

Mazina'igan

A Chronicle of the Lake Superior Ojibwe

Published by the Great Lakes Indian Fish & Wildlife Commission

Summer 2004

No small wonder in Mille Lacs Lake Large sturgeon unexpectedly appears in tribal net

By Sue Erickson
Staff Writer

Garrison, Minn.—Richard McGeshick and Aaron Van Zile, Mole Lake tribal members, set out to lift their nets in Mille Lacs Lake on Friday morning, April 30th, ready to wind up their spring fishing excursion for the season.

The walleye run seemed to be nearly over, and the catch was sparse, except for the one old net that McGeshick had set some distance from the North Garrison landing. That net he could hardly pull in.

In fact, it took both he and Van Zile to haul the net aboard. As they came towards the end of the net, pulling up the weight nearly capsized the boat,

McGeshick said. They didn't know what was in it.

Ultimately, they managed to pull aboard a huge 89-pound female sturgeon, measuring 65" in length. "The fish was awesome," says McGeshick, "and I am honored that the fish showed itself to me. Our tribal elders say this is an honor, so I guess all of these years of fishing paid off!"

McGeshick brought the whopping sturgeon along with the rest of his catch to the creel station at the landing, amazing all the conservation staff present. "I always believed there were sturgeon in Mille Lacs Lake," said Rabindran "Robin" Arunagiri, Minnesota Department of Natural Resources (MDNR) employee, "but no one believed me. Now, I can show them for sure!" This was the first evidence of sturgeon sighted in the huge lake.

Measurements were taken on the fish before Great Lakes Indian Fish & Wildlife Commission (GLIFWC) Conservation Officer Roger McGeshick released the egg-bearing lady back into the lake. The regulations governing the

treaty fishing season in the Minnesota 1837 ceded territories do not allow for the taking of sturgeon with the exception of one specified area in the St. Croix Riverway. In fact, Minnesota has sturgeon listed as a state species of "special concern."

"That the fish was released is a great thing! It could be one of only a few, so should be returned," commented Eddie Benton-Banai, Grand Chief of the Three Fires Society. "That presentation of the fish is to remind us that the sturgeon are still here, despite the impacts of civilization and especially the dams which block their spawning beds. The appearance of this fish is a blessing and great news. We should pay the greatest attention and respect."

In traditional Ojibwe teaching, the sturgeon is considered the King of Fish and is considered Chief of the Fish Clan. The sturgeon, known as name' (nah may) in the Ojibwe language, is also known as "ogimaa" or king of all freshwater fish by the Ojibwe, Benton-Banai says.
(See No small wonder, page 9)



This 65" sturgeon appeared in Richard McGeshick's net set at Mille Lacs this spring. (Photo courtesy of Richard McGeshick)

2004 treaty spearing & netting season fast and furious

By Sue Erickson
Staff Writer

Odanah, Wis.—While some Mille Lacs Band nets were set in Mille Lacs Lake as early as April 2, it was a full week later when spears first broke water in Wisconsin. On April 9 St. Croix members were the first to harvest walleye as lakes began to open.

During a season described as "fast and furious," the peak of the run seemed to occur between April 21 and April 26, when catches with both net and spear were plentiful. Both the Wisconsin and Minnesota spring harvests ended on May 3.

2004 provided ample fish for tribal tables and freezers. In Wisconsin, six Ojibwe bands harvested a total of 27,150 walleyes, taking 63 percent of the 43,315 fish that were declared. The 2004 harvest fell just short of the 27,502 walleyes taken in 2003.

The combined tribal harvest of muskellunge for the 2004 Wisconsin season was 189, or 13 percent of the 1,509 muskellunge declared and slightly less than the 222 muskies harvested in 2003.

In Mille Lacs Lake, eight Ojibwe bands harvested by net and spear a total

of 74,920 pounds of walleye, leaving a remaining tribal quota of 25,079 pounds. The bands collectively harvested 9,138 pounds of northern pike during the season, leaving a quota balance of 2,359 pounds.

