trees with low levels of infestation may potentially be saved using insecticides. But even then, the effectiveness of insecticides has not yet been conclusively determined.

Currently, in an effort to control the spread of this insect, government authorities in the United States and Canada have issued quarantines within affected areas on all ash trees and products, including firewood. Recognizing that the quarantine provides the main defense against these insects, violators may be fined and possibly serve time in prison.

Unfortunately, some citizens continue to transport ash wood, often as firewood, either through ignorance or outright defiance of the quarantine. Recently, the Michigan Department of Agriculture charged a tree removal company with multiple counts of intentionally violating the quarantine. The Department ordered the company to pay almost $9,000 in fines, court costs and restitution.

The emerald ash borer is responsible for millions of dollars of damage to ash trees in Michigan. The adult borer is a metallic, coppery-green color and one-third to one-half inch long. (Photo by David Cappaert, Michigan State University and courtesy of www.forestryimages.org)

In November 2004, the United States Department of Agriculture (USDA) Forest Service banned ash wood and all firewood, acquired from the quarantined areas, from being transported or used within Michigan's national forests.

Violators could face fines up to $5,000 or imprisonment for up to six months or both—this, in addition to state fines. If the actions of these violators results in the actual introduction of the emerald ash borer onto national forest lands, these violators may be charged for eradication efforts, potentially costing thousands of dollars.

In the meantime, researchers continue their search for methods to stop or minimize the devastation caused by this insect. Their studies entail measuring the effectiveness of various insecticides and exploring the potential use of biological controls (natural enemies of the emerald ash borer). Additional studies initiated in China have been providing a better understanding of the ecological parameters that limit the number and distribution of this insect.

Ash seed collection project

Though researchers have been working stubbornly with steadfast conviction, their progress has been dwarfed by the alarmingly quick spread of the emerald ash borer. Consequently, many people worry about the fate of ash trees in North America.

The potential impacts of this insect have been compared to those of the infamous Asian chestnut blight first detected in New York in the early 1900's. By the 1950's, most of the chestnut trees within eastern United States had succumbed to this fungus.

In response to a potential annihilation of ash trees, the Natural Resources Conservation Service (NRCS), Rose Lake Plant Materials Center, has entered into a non-funded cooperative agreement with the USDA Agriculture Research Service to facilitate the collection of ash seed throughout the Great Lakes Region for eventual long-term storage at the National Center for Genetic Resource Preservation Center.

In the event that the emerald ash borer cannot be eradicated or controlled, the stored seed could be used in the future, when appropriate, to restore ash populations. The coordinators of this project propose to establish a seed collection which adequately represents the genetic variability existing within the ash species of the Great Lakes Region.

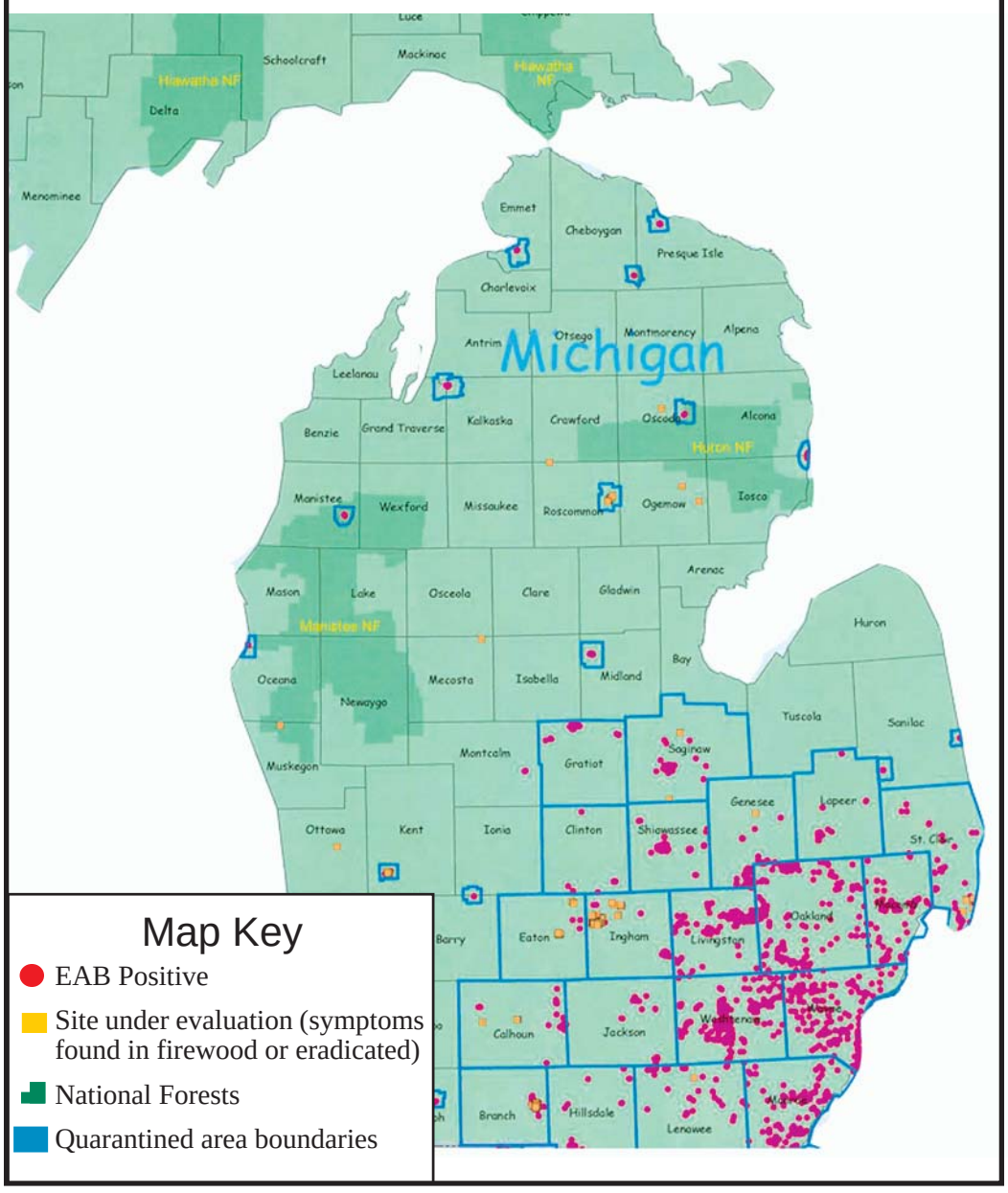
To accomplish this goal, NRCS has issued a request for volunteer seed gatherers. The agency asks that volunteers identify and mark ash trees during the spring and summer, then return the following autumn to collect seed.

Collections should occur from a number of ash trees within each population, resulting in a total of at least 500 seeds per population. A form, available from NRCS, should be completed that provides information on each collection including the date, location, collector's name, and ash species. The collected seed should be stored in a cloth or paper bag under cool, dry conditions until shipment to the Rose Lake Plant Materials Center.

Given the importance of ash trees to local tribes, the cooperative agreement between NRCS and the USDA Agricultural Research Service includes special provisions addressing sovereignty issues. For example, ash seed gathered from tribal lands will essentially belong to the respective tribal governments.

More information on this critically important project may be accessed at *www.mi.nrcs.usda.gov/programs/pmc.html*. If you are interested in being a volunteer seed collector, please contact John Leif at (517) 641-6300, john.leif@mi.usda.gov or Dave Burgdorf at (517) 641-7831, dave.burgdorf@mi.usda.gov.

Cooperative Emerald Ash Borer Project



Positive emerald ash borer sites in Michigan as of March 1, 2005. (Reprinted from na.fs.fed.us/fhp/eab/)

When the emerald ash borer emerges from its host tree, it creates a distinctive D-shaped exit hole. It's the damage caused by the larval form of the insect before emergence that kills the tree. (Photo by David R. McKay, U.S. Department of Agriculture's Animal and Plant Health Inspection Service and courtesy of* www.forestryimages.org*)

Annual spring lake trout surveys build long-term data base

Hancock, Mich.—Since 1959, standardized lake trout assessments have been done annually in U.S. waters of Lake Superior and since 2000 GLIFWC has been cooperating with tribal commercial fishermen and the Michigan DNR to carry out these assessments along the northwest side of the Keweenaw Peninsula. These assessments monitor long-term trends in lake trout biology and relative abundance over time.

Originally, these assessments were conducted in the spring of each year by licensed commercial fishermen under the auspices of the U.S. Bureau of Commercial Fisheries, a predecessor to today's U.S. Fish and Wildlife Service. As the number of commercial fisheries on Lake Superior declined, the assessments became routinely conducted by state fishery agencies using the same style of gill nets and methods as first implemented in 1959.

The assessment fisheries began at different points in time in each of the three U.S. political jurisdictions; first in Michigan and Wisconsin waters in 1959, then in Minnesota in 1963.

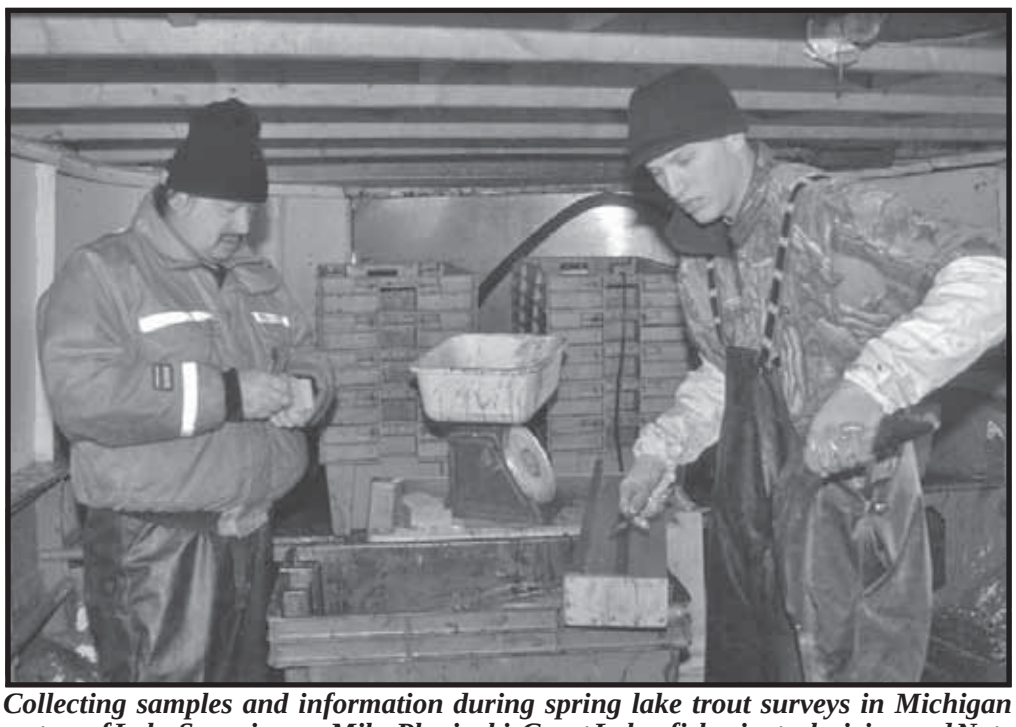
In 1984, the Red Cliff Fisheries Department began conducting spring assessments in western-Michigan waters and in 1991 the Keweenaw Bay Indian Community's Biological Resources Division began spring assessments within Keweenaw Bay.

In Ontario waters, spring assessments began in 1997 in eastern waters and have been expanded to more units since then.

Fisheries assessments conducted by commercial fishermen targeted lake trout with the standard gill nets, moving nets around to either follow or optimize their catches of lake trout.

As the state fishery agencies became more involved in the actual setting and lifting of the assessment gill nets, the lifts became treated as more standard index sites in the same general areas as when the commercial fisheries conducted the surveys. Currently, in each jurisdiction a specific number of lifts are made in each lake trout management unit at a specific number of pre-defined sites.

The general protocol for the assessment as given by the Lake Superior Technical Committee is to set multi-filament nylon gill nets, 6 feet high with a 4 1/2 inch stretched mesh, during the open water season from April through early June. The nets are set across contour, or down the bank, in 30 to 250 feet of water, at fixed locations around Lake Superior.



Collecting samples and information during spring lake trout surveys in Michigan waters of Lake Superior are Mike Plucinski, Great Lakes fisheries technician and Nate Bigboy, ANA fisheries technician. (Photo by Charlie Otto Rasmussen)

Agencies determine the appropriate number of nights between lifts and length of net to set as long as the catch-per-unit effort (CPUE) is reported in number of lean lake trout caught per 1,000 feet per night.

Biological information is taken from each captured lake trout, which includes; length, weight, sex, maturity, sea lamprey marking, stomach samples, and aging structures. Incidental catch and biological information from species other than lean lake trout are also recorded.

The information collected is fed into lake trout stock assessment models. These models determine the health of the fisheries by generating estimates of past fish abundance, and are used to predict future abundances of fish based on observed trends in growth, age, sea lamprey mortality, and fishery harvests.

Articles by Bill Mattes, GLIFWC Great Lakes Section Leader

Fishery managers hash-out harvest management issues in the Great Lakes

Detroit, Mich.—On April 20th fisheries managers from New York to Duluth convened at a workshop sponsored by the Great Lakes Fishery Commission, which was held in conjunction with the Council of Lakes Committee meeting. The theme of the workshop—fish harvest management in the Great Lakes. Some of the main topics of discussion were:

Fish harvest—or those fish people remove from the water, is one element in the life of a fish that people can manage or control. Other elements of a fish's life, such as food, predators, natural diseases, are less controllable or not controllable at all through human intervention.

Harvest policy—which governs the fish harvest by determining the acceptable fish harvest. Harvest policy is generally set once (or every once in a while), whereas acceptable fish harvest is generally determined more frequently (i.e. annually or once every 5 years). Most know "acceptable fish harvest" as bag limits, quotas, or TAC's (total allowable catches). Many harvest policies are based on the idea that there is a "maximum sustainable yield," others are based on rebuilding depleted populations, and yet others upon minimizing or eliminating harvest.

Maximum sustainable yield—the most common basis for harvest policy, sets the number of fish kept by fishers at the highest level possible without causing a continuous, or irreversible, decline in the number of fish over time.

Uncertainty—which, in fisheries management, includes such aspects as natural variation in the survival of young fish due to weather, only partially observing the fish during assessment work, and having only partial control of harvest. Harvest policies can choose to ignore uncertainty or account for uncertainty. The workshop presenters described approaches to setting harvest policies, harvest, and dealing with the uncertainty that is inevitably present, suggesting that a good approach to dealing with uncertainty is to develop tools that allow you to simulate the effects of "critical" uncertainties and forecast the range of possible outcomes under a given harvest policy.