Small numbers of other species were also harvested from Mille Lacs Lake, including 2,161 pounds of yellow perch, 89 pounds of cisco and 286 pounds of burbot.

Although the season was generally described as peaceful, a specter of the spearfishing seasons in the 80s surfaced on the Rice River Flowage (formerly Lake Nokomis), Oneida County.

According to Great Lakes Indian Fish & Wildlife Commission (GLIFWC) Chief Warden Fred Maulson spearers reported on-water harassment one evening when a boat circled the spearfishing boat with the intent to make large waves. The spearers were also taunted with foul language, and the tires of their vehicles were slashed at the landing. A criminal complaint has been filed with Oneida County and is being investigated by the county.

No major incidents were reported in Michigan during the season. In Minnesota, one incident of illegally dumping fish parts was reported. GLIFWC

and Mille Lacs Band conservation officers are jointly investigating this incident.

In Wisconsin and Minnesota all landings open to either off-reservation tribal spearing or netting were monitored, with both enforcement and creel staff present.

All walleye and muskellunge harvested in Wisconsin are counted. Other

biological data, including length and sex, is also recorded. In Minnesota, harvested fish are separated by species, counted and weighed. Biological information such as length and sex is also recorded.

The strict, daily monitoring allows the remaining quota on declared lakes
(2004 treaty season, page 2)



Spearing on Lake Metonga in Forest County Wisconsin, Nathan Morris brings in walleye on a cold evening in late April. (Photo by Charlie Otto Rasmussen)

The rough road to steelhead trout

By **Charlie Otto Rasmussen**
Staff Writer

Huron Mountains, Mich.—The steelhead trout run was rapidly winding down along the northernmost reaches of Upper Michigan. The heavy spring rains and snowmelt that had launched spawning migrations into Lake Superior's south shore tributaries passed with the emergence of thin grass shoots and red-budding maple trees.

My guide, Tim, knew there would still be fish in the Little Huron River. Not in the numbers that boiled the fast running water in the latter half of April, but trout all the same—many of them large enough to feed a family of five or so at dinner.

We jostled along a deeply rutted dirt road in a pick-up truck that produced seasickness without the inconvenience of boating out into rough water. Camps, long used by hunters and fishermen, were set back from the road here and there through the bare hardwoods that emerged from the foothills of the western Huron Mountains.

The road is in pretty good shape, Tim told me as my neck bent against the truck's roof. Bouncing through a series of moguls, I rechecked my seatbelt and groped for a handhold. Loggers some-

times keep the road plowed in the winter, otherwise it doubles as a snowmobile trail, he said.

A local product of the Keweenaw—of Findian descent, he jibed—Tim spent his post-high school years in the Marines before returning home. Part Finlander, part Indian, the Findian is to the western Upper Peninsula what a mallard duck is to water, a pasty to a miner's lunch pail, a hemlock to a cool northern slope—a personage born from the land, and into it.

Michigan is home to more Finns than any other state. Finnish immigrants first came to the Upper Peninsula in the 1860s to work the copper mines and later on timber crews and farms while the Ojibwe had migrated into the area a few centuries earlier. Large Ojibwe populations in the Keweenaw and other regions fostered a melting pot of people and traditions bound by the land.

In the low light of early evening, we made it to the Little Huron, a modest river that carves a winding swath through the forest. He scans the water below a narrow wooden bridge with a flashlight. A long rainbow trout glides upstream, disappearing under a shelf of land on the far bank. My daughter got her first trout right around there, Tim explained, she was about six at the time.



A Keweenaw Bay member raises a speared rainbow, or steelhead trout, from the Little Huron River. Steelhead make annual spawning runs into Lake Superior tributaries each spring. (Photo by Charlie Otto Rasmussen)

A short hike downriver—maybe a mile from Lake Superior—we enter the water wearing rubber waders. He takes a pinch of tobacco from a round tin and sprinkles it into the water, a ceremony often repeated across Indian Country.

An enrolled member at nearby Keweenaw Bay Indian Community, he has several tackle options to catch dinner for his family across the bay in Pelkie. On this outing, he carries a wooden pole fastened with a six-prong metal spear in one hand, a long-handled flashlight in the other. I carry an identical light and trail behind, hopeful that I can keep from falling on the greasy stones that pave the river bottom.

After a few bends in the river Tim and a trout meet at a partially submerged hemlock where the roiled-up water creates a kaleidoscope under the beam of the flashlight. The fish is likely holdover from recent spawning runs when steelhead swam up from the Big Lake to deposit eggs on the river's gravel bottom. After careful aim, he misses the fish which flees downriver and over my boot, sending my free arm into a pinwheel.

We both stay dry—for the time being—and he connects on a trout further upstream with a well-placed thrust behind its head. The trout displays a diluted rainbow sheen characteristic of a fish that spends much of its time in Lake Superior. Full-time river fish produce the most brilliant color, but this holdover from the recent spawn is beautiful all the same.

Reaching for an overhanging tree, he twists off a branch in one swift motion and threads it through the trout's gill plate creating a natural stringer. Whether this is an old Indian trick or

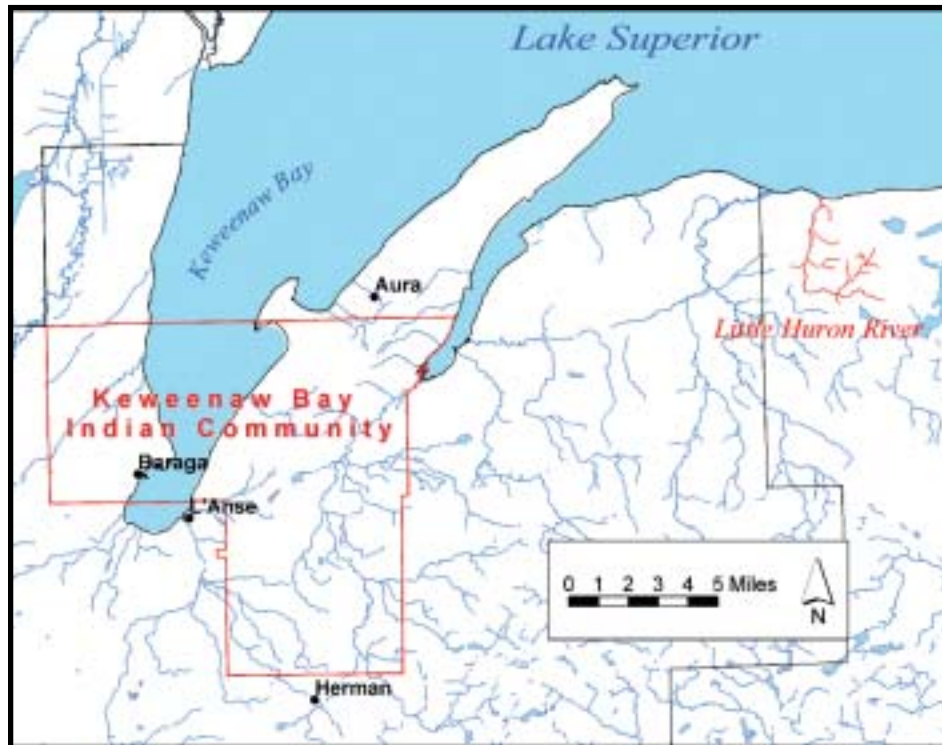
Findian ingenuity I cannot say, but it does the job of creeling his catch.

Unlike walleye, which are more commonly found at the end of an Ojibwe spear, rainbows generate little reflection when viewed from above. The tell-tale white gleam present in the eyes of walleye makes them quickly identifiable to evening spearmen. By contrast, rainbows appear as a muted blue-grey projectile darting and circling under the light.