State NRB designates land for purchase

Hope to improve stream-side habitat

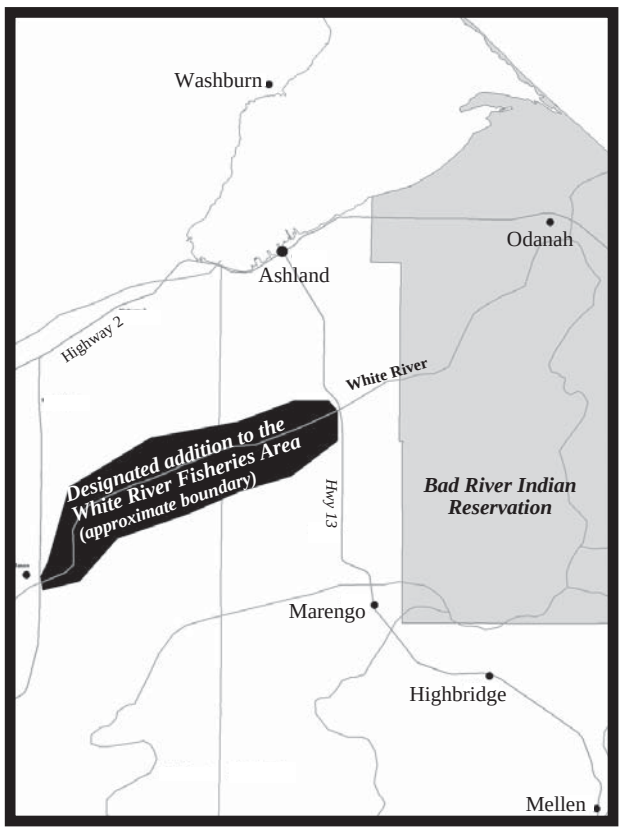
Ashland, Wis.—On April 6th the Wisconsin Department of Natural Resources (WDNR) met with area citizens to provide an avenue for participation in the unfolding and ongoing management efforts within the White River Fisheries Area in Bayfield and Ashland Counties.

In September of 2004, the WDNR Natural Resources Board (NRB) approved a 6,549 acre boundary expansion for the White River Fisheries Area, which came about in no small measure because dedicated citizens and organizations came together to advocate to the WDNR on behalf of the expansion, and then worked hard to make sure it was approved.

Local participants cited the initiative as an opportunity to improve stream-side habitat by controlling erosion, which will also improve the local fishing and the beauty and attraction of the river for canoeing as well as improving water quality in the White River downstream of the fisheries area.

The boundary expansion includes lands bordering the White River and connects the existing White River Fisheries Area, the Bibon Swamp Natural Area, and the White River Wildlife Area. A boundary expansion outlines lands which may be purchased by the state provided there is a willing seller.

Citizens present at the meeting included local landowners, local government, Trout Unlimited, and members of the Bad River Watershed Association.



The Wisconsin Department of Natural Resources Natural Resources Board approved a 6,549 acre boundary expansion for the White River Fisheries area. This boundary expansion includes lands bordering the White River and near the Bad River Reservation. (Map by Karen Danielsen)

AINL open to access on the ice by snowmobiles, ATVs

For access to destinations, not touring

By Sue Erickson
Staff Writer

Washington, D.C.—The pathway is clear for snowmobile and ATV use in the Apostle Islands National Lakeshore (AINL) to access destinations for largely non-motorized activities, such as ice fishing.

Up until a new rule became effective on April 1, 2005, it was illegal to use snowmobiles and ATVs within one-quarter miles of the islands in the AINL.

The National Park Service (NPS) recently adopted a final rule regarding the use of snowmobiles, off-road motor vehicles and ice augers or power engines within the AINL. The new rule designates areas on the frozen surface of Lake Superior as well as a route on the mainland unit for such use.

The areas designated include the ice surrounding every island from the shoreline out to the Lakeshore's one-quarter mile boundary, and the ice from Sand Point to the mainland unit's eastern boundary.

Motorized access ends at the shoreline of the islands. However, the route designated is the quarter-mile section of the Big Sand Bay Road that passes through the mainland unit to non-NPS property.

According to a NPS summary of the final rule, NPS determined that the uses authorized in the rule are consistent with the enabling legislation and will not impair the resources, values, or purposes for which the Lakeshore was established.

Snowmobiles and off-road motor vehicles have traditionally been used as transportation to a specific park location, where the user participates in a non-motorized recreational activity. When the user reaches his or her destination, the snowmobile or off-road motor vehicle is stopped and the engine turned off, minimizing noise, pollution, and other associated impacts. However, recreational touring, which is not allowed under this rule, would involve continuous or prolonged operation of a snowmobile or off-road motor vehicle, increasing noise, pollution, and other associated impacts.

Similarly, the ice auger is normally used one time during the day and then shut off, so has a minimum impact in terms of noise and pollution on the AINL resources, so is allowed under the final rule.

This designation of water surfaces and routes within the Lakeshore provides the public with the means to safely navigate around rough ice, cracks, pressure ridges and other dangerous ice conditions on Lake Superior. It facilitates traditional and lawful uses such as hunting, fishing and trapping while also providing shoreline access for winter camping, hiking, snowshoeing, skiing, and other non-motorized recreational activities within the AINL.

(Information taken from the NPS summary of the final rule and background summary.)

For further information contact: Jerry Case, National Park Service, 1849 C Street, NW., Room 7241, Washington, DC 20240. Phone: (202) 208-4206. E-mail: Jerry_Case@nps.gov.

Treaty harvest opportunity on AINL anticipated

GLIFWC staff and tribal representatives are currently working on the second interim agreement with the National Park Service that will once again provide treaty hunting, fishing and gathering opportunities for tribal members on the Apostle Islands National Lakeshore. The agreement will be similar to that which regulated the 2004-2005 treaty harvest on the Lakeshore and should be completed by August 2005.

For information on seasons and regulations contact Jonathan Gilbert or James Zorn at the GLIFWC main office at (715) 682-6619.

Tribal hatcheries released over 58 million fish in both on and off-reservation waters in 2004

Tribe Hatchery/Rearing Component	Walleye Fry	Walleye Fgl	Muskellunge Fry	Muskellunge Fgl	Whitefish/ Tullibee	Brook Brown Rainbow Trout**	Lake Trout	White Sucker	Total
Bad River	10,000,000	424,000							10,424,000
Grand Portage	70,000					90,500			160,500
Keweenaw Bay						68,700	90,000		158,700
Lac Courte Oreilles	2,100,000	1,175	10,000	121					2,111,296
Lac du Flambeau	9,500,000	341,384	390,000	250		19,390		3,800,000	14,051,024
Lac Vieux Desert	3,500,000	1,745							3,501,745
Leech Lake	10,974,000	207,269		356	610,497			3,535,000	15,327,122
Menominee	400,000*								400,000
Red Cliff	340,000	919				115,548			456,467
Red Lake	10,500,000								10,500,000
Sault Ste. Marie		658,463							658,463
St. Croix	246,849	289,228							536,077
White Earth		231,449							231,449
TOTALS	**47,630,849**	**2,155,632**	**400,000**	**727**	**610,497**	**294,138**	**90,000**	**7,335,000**	**58,516,843**

Fish produced or obtained by the U.S. Fish & Wildlife Service

****Total number of one or combination of trout species***

Fishery managers prepare to step-up effort to reduce growing lamprey numbers

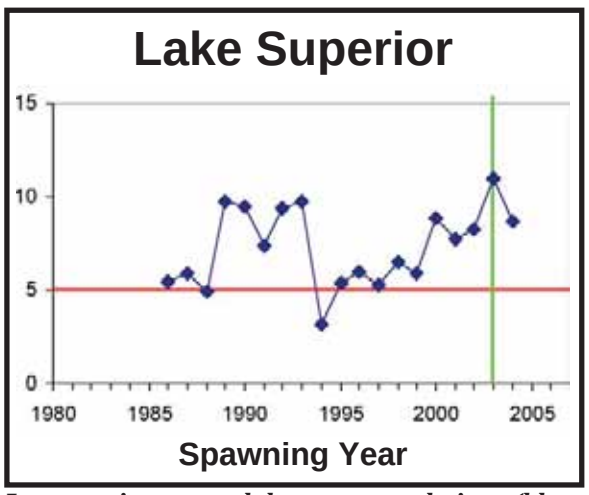
Odanah, Wis.—Pinkish and raw, they appear in different shapes along the flank of lake trout. Sometimes occurring as a near-perfect circle with a serrated inner edge, the scars may also run the length of fish's body, an uneven line of exposed flesh. These wounds from parasitic sea lamprey attacks are often fatal and continue to take a high toll on the Lake Superior fishery, particularly lean lake trout.

In response, Lake Superior fisheries managers are preparing to step-up efforts to trim lamprey numbers using the lethal chemical known as TFM or triflouromethyl nitrophenol. Biologists have utilized the proven lampricide for decades on Lake Superior tributaries where the eel-like parasites spawn and their larval offspring burrow into the streambed.

"Liquid TFM is measured out into streams just before the metamorphosis of larvae into adult lamprey," said GLIFWC Great Lakes Biologist Bill Mattes. "The TFM causes a general collapse of blood circulation which leads to suffocation, killing larvae before they can swim to Lake Superior and begin feeding on fish."

Fisheries professionals in portions of Canada's Lake Superior waters plan to apply an alternative lampricide known as Bayer outside of river systems where larval lamprey are living in the lake bed. Biologists consider Bayer more effective in lakes than TFM, filtering through the sand bottom directly to areas that contain larval lamprey. Larvae spend three to eighteen years living underneath the waters of Lake Superior and its tributaries before emerging.

Lampricide is applied to streams in late summer, when adult lake sturgeon occupy the lower reaches of large rivers or in Lake Superior. By late-August juvenile lake sturgeon have grown to a size where they are more resistant to TFM and are most likely in back-water and slough areas in the lower river.



Lamprey impact on lake trout populations (blue diamonds) remain well above the target level (shown by red line) set by fishery managers on Lake Superior. (Graphic submitted by Gavin Christie, Great Lakes Fishery Commission)

In addition, lampricide used in streams with lake sturgeon populations is applied so that it is just above the 'minimum lethal level' for sea lamprey—that level at which sea lamprey succumb to lampricide. This kills over 90% of the larval lamprey.

In streams without lake sturgeon, higher levels of lampricide are applied so that as the lampricide moves downstream and mixes with the water, it remains well above the minimum lethal level and destroys all the larval lamprey it comes in contact with.

Great Lakes Fishery staff pulls a sea lamprey cage trap at the Bad River Falls. Nate Bigboy, Travis Neebing, Tony Gilane and other fishery staff travel to this remote stretch of the Bad River each weekday throughout the spring to conduct spawning lamprey assessments.

Lamprey on the Bad

Along with the U.S. Fish & Wildlife Service (USFWS), GLIFWC is a partner in the binational Sea Lamprey Control Program—a division of the Great Lakes Fishery Commission. GLIFWC and USFWS coordinate lamprey study efforts on south shore tributaries of Lake Superior and conduct annual assessments during the spawning run each spring.

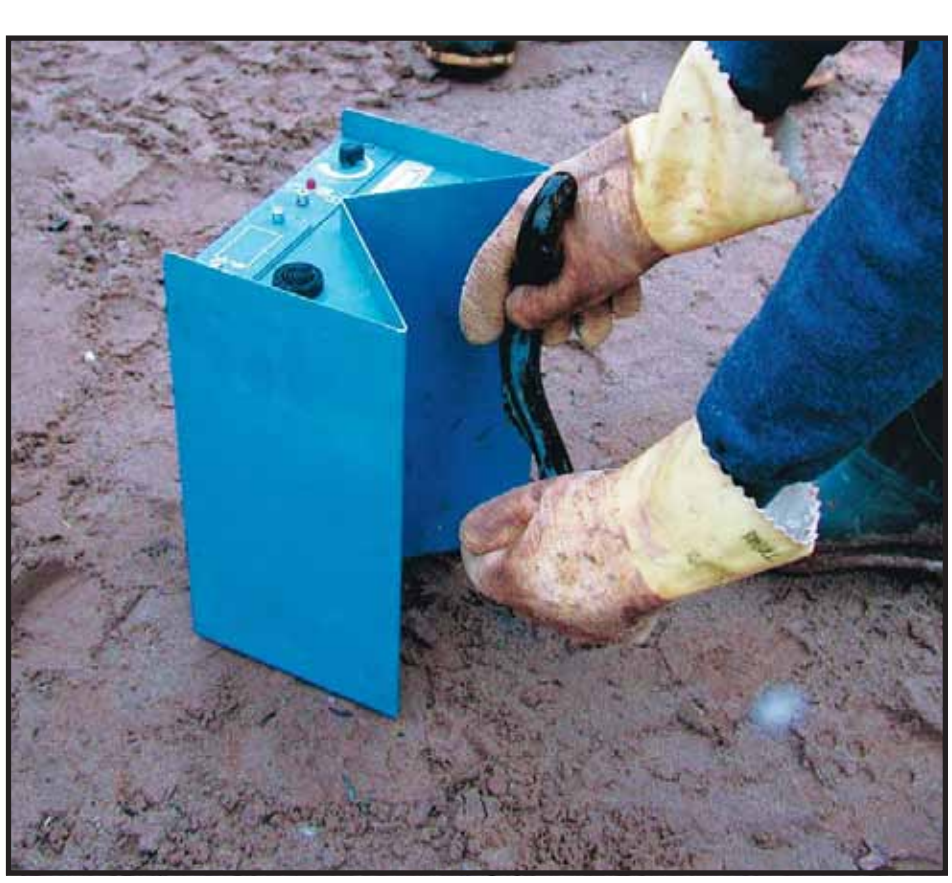
On the Bad River in northern Ashland County, GLIFWC Great Lakes fishery aides are capturing migrating lamprey in steel mesh box traps through early July.

Strategically placed just below passages in the Bad River Falls, the traps help biologists determine trends in the overall sea lamprey population. Estimates are figured by mark-and-recapture analysis—a process of "marking" lamprey by clipping the dorsal fin, returning them to the river downstream, and recording how many clipped lamprey show up again.

GLIFWC technicians also swipe captured lamprey past a coded wire tag reader—a shoebox-sized device that detects tiny encrypted tags implanted in lamprey by the USFWS. The tags are a high-tech, but experimental, method to track sea lamprey numbers.

For more information contact Bill Mattes, GLIFWC (715) 682-6619 ext. 120 or e-mail bmattes@glifwc.org.

Lamprey captured on the Bad River are fin-clipped and released downstream as part of population assessments on the Lake Superior tributary.



GLIFWC fishery aides pass lamprey over a U.S. Fish & Wildlife Service coded wire tag reader to determine the presence of an embedded tag.

Article and photos by
Charlie Otto Rasmussen, Staff Writer

Burning topics: wild parsnip & giant hogweed

By GLIFWC Staff

Odanah, Wis.— You may have heard or read recently about two non-native plants found in our area. Both are members of the parsley family, known to botanists as the Apiaceae (formerly the Umbelliferae). Both are introduced species that can potentially disrupt natural habitats. Both are easy to recognize once you become familiar with them. And both can cause unpleasant health problems if you happen to run into them on a sunny day.

The first of these plants is wild parsnip (*Pastinaca sativa*), known in the Ojibwe language as *pigwe'wunusk*.

Wild parsnip is the ancestor of the common garden parsnip. Both belong to the same species and can freely interbreed.

The garden parsnip has been grown as a food crop in Europe since the days of the Roman Empire. It was brought to North America in 1609, with the first permanent European settlement in North America, at Jamestown, Virginia. Later introductions of both the wild and the cultivated forms undoubtedly occurred as well, both as a contaminant in crop seeds and as a food crop.

Wild parsnip soon escaped from agricultural areas to spread across most of the US and southern Canada. It is now a common weed along roadsides, in fields and in pastures across the Lake Superior region.

Wild parsnip has a life history similar to many other parsley family plants. It is a monocarpic perennial, meaning that it flowers for only one summer and then dies. The seedlings and immature plants form a circular cluster of leaves close to the ground, called a rosette. These immature plants regenerate each spring from the underground taproot, increasing in size each year.

After 2 or 3 years (rarely longer), they become large enough to reproduce. They go through one more winter, then bolt and flower the following spring. By late summer or early fall these plants have produced seeds and died.

Most wild parsnip seeds wait until early the next spring to germinate, though germination may occur at low levels nearly throughout the growing season.

Even though the survival rate of these seedlings is low, the plants that do survive to maturity produce so many seeds that populations can quickly increase and spread in favorable habitats.

Despite rumors to the contrary, wild parsnip roots are not poisonous, though they are usually considered inedible. Disagreement on their edibility may be the result of some populations being derived partly from garden parsnip.

Flat-topped flowerheads of wild parsnip. (GLIFWC photo)

Ripening seeds of wild parsnip. (GLIFWC photo)

Warning

Several members of the parsley family, such as the native water hemlock or *abagwasi'gans* (*Cicuta maculata*), are extremely poisonous, and can be deadly if eaten even in small doses.

Wild plants should never be eaten unless you are absolutely sure you know what the plant is, and that it is safe to eat!

What should you do if you have been exposed to the juice of wild parsnip?

Washing the exposed area can help, but since the chemicals are lipid-based and are quickly absorbed into the skin, they are usually not completely removed.

In order to get burned, though, your skin must also be exposed to sunlight. Burning can take place after as little as 10 minutes in the sun. The longer the exposure to the sun, the more severe the burning and blistering is likely to be. But if you are able to immediately protect the affected area from the sun's rays with clothing, or head inside for the rest of the day, the risk of photochemical burns is greatly reduced or eliminated.

Health effects:

Furanocoumarins, chemical photosensitivity & photodermatitis

Things can really heat up when you combine the clear, watery "sap" of wild parsnip and some of its relatives with sunshine. The sap of wild parsnip, along with hogweed and certain other members of the parsley family (including parsley and celery!) contain chemicals called linear furanocoumarins, commonly known as psoralens.

When these linear furanocoumarins are absorbed into the skin, they cause the skin to lose its resistance to ultraviolet rays (a condition called photosensitivity). Subsequent exposure to the sunlight quickly results in skin damage (photodermatitis), although this damage may take a day or two to show up. These burns range from mild reddening and itching to severe reddening and blistering, depending on how much sap has infiltrated the skin, the sun's intensity, and the length of time the affected area is exposed to the sun. Even after the burns heal, the affected area can remain darkened and discolored for up to a year or more. This condition is called hyperpigmentation.

The photochemical burns from parsnips are different than the rash caused by contact with poison ivy or *animikiibag* (*Toxicodendron radicans*) and its relatives. While the rash from poison ivy is due to an immune reaction to the oils it produces, and is independent of sunlight, the burns from wild parsnip and certain other parsley family members are basically due to sunburn! This is why some people may be "resistant" to poison ivy, but no one is resistant to burns from wild parsnip and its relatives.

Interestingly, by measuring the amounts of furanocoumarins produced by various parsley family plants, researchers have found that as a rule only parsley family members that inhabit open areas such as prairies and wetlands produce furanocoumarins.(Queen Anne's lace and its cultivated form, the carrot, grow in open habitats but do NOT produce furanocoumarins.) Furanocoumarins are toxic to insects that might eat these plants, but only in sunlight. Therefore woodland species generally don't produce furanocoumarins, because doing so would not protect them from insects anyway. Animals with exposed skin are also susceptible to furanocoumarins and photochemical burns.

What should you do if you have been exposed to the juice of wild parsnip? Washing the exposed area can help, but since the chemicals are lipid-based and are quickly absorbed into the skin, they are usually not completely removed. In order to get burned, though, your skin must also be exposed to sunlight. Burning can take place after as little as 10 minutes in the sun. The longer the exposure to the sun, the more severe the burning and blistering is likely to be. But if you are able to immediately protect the affected area from the sun's rays with clothing, or head inside for the rest of the day, the risk of photochemical burns is eliminated.

The photosensitizing effect of the furanocoumarins peaks after about 1 1/2 to 2 hours, and then diminishes fairly rapidly after that. Anecdotal evidence suggests that exposure to sunlight the day after contact with parsnip juice will result in only slight burning. Previously burned skin heals very slowly, though, and may remain hypersensitive to sunlight for several months or even longer.

In North America wild parsnip's only significant enemy is the parsnip webworm (*Depressaria pastinacella*). This European insect, really not a worm but a moth caterpillar, was accidentally introduced to North America over 100 years ago. It hatches in early spring, and begins feeding on the growing shoot tips and then the newly forming seeds.

As it grows, it spins a web that helps protect it against predators. It is able to feed on wild parsnip because it can break down the furanocoumarins, which are highly toxic to other insects. The parsnip webworm has probably limited the abundance and spread of wild parsnip in North America to some degree, but has certainly not suppressed it entirely.

Wild parsnip leaves. (Photo by Chris Evans, The University of Georgia, www.forestryimages.org)

Wild parsnip's big brother arrives

Recently, a new invader has shown up in the northwoods. Giant hogweed (*Heracleum mantegazzianum*) is native to the Caucasus Mountain region of eastern Europe and western Asia. It is a close relative of the native cow parsnip, or *bibigwewanashk* (*Heracleum lanatum*). It is sometimes cultivated by gardeners who want something unique to grow, and who may be unaware of the potential environmental problems and health risks associated with this plant.

First brought to the eastern United States in the early 1900s, it has recently been reported from the Ironwood, Michigan and Hurley, Wisconsin area. So far nearly all the known patches of giant hogweed in this area are in and around backyards, where they were originally planted by homeowners.

Spring patch of giant hogweed in Ironwood, Michigan. Note the very large deeply cut leaves (inset photo). (Photos courtesy of Ottawa National Forest)

Giant hogweed is potentially a much bigger problem than wild parsnip, and in more ways than one. It is probably the largest herbaceous plant in the world. Flowering plants can reach an amazing 15 feet tall, with basal leaves up to 5 feet wide and 10 feet long. Numerous white flowers are produced in flat-topped umbels reaching nearly 2 feet across. The stalks are hollow, blotched with reddish-purple, and may reach 4 inches in diameter.

Giant hogweed flower in Massachusetts. (Photo reprinted from www.mass.gov/agr/pestalert/)

Like wild parsnip, giant hogweed is basically a monocarpic perennial. It is difficult to kill, though, partly because (unlike most monocarpic perennials) the roots are capable of producing side shoots that can grow into new plants.

Giant hogweed is a much more aggressive and tenacious plant than wild parsnip, particularly on moist soils. In eastern North America it has escaped cultivation to overrun streambanks and wetland edges, woods edges, and other natural habitats.

Its phototosensitizing effect is at least as potent as wild parsnip's, with large, painful blisters often resulting from contact with this plant.

In severe cases permanent scarring and even blindness have resulted from contact with the sap of giant hogweed.

Burns caused by giant hogweed. Unaware of the photosensitizing effects of hogweed sap, this man was battling a patch in his backyard while wearing shorts. (Photo courtesy of Ottawa National Forest)

Don't mistake these native look-alikes for wild parsnip or giant hogweed!

Zizia

Our two species of zizia or Golden Alexanders can easily be mistaken for wild parsnip. The lower leaves of common zizia (*Zizia aurea*) are 2 times three-parted (that is, three sets of threes), whereas the upper leaves are once 3-parted. The less common meadow zizia's (*Z. aptera*) leaves are entire (not lobed at all).

Both of these plants produce flat-topped clusters of bright golden-yellow flowers. Despite the name "meadow" zizia, both plants are basically woodland species and do not produce furanocoumarins.

Common zizia in full bloom. (Photo: biology.smsu.edu/.../Flowers/Zizia%20aurea.jpg)

Cow parsnip

Cow parsnip is closely related to giant hogweed, but is a smaller plant, typically reaching about 4-6 feet tall. Unlike giant hogweed and wild parsnip, cow parsnip is a true perennial, with mature plants producing seeds for several years.

Cow parsnip does produce furanocoumarins, and precautions should be taken around this plant as well. Ironically, parts of this plant were used in traditional Ojibwa medicine, to treat various skin ailments.

Purplestem angelica

Purplestem angelica (*Angelica atropurpurea*) might also be mistaken for giant hogweed. This impressive monocarpic perennial (to 9 ft tall) is more common south of the ceded territory but does occur in some of the larger wetlands and floodplains in the Lake Superior region, including along the Fish Creek slough in Ashland County, Wisconsin.

Its leaves are more dissected than cow parsnip or giant hogweed leaves, and the stem is evenly dull reddish-purple (not purple-spotted and blotched). It differs from giant hogweed (and cow parsnip) in that its white flowers are in rounded instead of flat umbels. Purplestem angelica also produces furanocoumarins.

(See What to do, page 22)

Cow parsnip in flower. (Photo by Dave Powell, USDA Forest Service)

Purplestem angelica. (Photo by R. Freckmann, UW-Stevens Point)

GLIFWC puts out new, improved "mercury in ogaa (walleye)" maps

Odanah, Wis.—Available at GLIFWC's on-reservation satellite stations or the main office in Odanah, the 2005 mercury in ogaa maps illustrate the most recent information on mercury levels in ogaa from lakes commonly used by tribal members and feature a new design.

The new and improved maps are a result of suggestions received from the tribal public on how to make the maps more helpful and easier to use. Adam Deweese, GLIFWC environmental biologist, incorporated those ideas into the 2005 edition.

Information from the 2004 mercury testing results has been incorporated, and the backside shows a listing of the lakes that are portrayed on the map with a color-coded read-out stating explicitly how many meals a month of fish in each lake is deemed safe to consume. (See sample below for number of walleye meals per month for lakes harvested by Lac du Flambeau.)

The "number of meals per month" recommendations are for two categories of people: Women of childbearing age and children less than 15 or Women beyond childbearing years and men 15 years and older.

Native people have always relied on fish as part of a traditional and healthy diet. Fish is a food rich in omega-3 oils that are beneficial for a healthy heart. However, today, due to mercury contamination, it is wise to select fish with lower levels of mercury. Smaller fish, 20 inches or less, are preferable to larger fish. Unlike other contaminants in fish, mercury cannot be removed by trimming or cooking methods.

For more information contact GLIFWC at 1-800-250-7574. To learn more about mercury in ogaa, visit GLIFWC's website at *www.glifwc.org/bio/mercury/htm*.

Using this chart to find safer giigoonh (fish)

Maximum number of meals per month

Advice is for all lakes combined. For example, if you eat four meals in a month from green lakes you should not eat any other meals of ogaa in that month.

Meal size

Meal size is based on 8 ounces. An average 19 inch ogaa will have 8 ounces of meat. If your meal size is larger you should eat fewer meals of ogaa. If it is smaller, you can eat more meals of ogaa.

Other giigoonh

Gigoonh such as muskellunge, largemouth bass, smallmouth bass, and northern pike will have more mercury than giigoonh such as lake whitefish, herring, bluegill, sunfish, crappie or perch. Try to choose safer giigoonh.

Sorting and labeling ogaa prior to freezing

When cleaning ogaa:

- Put ogaa under 20 inches in bags labeled "under 20 inches."
- Put ogaa over 20 inches in bags labeled "over 20 inches."
- Label bags with the lake name.
- Follow the advice below for maximum number of meals per month.