The remaining stretch of river is quiet, and we stop to rest under a full moon filtered by thin wisps of clouds. It's around midnight. A light splashing sound upriver brings the Findian to his feet, and he climbs the bank, weaving through the maze of alders with surprising dexterity toward the sound. In a tangle of saplings and dead timber, a steelhead spatters and rolls in two feet of water. The fish spooks into open water as Tim closes in and it makes a series of circles and figure-eights under the beam of his flashlight. Easing into the water, he lowers the spearhead so it just breaks the surface, allowing him to better judge his target in the flowing water. The fish seems to relax, and he has him in an instant.

Fishing has been slow by late-April standards, but good all the same. We meander back to the truck with two nice fish—and then a third catches Tim's eye. He gives me a look that says, this will only take a moment, walks to the edge of the bank, and falls in. Crawling to his feet back on land, he smiles and shrugs. I haven't heard much in the way of trickster fish in Ojibwe stories, but wondered if this one might qualify.

The sky is now clear, and the road out seems somehow less wrenching.



Rainbow trout make spawning runs into the Little Huron River and other Lake Superior tributaries. (Map by Miles Falck)

2004 treaty spearing & netting season

(continued from page 1)

to be adjusted following each day's harvest in order to prevent exceeding quotas.

As is customary, many tribal fishermen share their catch with family, extended family and tribal elders and also provide fish for ceremonies and community feasts.

Tribe	Walleye	Muskellunge
Bad River	2,813	9
Lac Courte Oreilles	3,702	14
Lac du Flambeau	10,666	88
Mole Lake	5,155	15
Red Cliff	2,440	13
St. Croix	2,374	50

On the cover

Ben Sam, nine-year old Mille Lacs tribal member, brings aboard a northern during the spring netting and spearing season in Mille Lacs Lake. (see story on pages 12-13)
(Photo by Sue Erickson)



Shock crews race against the weather

Population, mercury assessments of adult walleye

By Charlie Otto Rasmussen, Staff Writer

Odanah, Wis.—They're known as boomshockers, electrofishing boats or just plain shock boats. Fishery crews from GLIFWC, several tribes, state Department of Natural Resources, and the U.S. Fish & Wildlife Service recently utilized these boats to conduct annual adult walleye population assessments on ceded territory lakes in Wisconsin and Michigan.

Shock boats from Mole Lake and St. Croix joined the interagency effort to survey eleven Wisconsin lakes and Parent Lake in Upper Michigan. The crews had hoped to reach five additional lakes this spring until a weather system dumped nearly three inches of rain across the ceded territory, opening northern and southern lakes in a matter of days.

"Normally lakes open up more gradually, allowing survey crews time to complete their work in about three weeks," said Michele Wheeler, crew leader and GLIFWC fisheries biologist. "After the heavy rain, the lakes opened up almost simultaneously giving us only two weeks before water temperatures got too high."

Once water temperatures hit 50 degrees, spawning activity shuts down and the adult fish move out of the shallows and out of range of the electrofishing boats. Wheeler said survey crews responded splendidly, working extra hours every night to make up for the rapid warm-up. Despite rapidly warming water temperatures, shock crews faced the usual bouts of turbulent April weather including snow, rain, wind and waves.

"Crews encountered some rough weather but were able to safely survey all the priority lakes in 13 nights," Wheeler said.

Knowing survey crews could not reach every lake scheduled for assessment, GLIFWC biologists established a pecking order. Long-term study lakes including Kentuck and Siskiwit topped the list, followed by lakes that experience significant tribal spearing harvests.

Shock boat fishing assessments generally require two or more nights to complete for each water body. Hanging like a pair of limp spiders from the bow, stranded wire electrodes send an electrical current into the water that momentarily stuns nearby fish. Technicians with dipnets quickly scoop up "shocked" fish as they roll to the surface, placing them in aerated holding tanks for fin clip or floy tag marking and examination. Following the initial run—generally of the entire shoreline—electrofishing crews return the next evening to "recapture" and tally marked fish.