LAKE	COUNTY	Women of childbearing age and children less than 15: Maximum number of meals per month	Women beyond childbearing years and men 15 and older: Maximum number of meals per month
ALDER L	VILAS	1	4
AMIK L	PRICE	Not Enough Information	
ANVIL L	VILAS	2	4
BALLARD L	VILAS	1	2
BEARSKIN L	ONEIDA	2	8
BIG ARBOR VITAE L	VILAS	2	8
BIG CARR L	ONEIDA	1	4
BIG CROOKED L	VILAS	Not Enough Information	
BIG EAU PLEINE RES	MARATHON	1	2
BIG L (BOULDER JCT)	VILAS	1	4
BIG L (MI BORDER)	VILAS	2	8
BIG MUSKELLUNGE L	VILAS	1	4
BIG PORTAGE L	VILAS	1	4
BIG SAND L	VILAS	1	4
BIG ST GERMAIN L	VILAS	2	8
BIRCH L	VILAS	0	2
BLACK OAK L	VILAS	1	4
BLUE L	ONEIDA	Not Enough Information	
BOOM L	ONEIDA	1	4
BOOTH L	ONEIDA	1	4
BOULDER L	VILAS	1	4
BUCKSKIN L	ONEIDA	1	4
BUTTERNUT L	FOREST	2	8
BUTTERNUT L	PRICE	1	2
CARROL L	ONEIDA	2	8
CATFISH L	VILAS	1	4
CLEAR L	VILAS	2	8
CLEAR L	ONEIDA	1	4
CRAB L	VILAS	1	2
CRANBERRY L	VILAS	1	4
CRESCENT L	ONEIDA	2	8
DAM L	ONEIDA	1	2
DEAD PIKE L	VILAS	0	2
DUROY L	PRICE	1	4
EAGLE L	VILAS	1	4
ESCANABA L	VILAS	Not Enough Information	
FAWN L	VILAS	Not Enough Information	
FISHTRAP L	VILAS	1	4
FOREST L	VILAS	1	4
FRANKLIN L	FOREST	2	8
GEORGE L	ONEIDA	2	4
GILE FL	IRON	0	2
GILMORE L	ONEIDA	1	4
HARRIS L	VILAS	1	4
HASBROOK L	ONEIDA	1	4
HIGH L	VILAS	1	4
HORSEHEAD L	VILAS	Not Enough Information	
HUNTER L	VILAS	Not Enough Information	
INDIAN L	ONEIDA	2	4
ISLAND L	ONEIDA	1	4
ISLAND L	VILAS	1	4
JAG L	VILAS	0	1
JULIA L (THREE LAKES)	ONEIDA	0	2
KATHERINE L	ONEIDA	1	4
KAWAGUESAGA L	ONEIDA	1	4
KENTUCK L	VILAS	1	4
L CHIPPEWA	SAWYER	1	4
L LAURA	VILAS	1	4
L MOHAWKSIN	LINCOLN	0	2
L OF THE FALLS	IRON	Not Enough Information	
L THOMPSON	ONEIDA	1	2
LAC SAULT DORE	PRICE	2	4
LAC VIEUX DESERT	VILAS	2	8
LITTLE ARBOR VITAE L	VILAS	2	8
LITTLE CROOKED L	VILAS	Not Enough Information	
LITTLE FORK L	ONEIDA	0	2
LITTLE JOHN L	VILAS	Not Enough Information	
LITTLE STAR L	VILAS	1	4
LITTLE TROUT L	VILAS	1	4
LONG L	PRICE	1	4
LONG L	VILAS	1	4
LOST L	VILAS	2	8
LOWER BUCKATABON L	VILAS	Not Enough Information	
LYNX L	VILAS	0	2
MADELINE L	ONEIDA	Not Enough Information	
MAMIE L	VILAS	1	4
MANITOWISH L	VILAS	1	4
MANSON L	ONEIDA	1	4
MEDICINE L	ONEIDA	1	4
MERCER L	IRON	Not Enough Information	
MILLE LACS L	MILLE LACS	2	8
MINOCQUA L	ONEIDA	2	4
MOEN L	ONEIDA	0	1
MUSKELLUNGE L	ONEIDA	1	4
MUSSER L	PRICE	0	2
N NOKOMIS L	ONEIDA	1	2
N TURTLE L	VILAS	1	2
OXBOW L	VILAS	0	2
PALMER L	VILAS	1	4
PAPOOSE L	VILAS	1	2
PELICAN L	ONEIDA	2	4
PICKEREL L	ONEIDA	1	4
PICKEREL L	VILAS	Not Enough Information	
PIKE L	PRICE	1	4
PIONEER L	VILAS	1	2
PLUM L	VILAS	1	4
PRESQUE ISLE L CHAIN	VILAS	1	4
RAINBOW FL	ONEIDA	1	2
RAZORBACK L	VILAS	1	4
REST L	VILAS	1	4
RHINELANDER FL	ONEIDA	Not Enough Information	
RIB L	TAYLOR	1	4
RICE R FL CHAIN	LINCOLN	1	4
ROUND L	PRICE	0	2
ROUND L	VILAS	Not Enough Information	
S TURTLE L	VILAS	0	2
SAND L	ONEIDA	0	2
SCATTERING RICE L	VILAS	Not Enough Information	
SHERMAN L	VILAS	1	4
SHISHEBOGAMA L	ONEIDA	2	8
SNIPE L	VILAS	0	2
SOLBERG L	PRICE	0	2
SPARKLING L	VILAS	2	4
SPIDER L	VILAS	1	2
SQUASH L	ONEIDA	1	4
SQUAW L	VILAS	1	2
SQUIRREL L	ONEIDA	1	4
STAR L	VILAS	2	4
STONE L	VILAS	Not Enough Information	
TENDERFOOT L	VILAS	1	4
TOMAHAWK L CHAIN	ONEIDA	1	4
TROUT L	VILAS	1	4
TRUDE L	IRON	0	2
TURNER L	PRICE	1	4
TURTLE-FLAMBEAU FL	IRON	0	2
TWIN L CHAIN	VILAS	2	4
TWO SISTERS L	ONEIDA	1	4
UPPER BUCKATABON L	VILAS	1	2
WATERSMEET L	VILAS	Not Enough Information	
WHITE BIRCH L	VILAS	0	2
WHITE SAND L	VILAS	2	8
WILD RICE L	VILAS	1	4
WILDCAT L	VILAS	Not Enough Information	
WILLOW FL	ONEIDA	0	2

Most Lake Superior fish, particularly herring & whitefish, low in dioxins/ furans, GLIFWC study shows

By Matt Hudson, GLIFWC Environmental Biologist

Odanah, Wis.—A recent study completed by GLIFWC biologists measured dioxin and furan (DF) levels in fillet tissues of the largest, common, tribally harvested sizes of lake herring, whitefish, lake trout, siscowet trout, and lake sturgeon from Lake Superior. The study was conducted as part of GLIFWC's ongoing efforts to provide information on contaminant levels in Lake Superior fish and help tribal members make choices to reduce their exposure to contaminants present in fish.

In general, the results from this study show that the Lake Superior fish tested, with the exception of siscowet trout, have low levels of DF compared to the same fish from other Great Lakes. All lake herring, lake sturgeon muscle tissue, and whitefish muscle tissue DF concentrations were below even the strictest trigger levels currently used by jurisdictions around Lake Superior in developing DF fish consumption advisories.

Lake trout muscle tissue was only slightly above the strictest levels and siscowet trout muscle tissue would be below any "do not eat" consumption levels. From a commercial fishing standpoint, unlike with other contaminants such as mercury and PCBs, the United States Food and Drug Administration (FDA) does not issue a single, uniform trigger level for DF that regulates the sale of fish commercially.

Overall findings

1. All lake herring, lake sturgeon muscle tissue (i.e. a fillet with skin and fatty tissue removed), and whitefish muscle tissue DF concentrations were below even the strictest trigger levels used by jurisdictions around Lake Superior to set DF fish consumption advisories.
2. Concentrations varied depending on the species of fish tested. Fish lower in the food chain such as lake herring and whitefish had lower concentrations than top predators such as lake trout and siscowet trout.
3. Trimming fillets and removing skin significantly reduced DF concentrations (Table 1).
4. In general, DF levels in Lake Superior fish were lower than in the same fish from other Great Lakes.

What are dioxins and furans?

Dioxins and furans (DF) are a group of chlorinated organic chemicals or "congeners" that have been linked to health problems such as cancer and developmental and reproductive disorders. There are over 200 different DF congeners, but only 17 are considered toxic enough to be of concern from a human health perspective. Unlike other common chlorinated organic chemicals such as PCBs and DDT, DF have never been manufactured intentionally for any industrial purpose. DF are most commonly formed through incomplete combustion of waste or as by-products of certain paper manufacturing or wood treating processes.

Upon being emitted to the atmosphere, most commonly through open burning of garbage in barrels, DF can be transported long distances before they are deposited by rain, dust, or air exchange to the land and water. Once deposited, DF congeners, like other chlorinated organic contaminants, are bioaccumulated through the food chain and can potentially reach concentrations in fish that are of a health concern to humans and wildlife that consume the fish.

Project design

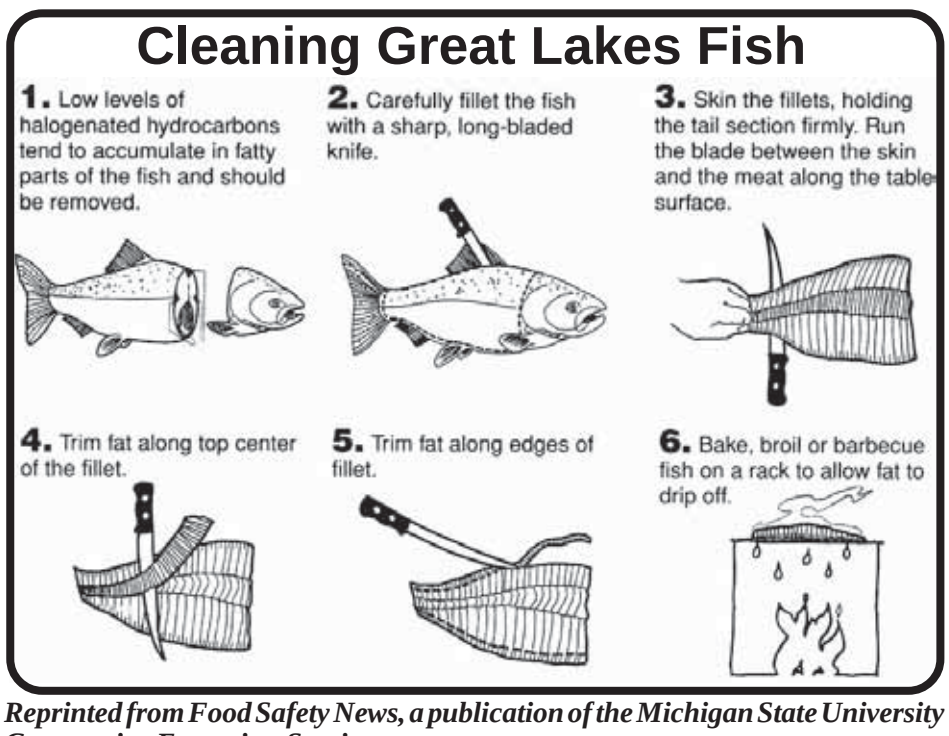
Frozen, archived Lake Superior fish tissue samples collected during a GLIFWC's 1999 Administration for Native Americans (ANA) grant were analyzed for the 17 most toxic DF congeners at a lab in North Carolina that specializes in DF analysis. The species of fish analyzed were among the largest common tribally harvested sizes of lake herring (15-17 inches), whitefish (22-24 inches), lake trout (25-26 and 27-28 inches), and siscowet trout (24.5-25.5 inches). Juvenile lake sturgeon (19-39 inches) were also analyzed. In general (except for sturgeon), 10-12 fish within these size groups were composited together.

For most groups of fish, fillets were segmented into skin, fatty tissue, and muscle in order to give an idea of whether removing skin and trimming away fatty tissue would reduce DF concentrations. The resulting concentrations of DF congeners measured in each sample were multiplied by a "toxic equivalency factor" or "TEF" in order to evaluate the results for human health purposes.

TEFs are the standard way to relate concentrations of individual DF congeners to the most toxic congener of the group, 2,3,7,8-TCDD. The TEF values for each congener are then added together to give a "toxic equivalent" concentration or "TEQ" that gives scientists a way to better assess the potential toxicity of the DF congeners that are present in the sample. TEQs can be calculated in several different ways and are used by public health professionals to set fish consumption advisories and give a way to compare DF levels between different species of fish and types of food. The DF "levels" referred to in this article are the TEQ concentrations.

Species	Untrimmed Skin-on Fillet	Muscle	Dioxin/Furan Reduction
Lake Whitefish	1.3	0.42	68%
Lake Trout	3.0	1.7	43%
Lake Trout	2.9	1.5	48%
Siscowet Trout	19	6.2	67%

Table 1. Percentage reduction in total toxic equivalency (TEQ) concentration due to removal of skin and fat tissue from the fillets of three fish species.



Reprinted from Food Safety News, a publication of the Michigan State University Cooperative Extension Service.

Results and what do they mean?

The results from this study show that Lake Superior fish generally have lower fillet tissue DF concentrations than the same fish from other Great Lakes. Lake herring, whitefish muscle tissue, and lake sturgeon muscle tissue had the lowest concentrations and were all below even the strictest trigger levels currently used by jurisdictions around Lake Superior in developing DF fish consumption advisories.

The science of fish consumption advice based on DF levels is continually evolving and has received much more attention in recent years as methods for analysis, toxicity data, and actual number of samples analyzed has improved. At present, most fish consumption advice around Lake Superior is based on other contaminants such as PCBs, mercury, and toxaphene because concentrations of these compounds have been of greater concern. However, as we gain more information on DF toxicity and levels in the environment, the trend has been toward stricter consumption advice.

While the news on DF levels in Lake Superior fish is generally good, it is important to keep in mind that exposure to these and other contaminants in fish pose a potential health risk, particularly to children under the age of 15 and pregnant women or women planning to become pregnant. Rather than getting hung up on what any one jurisdiction might say is a safe level of DF in fish, keep in mind that Lake Superior fish are generally low in DF compared to the same fish from other Great Lakes. Lake Superior fish are known to be a healthy source of protein rich in beneficial Omega-3 fatty acids known to reduce the risk of heart disease.

Tips for reducing your exposure to DF

Following the same general guidelines used to reduce your exposure to other organic contaminants, such as PCBs and DDT, also apply to DF. Because DF levels are generally related to the length of the fish, choose smaller fish and choose Lake Superior fish such as lake herring and whitefish that have lower DF levels.

Removing the skin and fatty tissue from fillets and cooking fish in a manner that allows fat to drip away from the fillet, such as broiling or grilling, are further ways to reduce exposure and still be able to enjoy the health benefits of consuming Lake Superior fish. However, keep in mind that trimming fillets reduces organic contaminants like DF, PCBs, and pesticides, but not mercury. Mercury binds to the muscle tissue and cannot be removed by trimming.

Trimming skin and fatty tissue reduced lake whitefish DF concentrations by 68% and lake trout by up to 48% (see Table 1). Trimming fillets also reduces contaminants like PCBs and pesticides, but not mercury, which binds to the muscle tissue.

The full report and study data are available on GLIFWC's web site at: *www.glifwc.org/bio/Dioxin_Concentrations_Lake_Superior_Fish.pdf* or by contacting Matt Hudson, GLIFWC Environmental Biologist at: 715-682-6619.

Don Wedll recognized for environmental stewardship

By Vivian Clark
Mille Lacs Messenger

Don Wedll. (Photo by Amoose)

From his humble beginnings growing up on a farm near Elizabeth, Don Wedll has always been a steward for the environment.

During a ceremony held in Chicago March 3, he was presented the Taimi Lynne Hoag Award for environmental stewardship in recognition for his more than 30 years of work in preserving the natural resources for the Mille Lacs Band of Ojibwe and other Native American tribes across the country.

The United States Environmental Protection Agency (EPA) Region 5 Indian environmental office sponsors the award, which recognizes significant contributions to environmental management and stewardship by a tribal leader, manager or staff person.

Wedll has worked for the Band in several capacities for 31 years. He was the commissioner of natural resources for 20 years and served on the EPA's national and regional tribal operations committees.

Wedll is a board member for the Lake Mille Lacs Association and a member of the Minnesota Lakes Association. Other accomplishments include his contributions to the U.S. Fish and Wildlife initiatives to ban lead shotgun shells for hunting on tribal, state and federal lands. He also contributed environmental and historical information and insight for the Garrison Kathio West Mille Lacs Lake sanitary sewer district combining with the Band for the regional wastewater treatment program.

His list of accomplishments continues as Wedll continues to work on issues concerning the environment by beginning a program to protect local air quality and a conservation code that guides the Band's fishing and hunting activities in an effort to preserve Mille Lacs Lake and other natural resources.

Wedll has been involved with the state and federal government programs on many levels. He contributed to forming one of the first archeological protection agreements among other efforts.

"No single person in the modern history of the Mille Lacs Band has done more to protect and preserve our natural resources, as well as those of other tribes," said Mille Lacs Band Chief Executive Melanie Benjamin. "I am happy to see him recognized for this honor."

Wedll said numbers have always intrigued him and he wanted to be a mathematician. He attended Moorhead State University and earned a bachelor of arts degree in theoretical mathematics. He later decided he could better serve the world as a teacher. He returned to MSU to earn a bachelor of science in teaching. He also attended MSU for graduate school and served as a professor at the college. He has also taught history at Central Lakes College and St. Scholastica.

Currently, he is the long range planner for the Band and is developing a 50-year plan for the Band's natural resources, education, housing, health care and more. Developing a 50-year plan is an expedition of mountainous proportions. Wedll has broken the task down to smaller steps. He said, "You look at where you are now, where you want to be and lay the steps on how you want to get there. You need to gain and create steps to measure the progress along the way."

*(*Reprinted from the *Mille Lacs Messenger.)*

Ivory-billed woodpecker sighted in Arkansas

While not in the ceded territory, it's exciting to find that a species thought to be extinct still lives, and so it is with the ivory-billed woodpecker.

Last seen in 1944, that's sixty-one years ago, a male has been sighted in the Big Woods area of Arkansas, according to an Associated Press report.

A few seconds of video footage was able to confirm the sighting of the large, southern dwelling woodpecker that looks similar to the pileated woodpecker of the north, but is larger in size. The decline of the ivory-billed woodpecker was linked to logging which destroyed its native habitat.

The ivory-billed is among theworld's largest woodpeckers, second to the imperial woodpecker of Mexico, now thought to be extinct.

www.stevepike.com/russ_jones/Ivory-billed%20Woodpecker.jpg

Aquatic Invasive Species in the Upper Great Lakes

"Promoting Regional Cooperation & Collaboration"

When: October 19 – 20, 2005

Where: Lake of the Torches Resort Casino
Lac du Flambeau, Wisconsin

Conference Theme: Promote regional coordination and cooperation among entities that are actively engaged in Aquatic Invasive Species (AIS) management throughout Minnesota, Wisconsin, and Michigan.

Target Audience: All levels of organizations/agencies that are actively managing AIS (e.g. federal agencies, tribes, state agencies, counties, towns, lake associations, non-profits).

For more information or questions, please contact
Dara Olson at (715) 682-6619 ext.129
or dolson@glifwc.org.

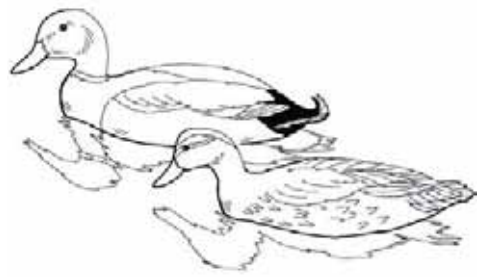
2,954 acres of wetlands & uplands conserved in the upper peninsula

Ann Arbor, Mich.—Ducks Unlimited and a coalition of twelve conservation partners have conserved 2,954 acres of wetland and associated upland habitat on public and private land across the 5-county Lake Superior and St. Mary's River watersheds in Michigan's Upper Peninsula.

Funding for the Michigan Upper Peninsula Coastal Wetland Project came from a $1,000,000 federal grant from the North American Wetlands Conservation Council awarded to Ducks Unlimited in 2000. Ducks Unlimited accepted this grant on behalf of the partnership that together pledged $2.7 million in matching funds to obtain the grant.

Partners in the Michigan Upper Peninsula Coastal Wetland Project:

Ducks Unlimited
U.S. Fish and Wildlife Service
Bay Mills Indian Community
The Nature Conservancy
Village of L'Anse
Upper Peninsula RC& D Council
Natural Resources Conservation Service
Michigan Dept. of Natural Resources
Keweenaw Bay Indian Community
Great Lakes Indian Fish & Wildlife Comm.
Whitefish Point Bird Observatory
U.S. Forest Service
Private Landowners (Multiple)



The purpose of this conservation effort was to protect, restore and enhance wetland and associated upland habitat throughout the watersheds to provide breeding and migration habitat for waterfowl, shorebirds, neotropical songbirds, federal and state threatened and endangered species and other wildlife.

Associated benefits of this work include improved water quality in Lake Superior, the St. Mary's River and their tributaries and increased recreational opportunity for local residents and vacationers. More than 45 conservation projects were completed under this Project.

The partnership pooled grant and matching funds to acquire and permanently protect 2,186 acres of wetland and riparian habitat and Lake Superior coastline, including property for Munuscong Wildlife Area, Ottawa National Forest, L'Anse Indian Reservation, The Nature Conservancy's Horseshoe Harbor Preserve and Lake Superior State Forest. Key coastal parcels along Whitefish Point will provide nesting habitat for the federally endangered piping plover.

The enhancement of 425 acres of wetlands occurred at Spectacle Lake, Waiska Bay, Presque Isle Flooding and L'Anse Indian Reservation lands where wild rice beds were established. Additional projects resulted in the restoration of 343 wetland acres at Munuscong Wildlife Area, Ottawa National Forest, L'Anse Indian Reservation lands and on private land.

Ducks Unlimited and its partners extend their sincere appreciation to the U.S. Senate and U.S. House of Representatives for support and funding of the North American Wetlands Conservation Act, which made these conservation projects possible.

New rules will govern sulfide mining in Michigan

By John Coleman, GLIFWC Environmental Modeler & Ann McCammon Soltis, GLIFWC Policy Analyst

Since January, GLIFWC staff have been participating on a workgroup formed by the Michigan Department of Environmental Quality (MDEQ) to formulate regulations to implement the non-ferrous metallic mining statute passed by the State in December of 2004.

The final meeting of the workgroup was April 27-29 and a final draft of the rules will be compiled by late May. The draft rules will define a mine permitting process that will:

- ➜ specify the environmental features that must be evaluated for impact from a proposed mine project.
- ➜ establish requirements for surface and ground water protection during and after mining operations.
- ➜ establish requirements for short and long-term storage of mine waste, tailings, and ore.
- ➜ establish requirements for reclamation of the mine site once mining has finished.
- ➜ establish financial assurance mechanisms to insure that mining companies provide the state with adequate bonding to cover the costs of reclamation and remediation.

In addition to attending the workgroup meetings, staff have developed comments on proposed language and have put forth recommendations to ensure environmental protection if sulfide mining is permitted. These recommendations include requiring full disclosure of potential impacts from a proposed mine, strong protections for ground and surface waters, and provisions to preclude projects designed to require long term active care.

In particular, staff have pushed for rules that would prevent the creation of "sacrifice zones" that would be unsuitable for future uses such as sources of drinking water. Staff will provide additional comments on the final draft of the regulations when they are released.

In June, the MDEQ expects to hold a public meeting about the draft rules. In August of 2005 there will be a public hearing on the draft rules and the rules will be finalized by the Michigan DEQ and the legislature in December of 2005.

First test of new mine rules?

The first test of Michigan's new sulfide mining rules may come in the form of a proposal from Kennecott Minerals to mine nickel and copper in the 1842 ceded territory, just east of the Keweenaw Bay Indian Community (KBIC) in the Yellow Dog Plains. GLIFWC staff have been working with KBIC and interested environmental groups to monitor Kennecott's activities.

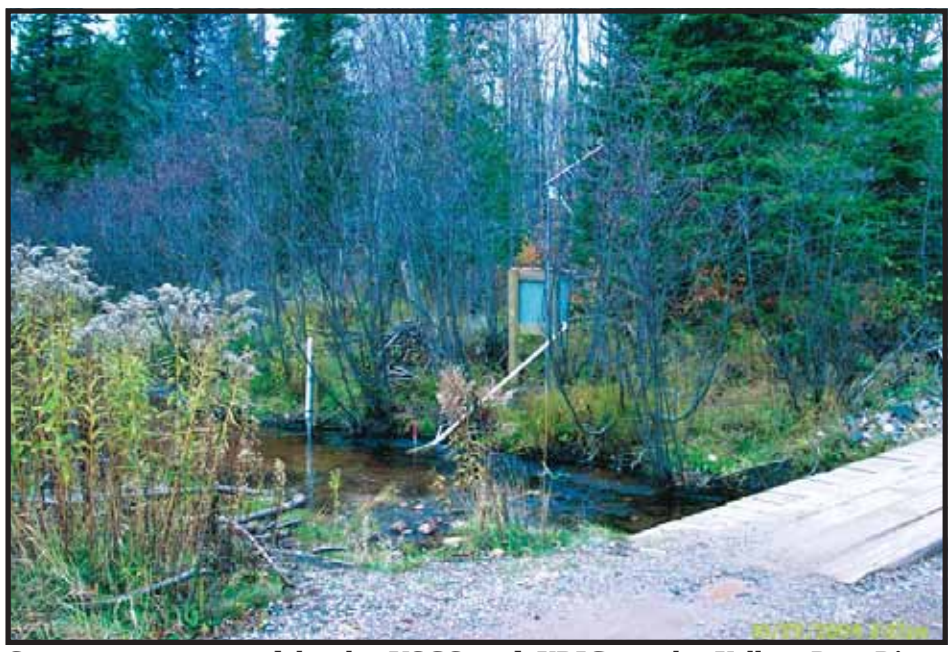
Through extensive exploratory drilling, the company has delineated a sulfide mineral ore body near where the Triple A Road crosses the Salmon Trout River, approximately 25 miles northwest of Marquette, Michigan. The ore body appears to contain approximately five million tons of nickel/copper ore.

In 2004, Kennecott released a report of the baseline environmental data they have been collecting at the site. The report is available at: *https://mywebspace.wisc.edu/jcolema1/YD/Data_Report_Oct_04/Index.html*. The MDEQ expects that Kennecott will soon submit a proposal to discharge wastewater from the mine into the groundwater of the Yellow Dog Plains. In June, the MDEQ will hold an informational meeting for the public to learn about the Kennecott mine proposal. The expectation is that Kennecott may submit an application for a mining permit sometime in the latter part of this year.

Other UP exploration

Another mining proposal that may test Michigan's new rules in the near future is a proposed zinc/copper/gold mine located on the Michigan side of the Menominee River, approximately 30 miles north of the town of Menominee.

Kennecott Minerals, Bitteroot Resources, and Prime Meridian have been conducting exploration for sulfide mineral deposits in other parts of the Upper Peninsula. Some of these exploration sites are near or on the KBIC reservation. GLIFWC and KBIC staff have visited some of these sites and have begun identification of environmental risks should mining be proposed.



Stream gage operated by the USGS and KBIC on the Yellow Dog River, downstream from the proposed Kennecott mine. Stream gage data is available on-line at http://waterdata.usgs.gov/mi/nwis/uv?format=gif&period=31&site_no=04043275. (Photo by John Coleman)

Spring at the boat landings

(Continued from page 1)

And while Ojibwe families still hang out onshore, waiting to help with handling fish and equipment, creel teams, including conservation wardens, are a notable fixture of the modern age. Under the light of hissing propane lanterns, GLIFWC creel staff jot down data from every fish harvested, including length and gender. During slow periods while spearers attempt to fill their permit quotas, creel crews sip coffee and swap stories.

When spearing is good, the crews might have their last fish counted by one o'clock a.m.; slow nights stretch into the first light of morning.

"On clear nights the fish seem to stay in deeper water," observed GLIFWC creeler Ben Basely at Lake Namekagon on a mid-April evening. "When there's a full moon, they stay out of the shallows, too." Bright skies can make for long nights.

In support of GLIFWC's ongoing contaminant study, creel teams also helped collect walleye at boat landings for mercury testing. With a goal of a dozen fish from each lake, crews gathered freshly speared walleye labeling each one with a surplus metal tag commonly used to register deer and bear.

Supported by Environmental Protection Agency grant funds to process walleye samples, GLIFWC pegged up to 54 ceded territory lakes in Wisconsin and Michigan where tribal harvest commonly occurs. GLIFWC staff sought walleye from four different size groups and area wardens stored them to freezers prior to mercury testing at University of Wisconsin-Superior's Lake Superior Research Institute. GLIFWC biologists plan to incorporate the results into the color-coded lake maps used by tribal fishermen to access the risks eating walleye contaminated with mercury.

"What our men and women do at the boat landings in a two week period is pretty amazing," Maulson said. "There's huge amount of documentation that occurs during the spring harvest. GLIFWC's successful implementation of the treaty right has a lot to do with the dedication of the wardens and creel staff."

Attention fish farmers, bait harvesters, fish managers!

Do your part to curb aquatic nuisance species!

Aquatic Nuisance Species Hazard Analysis Critical Control Point Workshop

When: June 28, 2005

Where: Lac Courte Oreilles Ojibwa Community College
Hayward, Wisconsin

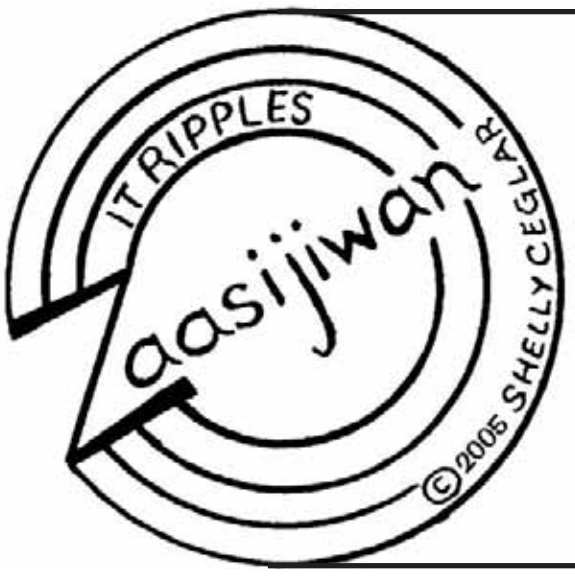
Who: Course work is designed to train fish farmers, bait harvesters and fish managers in the use of Hazard Analysis Critical Control Point (HACCP) fundamentals to control the spread of aquatic nuisance species via hatchery, fish farming, and baitfish operations.

Cost is free and pre-registration is required.

For more information or questions about the workshop, please contact Erik Olson at 715-634-4790 ext.175 or eolson@lco.edu.

(Sponsored by: The Great Lakes Indian Fish & Wildlife Commission, Lac Courte Oreilles Ojibwe Community College Extension, and the Sea Grant Great Lakes Network.)