"On Butternut Lake, one of our long term study lakes, we applied individually numbered floy tags to each walleye," Wheeler explained. "Tagged fish provide age and growth information, especially when we capture these fish in subsequent years. It's an effective method to better understand the dynamics of walleye populations in Butternut and other similar lakes."

Switching from adult to young walleye, GLIFWC electrofishing crews worked through the second half of May to wrap-up the spring assessment season. After earlier conducting an adult walleye assessment on the Manitowish Chain, GLIFWC crews made a second trip to the 4,000-acre waterway for a young-of-the-



Fisheries staff from GLIFWC and the Wisconsin DNR pooled their resources to conduct walleye assessments on the Manitowish Chain of lakes this past spring. Pictured at a pre-electrofishing meeting on May 13 are Jeff Roth, Mike Vogelsang, Steve Timler, John Kubisiak, Shane Cramb, Michele Wheeler, Jon Deroba, Jordan Weeks, Ron Parisien, Ed White, Butch Mieloszyk and John Johnson. (Photo by Charlie Otto Rasmussen)

year walleye survey in cooperation with the Wisconsin DNR. GLIFWC crews covered portions of the lake chain including Alder, Spider, Stone, and Fawn Lakes. And on massive Lake Mille Lacs, four GLIFWC crews and another from St. Croix conducted the annual one to two-year old walleye survey.

Wheeler said all the results from the spring surveys will be complete by August.

Mercury testing

In addition to examining and releasing fish, electrofishing crews collected walleye from 29 lakes in Wisconsin and Minnesota for mercury contaminant testing. GLIFWC conservation wardens facilitated the acquisition of additional walleye, purchasing freshly speared fish from tribal members at 21 other water bodies, including lakes in Michigan.

"Overall the collection of walleye for mercury testing has gone very well," said GLIFWC Environmental Biologist Matt Hudson. "We had help collecting fish from many sources."

Along with GLIFWC staff, Hudson expressed his gratitude to Michigan and Wisconsin state natural resource departments for their role in obtaining walleye samples.

Funded by a pair of Environmental Protection Agency grants, results from walleye contaminant testing are used to create GLIFWC's mercury advisory lake maps.



Representatives from tribes and tribal organizations testified during an April 29 hearing before the Senate Committee on Indian Affairs regarding the Native American Fish and Wildlife Resources Management Act of 2004. Pictured are GLIFWC Policy Analyst James Zorn (far left); Billy Frank, Northwest Indian Fisheries Commission; and Gary Rankel, Bureau of Indian Affairs. (Photo by Steve Robinson)

Spring season crew members

Crew leaders are noted with an asterisk*

Wisconsin

GLIFWC	USFWS-Ashland	GLIFWC
Michele Wheeler*	Butch Mieloszyk*	Don Corbine*
Ron Parisien Jr.	Shane Cramb	Duane Soulier
Louis Plucinski	David Moore	Josh Johnson

Mole Lake	St Croix
Mike Preul*	Don Taylor*
Scott Polar	Bruce Bellanger
Rick Hammer	Travis Taylor
Tom Ols	

Minnesota

GLIFWC	GLIFWC	USFWS-La Crosse
Ed White*	Sam Quagon*	Dave Wedan*/Scott Yess*
Kris Arbuckle	Jerome Cross	Bill Soulier
Rick Nelis	Ed Whitebird	Dale Corbine

USFWS-Ashland	Fond du Lac
Gary Czypinski	Brian Borkholder*
Chuck Smart	Terry Perrault
Jeff McRoy	Fond du Lac technicians

Assistant Secretary Dave Anderson hears concerns of area tribal representatives *2005 & 2006 federal budget cuts worrisome*

By Sue Erickson
Staff Writer

Minneapolis, Minn.—Taking time out from a busy agenda, Department of Interior Assistant Secretary Dave Anderson, better known as Famous Dave, took time to spend a few hours with tribal representatives during a reception at the Thunderbird Motel and Convention Center in Minneapolis on April 23rd. The reception was co-sponsored by the Mille Lac Band of Ojibwe and the Great Lakes Indian Fish & Wildlife Commission (GLIFWC).