Attend and learn!
It's Free!!!!



Niibin

Gizhaate na? Izhaadaa zaaga'iganing! Eya, niibing nindizhaamin zaaga'iganing. Dagoshinaang, nimboozimin. Gaye niibowa bebaamaadizijig. Gijiime na? Gidayaawaa na a'aw akikoons? Gidayaan ina waasamoo-jiimaan? Gakina-awiya baapinakamigiziwag. Niminwendam jiimeyaan agaaming. Inashke! Bizaan! Maang mookibii.

It is Summer

(Is it hot weather? Let's go to the lake! Yes, when it is summer we go to the lake. When we arrive, we get in the boat. Also there are plenty of tourists (those who travel about). Do you paddle? Do you have her that outboard motor? Do you have a powered boat? Every-body they are excited. I am glad when I paddle across the lake. Look! Quiet! A loon emerges from the water.)

Bezhig—1

OJIBWEMOWIN
(Ojibwe Language)

Double vowel system of writing Ojibwemowin.
—Long vowels: AA, E, II, OO
Gaawin—as in father
Miigwech—as in jay
Wiidige—as in seen
Nookomis—as in moon

—Short Vowels: A, I, O
Idash—as in about
Imaa—as in tin
Omaa—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.

Changing the meanings

1) Verbs can change to nouns.
2) Nouns can change to verbs.
3) To "each other."

Wiidige.—S/he get married.
Wiidigewin(an)—Marriage(s)
Wiisini.—S/he eats.
Wiisiniwin(an)—Food(s)
Manoomin—Wild Rice
Manoominike.—S/he makes wild rice.
Wiigwaas—Birchbark
Wiigwaasike.—S/he gathers birchbark.
Bimose.—S/he walks.
Bimosediwag.—They walk to each other.
Giigido.—S/he speaks.
Giigidodiwag.—They speak to each other.

Niizh—2

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

A. Giwiidige na? Niwiidige. Wiidige na Amber?

B. Gaawiin niwiidigesii. Eya, Amber wiidige.

C. Sam idash Amber gii-wiidigediwag gii-niibinong.

D. Zaagi'idiwag. Amber bimiwijige. Mashkikiiwinini gii-ikido, "Ikwezens a'aw."

E. Giin Nookomis! Howah! Gibaapinakamigizi na?

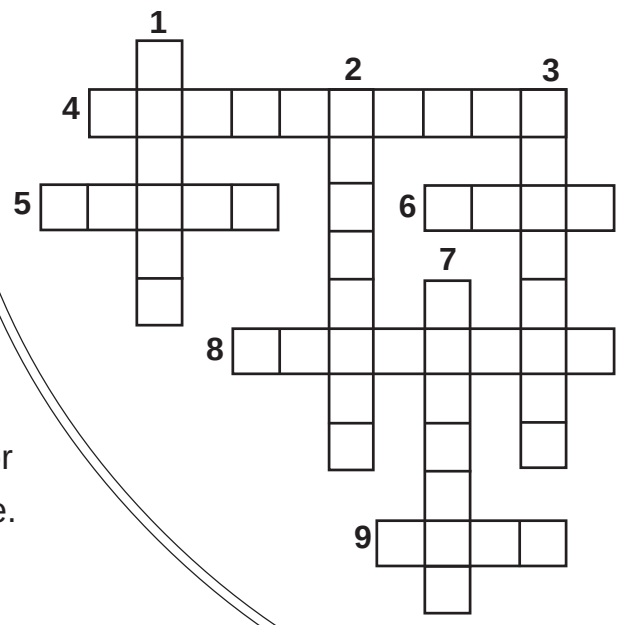
F. Eya, nindinaa, "Gego zagaswaaken!"

G. Nindinaa, "Gego minikweken!"

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

Niswi—3

IKIDOWIN
ODAMINOWIN
(word play)



Down:

1. Quiet!
2. Outboard motor
3. Across the lake.
7. You paddle.

Across:

4. You have him/her (animate).
5. Loon
6. That (animate)
8. Emerges from the water.
9. Here

Niiwin—4

Changing the Meanings

Ondaadizi.—S/he is born.
Ondaadiziwin(an)—Birth(s)
Izhinikaazo.—S/he is named so.
Izhinikaazowin(an)—Name(s)
Bakwezhigan—Bread
Bakwezhiganike.—S/he makes bread.
Ojibwemo.—S/he speaks Ojibwe.
Ojibwemodiwag.—They speak Ojibwe to each other.
Ojibwemowin.—Ojibwe language.

Goojitoon! Try it!
Translation below.

–win

–ike

–diwag

–winan

1. Waabang Nookomis bawezhigan_____.
2. Bijiinaago, miikanaang, ikwezensag bimose_____.
3. Ziigwang Nimishoomis wiigwaas_____.
4. Aaniin ezhinikaazoyan? Daga ozhibii'igen gidizhinikaazo_____ omaa.
5. Ninzaagitoonan niibowa wiisini_____. Mii'iw.

Translations:
Niizh—2 **A.** Are you married? I am married. Amber, is she married? **B.** No I am not married. Yes, Amber she is married. **C.** Sam and Amber were married to each other last summer. **D.** They are in love with each other. Amber is expecting. The doctor said, "That is a girl." **E.** You Grandma! All right! Are you excited? **F.** Yes. I said, "Don't smoke!" **G.** I said, "Don't drink!"
Niswi—3 **Down:** **1.** Bizaan **2.** Akikoons **3.** Agaaming **7.** Gijiime **Across:** **4.** Gidayaawaa **5.** Maang **6.** A'aw **8.** Mookibii **9.** Omaa
Niiwin—4 **1.** At dawn, my Grandma she makes bread. **2.** Yesterday on the trail the girls walked to each other. **3.** When it is spring my Grandpa he gathers birchbark. **4.** What is your name? Please write your name here. **5.** I love them, many foods. That's it.

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 world language translation.

Elders help GLIFWC collect Ojibwe names for plants, animals, fish and locations in ceded lands

By Sue Erickson
Staff Writer

Odanah, Wis.—One of the first jobs encountered by Original Man after the Creator had set him on Earth was to identify and name all the plants, animals and places, according to **The Mishomis Book** by Eddie Benton Banai. "He was told to walk this Earth and name all the o-way-se-ug (animals), the plants, the hills, and the valleys of the Creator's gi-ti-gan (garden)…" With Ma-en-gun (wolf) by his side, Original Man roamed the Earth to accomplish the task. Once finished, he spoke to Gichi Manito saying, "I have visited and named all the plants, animals, and places of this Earth. What would you now have me to do?"

Unfortunately, with the near loss of the Ojibwe language through forced assimilation, many of Original Man's names have become little known, along with any stories or cultural information that might be tied into the names.

In order to retrieve these names, GLIFWC proposed a three-year grant to collect the Ojibwe names for as many birds, fish, mammals, amphibians, reptiles, plants, insects and locations in the ceded territories as possible, according Jim St. Arnold, Administration for Native Americans (ANA) program coordinator. ANA approved the grant proposal, and work began in September 2004 on a project of very wide scope.

While St. Arnold heads up the search for the names of various species, the grant also brought on board a full-time ANA research assistant for the three-year period, Jeff Melton. Currently completing his graduate work at the UW-Superior, Melton is responsible for finding names of locations, rivers, lakes, and landmarks and any cultural information related to each.

For example, Lake Namekagon in Bayfield County has the Ojibwe name meaning lake of the sturgeons. "Are there still sturgeons in the lake, and if not, why?" St. Arnold asks. "Similarly, there's a Rice Lake with no rice, and why is this?" The Ojibwe names of water bodies and locations will probably reveal historical information that may be helpful to resource managers, he says.

The first two years of the project focus on information collection, largely from elders who are fluent in Ojibwe and considered "speakers." Information is collected through meetings with language speakers from several regions of the ceded territory.

Identifying Ojibwe names for numerous birds, mammals, reptiles, amphibians, and insects is the goal of a recent Administration for Native Americans' grant received by GLIFWC. Assisting in the task are several native speakers, Eugene Begay, Lac Courte Oreilles, and Leonard Moose, Mille Lacs, who lend their knowledge of the language to the project on a weekly basis. (Photo by Sue Erickson)

Speakers are presented with bound volumes that contain pictures of the various species and their English names and asked to identify the Ojibwe name for each species depicted. "This process includes names for sub-species," St. Arnold says. "For instance, a species might be a frog, but we go further to identify a tree frog, a peeper frog, and so on."

They also search for cultural information, stories or meanings of names and species. For instance, one elder related to St. Arnold that certain call of the loon at night indicated high winds the next day and if the ducks are flying low, snow is likely on its way. Some names may mimic the sound an animal makes, such as gekek, the hawk or gookooko'oo, the owl.

The first year will focus on places in the western half of the ceded territories and on identifying non-plant species. The second year will concentrate on places in the eastern ceded territories and the plant species, which are numerous.

In the third and final year staff will formulate a book with photos and maps and also develop a CD or DVD that incorporates voice, so that a person can hear the names spoken correctly. St. Arnold says staff will meet with tribal schools and immersion programs in order to develop something that will be useful.

The information will be given back to the tribes – tribal libraries, language programs, natural resource departments and historical departments for their information and use and will also be available to the non-tribal public.

In total the grant seeks to identify 187 species of birds, 141 fish, 58 mammals, 21 amphibians and reptiles, 38 insects/other, and approximately 700 plants in addition to numerous names of locations and water bodies in the ceded territories. At the end of the three years, project staff will fully appreciate the enormity of the assignment the Creator first gave to Original Man and Ma-en-gun, and we will all hope those names will never be lost again!

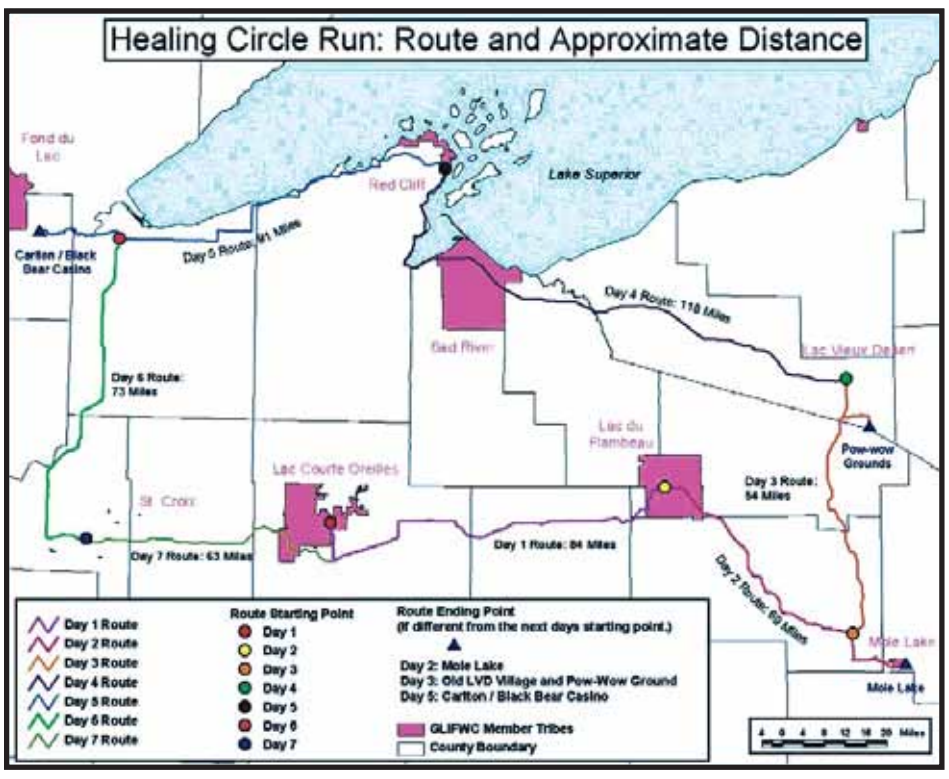
Healing Circle Run July 9-15, 2005

Participants welcome at any point en route!

The 2005 "Healing Circle" run/walk will connect eight Ojibwe reservations in northern Wisconsin, Michigan, and Minnesota starting at the Lac Courte Oreilles (LCO) Reservation on July 9, Lac du Flambeau on July 10, Mole Lake on July 11, Lac Vieux Desert on July 12, Bad River/Red Cliff on July 13, Fond du Lac/ Black Bear Casino on July 14, and St. Croix and returning to LCO on July 15.

The "Healing Circle" run/walk is intended to be a prayer for healing. During the 2001 Healing Journey Run, participants thought of a teaching on healing—"for a nation to heal, it must begin with the individual. As a person heals, then that person can help heal his/her family. As a family begins to heal, they can help heal their community. As communities heal, they can help the nation heal. As nations heal, they can help Akii (the earth), our plant and animal relatives to heal."

For more information, or if you are interested in participating as a core runner, or having a group of runners from your reservation participate, please contact James Schlender or Neil Kmiecik at (715) 682-6619, or giiwegiizhigookway Martin at (906) 366-7040. All participants must assume personal liability, as well as responsibility, for their own transportation and expenses.



Sandy Lake Ceremonies July 27, 2005

At the U.S. Army Corps of Engineers (ACOE) site on Sandy Lake near McGregor, Minnesota.

The annual paddle across Sandy Lake begins at 9:00 a.m. Canoeists and kayakers are welcome.

Ceremony at noon at the ACOE site adjacent to the Mikwendaagoziwag Memorial.

Feast follows the ceremony. All are welcome to attend.

GLIFWC sponsors the annual Sandy Lake Ceremony in honor of the Ojibwe ancestors who died at Sandy Lake or en route home following an unsuccessful attempt to remove Wisconsin Ojibwe to Minnesota in 1850. Thanks in part to those ancestors as well as those that endured and made the cold trek back to their homes, permanent reservations were established in 1854.

Mikwendaagoziwag – They are remembered.

For more information: Contact the GLIFWC office at (715) 682-6619 or visit GLIFWC's websiste at *www.glifwc.org*.

Language revitalization is NOT impossible

New Zealand Maoris & native Hawaiians share success stories

By Sue Erickson
Staff Writer

Black Bear Hotel and Casino, Minn.—Indigenous languages threatened with extinction can be, and should be, recovered. It will take a significant amount of work and commitment, but deliver great rewards.

This was the message from New Zealand Maoris and native Hawaiians to the over two hundred participants at the second annual Minnesota Indigenous Language Symposium held at the Black Bear Hotel and Casino on April 4-6.

Both the Maoris and the Hawaiians shared their stories of successful language reclamation, providing participants, primarily from Midwest tribes, with valuable insights on potential programs that work and a real sense of hope that it is not too late to bring back the languages spoken by their ancestors.

"Without the language, there is no culture," according to Maori speaker Timoti Karetu, director, Institute of Excellence in the Maori Language. "I don't want to be a brown white person." Karetu stressed the importance of native language revitalization because with the loss of language is also the loss of a cultural perspective, a unique worldview, traditions and customs.

The Maoris, who were faced with a serious loss of indigenous speakers, began their language revitalization in the 1970's. According to Karetu, by 1977 more than 55,000 Maori youth had learned their language. In 1987, New Zealand declared Maori the country's official language, and New Zealand can now boost one Maori television station.

The Maori language program built on language immersion experiences. In the beginning, people would attend sessions from Friday night at 6 p.m. to midday Sunday in a Maori cultural learning environment and be exposed completely to the Maori language. The program made use of a wide range of learning styles, including listening, writing, speaking, and interactive learning.

The Institute also developed a line of resources, including audiotapes, videos, CDs, a dictionary, and most importantly, a curriculum.

The curriculum and the language are vital, not stagnant, according to Bentham Ohia, another presenter from New Zealand. "It is important to develop new words, keep the language dynamic and also to build towards higher levels of the language that envelope cultural components and aesthetics, such as language of weddings, funerals, or 21st birthdays."

Telling the success story of Maori language revitalization in New Zealand is Dr. Timoti Karetu, director, Institute of Excellence in the Maori Language, along with Bentham Ohia (guitarist) and Pania Papa of Te Wananga o Aotearoa. Pania entertained the participants of the Minnesota Indigenous Language Symposium at the Black Bear Hotel and Casino with several traditional, Maori songs. (Photo by Sue Erickson)

Speakers from Hawaii brought a similar success story to the symposium. They began a language immersion program in 1983 with 16 children from families committed to revitalizing the language. Today, Hawaii can boast between 6,000 to 8,000 fluent speakers under the age of 30.

The Language Symposium was co-sponsored by the Fond du Lac Tribal College, the University of Minnesota and the Grotto Foundation.

In 2001 the Grotto Foundation committed to a 15-year native language recovery initiative in Minnesota, pledging $5.6 million dollars towards the program. That makes about $300,000 available annually in grants.

The mission of Grotto's Native Language Revitalization Initiative is "to restore Minnesota's indigenous languages as living languages within Native families and communities."

In its analysis of issues surrounding language loss, Grotto reports that of the 300 native languages spoken at the point of European arrival in America, 175 have survived. The loss of native languages is a phenomenon that has been experienced world wide and occurred as a result of forced assimilation. "Outlawing and forcibly preventing Indian people from speaking their language was the tool used to destroy family and community systems, spiritual practices, traditional music and art, as well as subsistence economies," the Grotto report states.

It also notes that language revitalization is quite different from language instruction. "It is a rebuilding of family, community and tribe from the inside."

Reflections on the Red Lake tragedy

By Danielle McDonald, American Indian OIC High School

Out casting our own is not a joke;
see what things like that provoke?
6 are injured and 10 are dead;
this is something we all should dread.
Families and friends lost loved onez
while a little boy took out anger with his guns.
The thought of those are in my mind,
but why are we killing our own kind?
Its bad enough we're thought of as drunks,
now we have to deal with the act of some young punks.
Not accepting him for who he was
made him crazy and feeling unloved.
All of this is very unacceptable.
All of this I believe was preventable.
Now it's all over the news and on the streets;
this is something, together, we need to defeat.
This cannot go on a moment longer;
we need to come together and become stronger.
As native peoples it effects us all
because the world we live in is very small.
It effects how the world looks at us,
so changing our wayz is a must.
Accept someone for who they truly are.
Give a comment or a smile because things like that do go far.
So as Native People we should stick together
and maybe this wouldn't last forever.

A fifth grade drum group, Nay-Ah-Shing, performs during a fundraiser for the Red Lake community following the tragic shooting incident at the Red Lake School. The group of fifth-graders has been practicing songs and drumming for several months under the direction of Vernon Defoe, elder volunteer. About $1900 was raised by the Lake Superior Primary YWCA After School Program with a pancake feed, cake walk and games. (Photo by Sue Erickson)

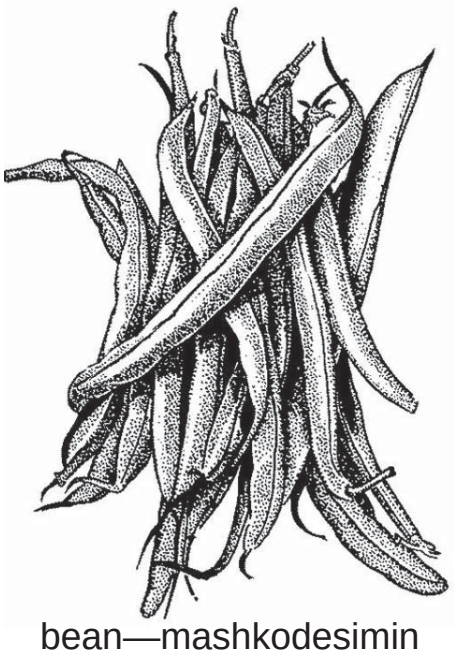
It's planting time!

Ojibwe people have always planted and tended gardens. Corn, squash, beans, potatoes, sweet potatoes and pumpkins are some of the vegetables they have always grown. When Europeans first came to America, Indian people living in the East shared their knowledge of gardening with them, helping them to survive.

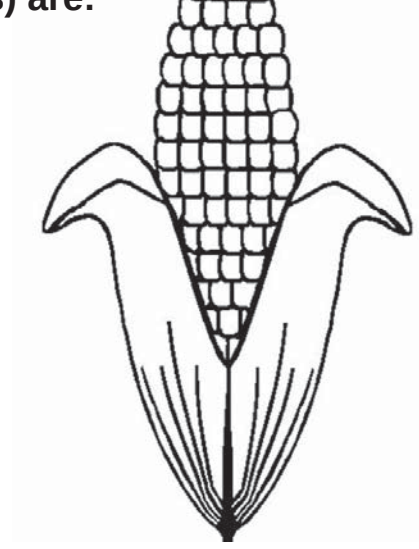
One traditional, Indian method of gardening is called "The Three Sisters Garden," growing corn, beans and squash or pumpkins in one plot. Sister Corn's stalk support the bean vines as they grow upward, while Sister Bean provides important nutrients in the soil that help Sister Corn grow. The large, sprawling vines and leaves of Sister Squash cover the soil around Sister Corn and Sister Bean, helping to control weeds and protecting the corn and beans from animals that might want to eat them. These plants also help nourish each other.

When it comes to harvest time, the Three Sisters provide important food for people: the corn will supply carbohydrates for people; the beans give protein and vitamins, and squash offer lots of vitamin A.

Ojibwe names of vegetable plants grown in gitigaanan (gardens) are:



bean—mashkodesimin

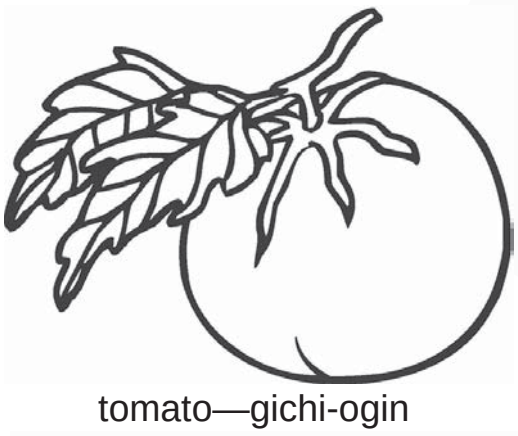


corn—mandaamin

pumpkin—okosimaan

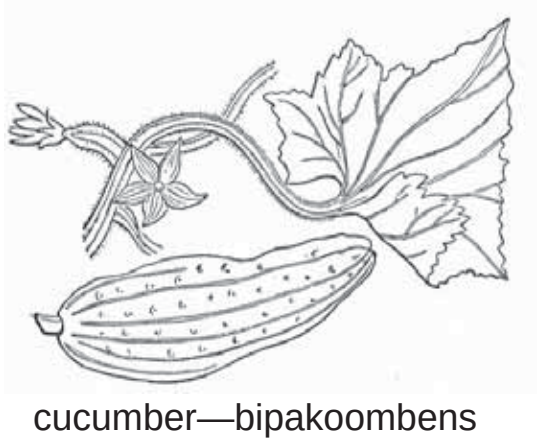
potato—opin

squash—okanakosimaan

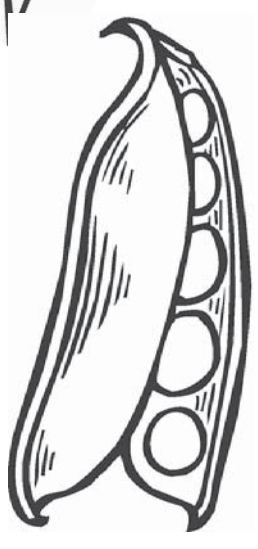


tomato—gichi-ogin

carrot—okaadaak



cucumber—bipakoombens



peas—anijiiminan

Niso nimisehyag gitigaan gitigewin (*Planting a Three Sisters Garden)*

First, find a spot for your garden with plenty of direct sunshine for most of the day. (Remember you will also need access to water.) Before you seed (miinikaan), break up and rake the soil. Next, build a mound about 12 inches high and between 18 inches and three feet in diameter. If you are in a dry area, flatten the top of the mound and make a shallow depression in it, so the water won't run off. Mounds should be about three to four feet apart.

Plant four to seven corn seeds about six inches apart in the middle of the mound. When they start to grow, trim to three or four corn plants. When the corn is about four inches high (about two weeks), plant six pole bean seeds in a circle about six inches away from the corn. (Later, thin the beans to three or four plants.) Also, plant squash or pumpkin next to the mound, about a foot away.

As the plants grow, you may need to help the tendrils of the bean plants wind around the corn stalks that will support them, and also you may want to "side-dress" your corn plants with a high-nitrogen fertilizer, like manure or fish emulsion, on the soil near each plant.

Keep your garden watered, and watch your plants grow, grow and grow.

Helpful hints

- Be sure the last frost is over before you plant.
- Some people soak the seeds overnight before they plant.

Healthy foods build healthy minds and bodies!

(Information taken from the National Gardening Association website: www.kidsgardening.com, "The Three Sisters," by Eve Pranis)

Resources:

In The Three Sisters Garden by JoAnne Dennee with Jack Peduzzi and Julia Hand, reprinted in 2001 by Common Roots Press, Montpelier, Vermont: An excellent resource book on Native American gardening, especially the Three Sisters Garden, with lots of illustrations, diagrams, stories from various tribes and garden-related activities for youth.

Native American Gardening: Stories, Projects and Recipes for Families by Michael J. Caduto and Joseph Bruchac, published by Fulcrum Publishing, Golden, Colorado: An excellent resource on traditional, Native American gardening, has a discussion of the Three Sisters Garden, and includes information on starting a garden, Native American stories, and learning activities.

Gitigan word search

O	G	N	G	N	A	N	N	O	N
N	P	I	I	A	S	I	A	K	I
A	A	P	N	A	N	G	N	O	M
A	O	N	I	M	E	O	I	S	I
K	A	I	M	I	B	-	M	I	S
I	A	M	A	S	M	I	I	M	E
N	G	A	A	O	O	H	I	A	D
I	I	-	D	K	O	C	J	A	O
I	T	I	N	A	K	I	I	N	K
M	I	H	A	N	A	G	N	P	H
F	G	C	M	A	P	K	A	I	S
P	I	I	I	K	I	A	O	K	A
F	O	G	G	O	B	M	V	I	M

Anijiiminan
gitigaan
Miinikaan
Oskosimaan
Bipakoombens
Mandaamin
Okaadaak
Opin
gichi-ogin
Mashkodesimin
Okanakosimaan

(Answer on page 23)

Ceded territory news briefs

Spring walleye assessments completed, fast and furious

Odanah, Wis.—With the weather turning suddenly to summer in mid-April, survey crews hit the Wisconsin lakes for spring walleye assessments as of April 11. The season ran through April 21. Adult walleye population estimates were conducted using electrofishing boats on one Michigan and 17 Wisconsin lakes by one Mole Lake, one St. Croix, two USFWS and four GLIFWC crews. Survey crews also collected mercury samples for 12 lakes in Wisconsin and 10 lakes in Michigan.

In Minnesota the first joint northern pike tagging study was also completed in Mille Lacs Lake. GLIFWC biological crew worked with the Minnesota Department of Natural Resources to complete the study. Over 7,000 pike were tagged.

Warner heads KB natural resource programs

Baraga, Mich.—Former tribal environmental response specialist Todd Warner was promoted to Keweenaw Bay natural resources director last January. Warner heads a department with eight staff members and includes tribal fish hatchery operations in Pequaming.

Prior to his employment at Keweenaw Bay Indian Community, Warner spent 12 years as an environmental consultant at sites in the United States and Canada evaluating properties degraded by mining, industry and landfill waste. He earned a Bachelor of Arts in Geology at Macalester College in Minnesota and a Master of Science in Geology at the University of Canterbury in New Zealand. Warner replaces Mike Donofrio, now employed by the Wisconsin Department of Natural Resources.

Binational tribal gathering pledges protection for water

Niagara Falls, Ont.—Representatives from more than 140 Canadian and American Indian nations gathered on April 11-12 to discuss how to safeguard the Great Lakes. Convening under the moniker of the United Indian Nations of the Great Lakes, tribal officials came to a consensus that indigenous people had an obligation to exercise their sovereign prerogatives to maintain water quality and abundance, said James Zorn, who attended on behalf of Great Lakes Indian Fish & Wildlife Commission. Red Cliff Chair Ray DePerry also attended.

Much of the discussion centered on the Great Lakes Charter Annex, a cross-border proposal by state and provincial authorities to regulate water diversions out of the Great Lakes basin. According to DePerry, tribal representatives acknowledged that tribes and first nations must be part any water diversion decision-making process and agreed to continue discussions on how that participation might take place. "It is important for tribes and first nations to work together to protect and speak on behalf of Great Lakes water," DePerry said. "But this must be done without compromising each nation's unique sovereignty."

Representatives from the Council of Great Lakes Governors also attended the meeting to learn more from tribal leaders and elders about tribal sovereignty and the importance of that water to indigenous lifeways.

Navy looks for input into disposition of ELF facility

Washington, D.C.—The Department of Navy has shut down the Extremely Low Frequency (ELF) communications facility on the Chequamegon-Nicolet National Forest near Clam Lake, Wisconsin and is preparing for the disposition of building and equipment located at the facility. The Navy invited comments from GLIFWC regarding the most appropriate disposition options.

Currently, they are considering three options. One is to transfer the existing buildings, associated structures and roads to the US Forest Service (FS) in their current condition. The FS owns the land on which ELF was constructed. A second option would be to completely remove everything in the 13-acre security zone around the transmitter and restore the site to resemble the habitat in place prior to construction. A third, and probably most favored option, would be to keep selected items in place and remove others after consulting with the FS under the Memorandum of Agreement between the Navy and the FS on the use of the land for ELF. GLIFWC will be submitting comments that will reflect tribal, treaty interests.

Christian Alliance seeks to overturn ICWA

The Indian Child Welfare Act (ICWA) is underfire from the Christian Alliance for Indian Child Welfare, an organization which seems to by in sync with Citizens for Equal Rights Alliance (CERA), a national umbrella organization for anti-Indian groups. The Christian Alliance's newsletter was sent out in March under the CERA postage permit, according to a report in the **HONOR Digest**, March/April 2005. The newsletter is called *"Family News and Update"* and is sprinked with Bible verses and requests to pray for certain reservations.

According to the **Digest**, "The purpose of CAICW is to abolish or weaken the Indian Child Welfare Act under the guise of Christianity." The online listing for this new group is www.caicw.org.

What to do about wild parsnip and giant hogweed

(Continued from page 13)

Small patches of wild parsnip can be controlled manually. Treatment should be done before the bolting plants set seed. Seedlings and small plants can often be pulled out, especially in light or moist soils (wear gloves!).

An effective method for killing individual plants with minimal contact is to cut through the taproot about an inch below the ground, using a long-handled shovel. Frequent mowing or cutting for several years will eventually eliminate wild parsnip, but infrequent mowing can often make the problem worse, by eliminating competing plants and spreading the seeds.

Always wear protective clothing including long pants and a long-sleeved shirt when working around wild parsnip. Pulling parsnip in the evening can also be a good strategy, as most (but perhaps not all) of the furanocoumarins that do get on the skin should break down into harmless compounds by the next day.

Similar manual control methods have been used on patches of giant hogweed. But because giant hogweed is so potentially dangerous to work around, and the patches so hard to eliminate, government agencies dealing with this plant are asking people to contact them before attempting to eradicate it. They will often visit the site and help you with eradication free of charge.

Giant hogweed reporting

Giant hogweed is a federally-listed noxious weed, meaning that its sale and possession are illegal. Giant hogweed is a major threat to wild lands and a significant health threat to humans and some animals.

If you spot giant hogweed on the landscape, please inform your state Department of Agriculture (or GLIFWC) as soon as possible:

Michigan

Michigan Department of Agriculture
Pesticide and Plant Pest Management Division
P.O. Box 30017
Lansing, MI 48909
(517) 373-1087

Wisconsin

Wisconsin Department of Agriculture, Trade, and Consumer Protection
Plant Pest Survey and Control
2811 Agriculture Drive
P.O. Box 8911
Madison, WI 53718-8911
800-462-2803

Minnesota

Minnesota Department of Agriculture
90 West Plato Boulevard
Saint Paul, Minnesota 55107
"Arrest the Pest" Hotline
651-296-MOTH (metro) • 1-888-545-MOTH (toll free)

For more information about wild parsnip and giant hogweed

The Nature Conservancy has information and photos for wild parsnip at *http://tncweeds.ucdavis.edu/esadocs/pastsati.html*.

Also, don't miss David Eagan's excellent articles, "Burned by Wild Parsnip" and "Wild Parsnip II," available online at *www.wnrmag.com/stories/1999/jun99/parsnip.htm and http://www.wnrmag.com/stories/2000/jun00/parsnip.htm, respectively.*

GLIFWC's website has detailed information on wild parsnip, giant hogweed, and other nonnative invasive plants—see *www.glifwc.org/epicenter/.*

Links to other websites on wild parsnip and giant hogweed appear at *www.glifwc.org/epicenter/Pastinaca_sativa/links.html* and *www.glifwc.org/epicenter/Heracleum_mantegazzianum/links.html*, respectively.

Lyrics for "Return of the Giant Hogweed" by Genesis, from the album "Nursery Crimes" *www.holyoke.org/hogweed_lyrics.htm*.

For a photo comparison of hogweed and look-alikes, see *www.hort.uconn.edu/cipwg/hogweedLookalikes/HogweedLookAlike_WEB/QAL.htm*.

Detailed information on various types of skin conditions caused by contact with plant extracts appears in an article in the British magazine ***Emergency Nurse***, online at *www.nursing-standard.co.uk/archives/en_pdfs/envol11-03/env11n3p1823.pdf*.

General information on invasive plant control can be found in the Nature Conservancy Weed Control Methods Handbook, at *http://ncweeds.ucdavis.edu/handbook.html*.

Literature references for this article are included at:

www.glifwc.org/epicenter/Pastinaca_sativa/refs.html and *www.glifwc.org/epicenter/Heracleum_mantegazzianum/refs.html*.

New museum highlights Ojibwe life, history

By Charlie Otto Rasmussen
Staff Writer

Ashland, Wis.—For a succinct and authoritative dose of regional Ojibwe history, it's tough to beat the new Native American museum at Northland College (NC). Two years in the making, the cedar-clad museum occupies former office space within the college's Mead Hall. Seasonal Ojibwe harvest cycles and cultural insights—from art to ceremonies to recreation—form the underpinning of the museum that opened last March.

"The biggest challenge was to fit everything into a small space," said designer and Northland professor, Joe Rose Sr. "And I wanted to make it accessible to everyone."

Rose and volunteer carpenter Steve Pruess invested more than 500 hours each, making the facility wheelchair accessible, rigging sound and lighting systems, and constructing displays. Padded chairs in a small reception area offer a place for visitors—particularly elders—to reflect and rest, said Rose, a Bad River member and NC Native American Studies Director.

The main exhibit area is oriented in a clockwise direction beginning with traditional spring (ziigwan) activities and ending in winter (biboon). Running parallel with the seasonal displays, buckskin clothing, dance regalia and numerous art pieces reveal the lives and worldview of traditional Ojibwe people.

"The shell of the snapping turtle has a place for all the moons in the Anishinaabe calendar," Rose said, pointing out the 13 scale-like partitions of a snapper's upper shell from a display. The historic Ojibwe calendar is based on the appearance of full moons. Thirteen full moons appear about every two and a half years.

Rose said approximately ninety percent of the items on exhibit originated from the collection of his late mother Mary "Dolly" Rose, or Gidagaakoons. The collection includes a mix of historic artifacts and more contemporary pieces. Fur traps that belonged to Rose's grandfather, Dan Jackson Sr., appear in the biboon section along with other key winter activities like deer hunting and associated ceremonies.

"The 'first kill' ritual is one of our most important," Rose explained. "We honor the hunter with gifts and welcome him into the adult ranks. Hunting would be one of your main vocations as an adult. It's pretty important to a hunter-gatherer society."

Native American Museum creator Joe Rose Sr. dedicated the new exhibit to his mother, Mary Dolly Rose. Around 90 percent of all the artifacts came from his mother's collection. (Photo by Charlie Otto Rasmussen)

Tribal natural resource management organizations like the Great Lakes Indian Fish & Wildlife Commission are a natural extension of the close relationship American Indians have with the environment, Rose said. "You can see how much these traditions tie in with GLIFWC and why working with natural resources is so important," Rose said.

There is no admission fee to attend the museum, and it is suitable for all ages. For more information contact Joe Rose at (715) 682-1204.

Esie Leoso, Three Fires Mide Society, talks about the Water Ceremony, during an annual gathering for the Bad River community to honor nibi (water)—the water spirits and the water beings. The ceremony is performed when the ice "turns over." Ties, filled with asemaa (tobacco), are fastened to floaters that will carry them down the river once they are offered to the water. The tobacco ties represent the people—children, parents, grandparents and those to come.

After the asemaa ties are offered four times, they are placed in the river on the fifth count, when they are received by the Water Spirits as a prayer is also offered. The Ceremony recognizes the importance of nibi as a sustainer and giver of life and that people have a responsibility for the well being of nibi. Placing the ties in the Kakagon River are, from the left, Ed Wiggins, Ed Leoso, Sam Powless, Kenneth Couture, and Junie Butler. (Photos by Lynn Plucinski)

Nationhood Gathering at Mole Lake on June 10-12

The Nationhood Gathering will be held on June 10-12, 2005, at the Mole Lake Sokaogon Chippewa Community, near Crandon, Wisconsin. It will be a historic opportunity to celebrate the sovereignty of all First Nations in the western Great Lakes region, to educate and empower youth, and to build grassroots unity among Native peoples for cultural and environmental survival.

The Gathering will focus on how tribal sovereignty and treaty rights can protect Native lands, cultures and communities in the 21st century. It will be centered on the rebuilding of indigenous nationhood, rooted in a historic sovereignty that existed long before federal recognition, and the importance of youth learning the history and culture of their nation.

The Crandon mine proposed next to Mole Lake was defeated in 2003 after a 28-year struggle, and the site was acquired by the Sokaogon Chippewa (Ojibwe) and Forest County Potawatomi. These recovered tribal lands are an example of sovereignty protecting the environment. The Gathering will be held in conjunction with the Strawberry Moon Powwow in Mole Lake.

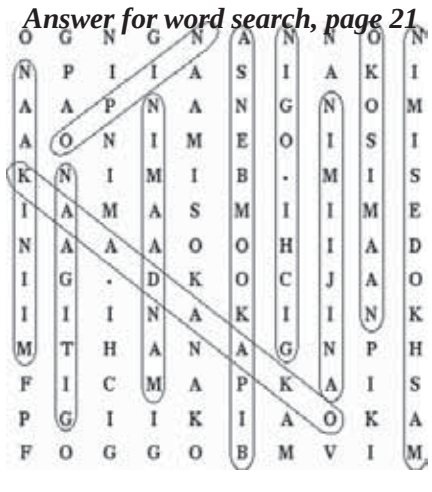
First Nations in our region have won some important victories in recent years, including the defeat of racist anti-treaty organizations and the world's largest resource corporations.

The Nationhood Gathering will be a chance to pause, and bring together Native people to listen to each other, remember the past, and plan for the future. Its emphasis will be on building a positive grassroots movement among the people for future generations, rather than simply responding to crisis emergencies. The focus will be on grassroots planning for a sustainable future based on traditional cultures, rather than simply focusing on intergovernmental relations.

The Gathering will emphasize culturally rooted youth education and organizing, bring together elders and youth from different tribal nations, and educate students and teachers. The two-day event will include talks and cultural presentations on Friday afternoon, workshops on threats to the people and land on Saturday morning, and strategy workshops on Saturday afternoon. On Sunday morning, there will be skills training workshops for youth to organize against threats to the environment and sovereignty by forming community groups or teams when they go home.

The Nationhood Gathering was initiated by the Midwest Treaty Network, a Native and non-Native alliance supporting treaty rights, tribal sovereignty, cultural respect, and environmental justice in the western Great Lakes region. For more information: Midwest Treaty Network, 21 South Barstow St., Suite 206, Eau Claire WI 54701. Phone (715) 833-1777 or *www.treatyland.com*.

Answer for word search, page 21



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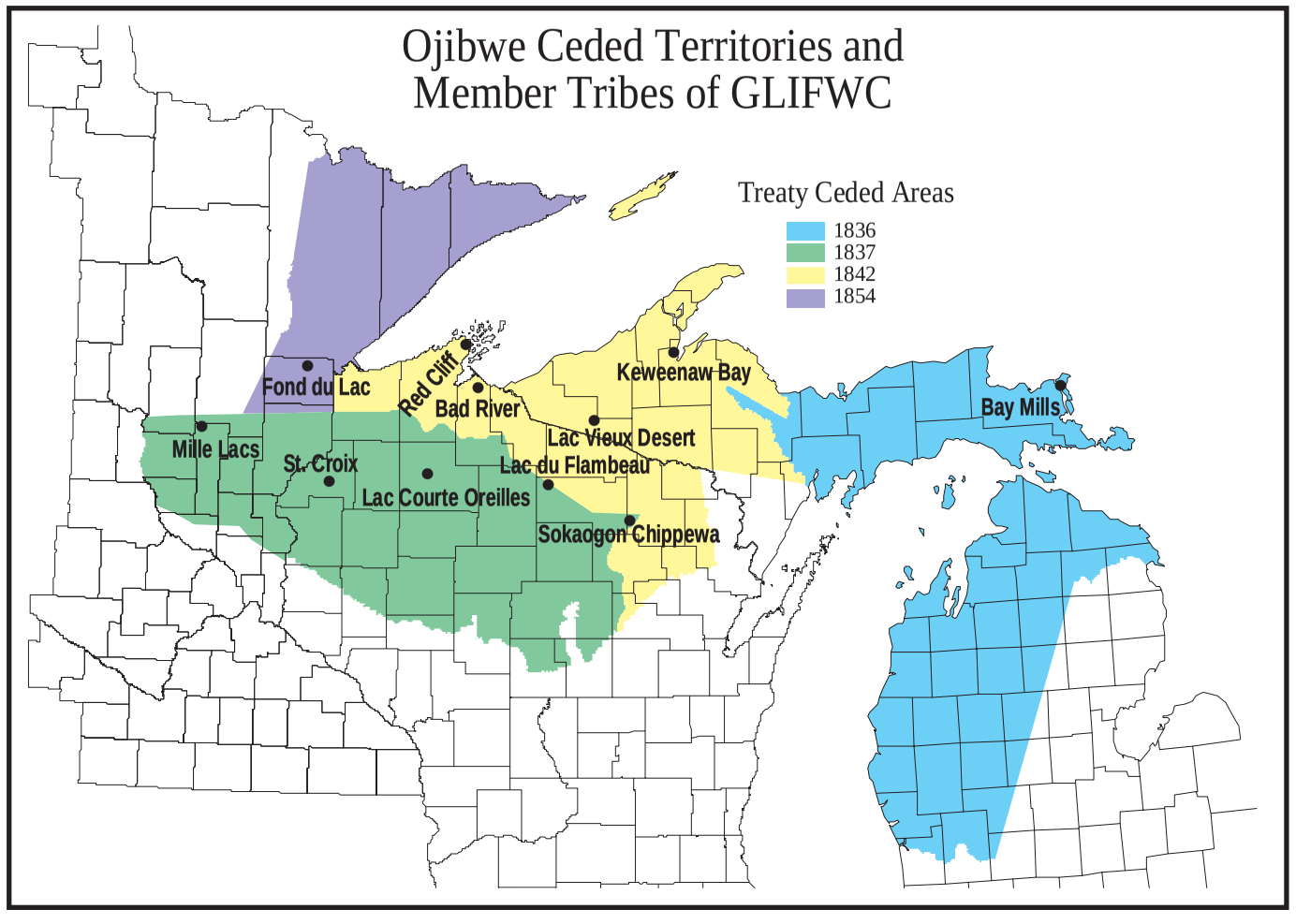

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