Anderson, a Lac Courte Oreilles tribal member and owner of the Famous Dave's restaurant chain, has two-and-a-half months experience in his new position overseeing the Bureau of Indian Affairs (BIA).

Anderson said youth and education are his primary focuses. Tribal youth need a vision of hope, he said. He has made visiting as many tribes and schools a priority in order to encourage tribal youth and assess educational needs. "The heart and soul of Indian Country is out here," he said, "not in Washington, D.C."

Budget cuts and the impact on tribal programs were the primary concern of tribal representatives at the reception. Anderson acknowledged that the 2006 budget, which is currently being reviewed, calls for a 2.4 percent budget cut for the BIA, or about \$52 million.

Anderson said it is possible the 2006 cuts won't happen, but also emphasized that it is up to the tribes and tribal leaders to make their needs known

to Congress, which is responsible for the allocation of federal dollars.

He said tribal representatives arrive in Washington to talk about the many needs in Indian Country, needs such as schools and roads. "The tribes must get together and determine a vision for Indian Country," Anderson said, "for five, ten even fifty years from now. They need to get together for more political muscle."

He emphasized the need for tribes to assert control over their own futures. GLIFWC Executive Administrator James Schlender noted that GLIFWC is a self-regulation success story. Managed through a 638 contract with the BIA, GLIFWC exemplifies the ability of the tribes to successfully self-regulate. It is the tribes themselves who developed GLIFWC's wide-ranging program that protects treaty rights, regulates off-reservation treaty harvest and manages the natural resources.

On another issue, Tom Maulson, chairman of GLIFWC's Board of Commissioners, expressed frustration with the time lag involved in getting lands put into trust. Within the BIA's Midwest Regional Office (MRO) alone about 400 applications await processing, according to MRO staff. Anderson acknowledged the problem and the considerable backlog of applications due to limited staff and increasing numbers of applications.

Anderson said he would like to see the tribes and tribal members invest and develop assets. He also promotes home ownership. "Buy land, build something on it and sell it," he said, encouraging private entrepreneurship as a way of thinking and of securing non-federal dollars.



Great Lakes Indian Fish & Wildlife Commission Chairman Tom Maulson, Lac du Flambeau, greets Assistant Secretary Dave Anderson, Bureau of Indian Affairs, during a reception in Minneapolis this spring. (Photo by Sue Erickson)

BIA proposed budget cuts

According to a March 24 article on indianz.com, that cut in combination with inflation and salary increases would actually have an impact of a 3.6 percent cut, or \$80 million. The 2006 BIA budget reduction comes on top of a 2005 reduction of about 2.3 percent, making for a nearly six percent reduction in two fiscal years.

Also, according to a March 12 memorandum from the Department of Interior's Bureau of Policy, Management and Budget, the proposed 2006 budget for the BIA at \$2,199 million actually reflects a budget cut of \$107 million from the BIA's enacted 2004 budget of \$2,306 million. However, the Office of the Special Trustee's budget showed an increase, with the proposed 2006 budget at \$315 million up \$106 million from its 2004 enacted budget of \$209 million.

Great Lakes Task Force to coordinate federal restoration efforts

Washington, DC—On May 18, 2004, President Bush signed an Executive Order creating the Great Lakes Interagency Task Force. The Task Force, under the lead of the U.S. Environmental Protection Agency (EPA), brings together ten Agency and Cabinet officers to provide strategic direction on federal Great Lakes policy, priorities and programs.

The ten agencies together administer more than 140 different federal programs that help fund and implement environmental restoration and management activities in the Great Lakes basin.

At the same time, the President instructed EPA Administrator Mike Leavitt to engage Ohio Governor Bob Taft as Chair of the Council of Great Lakes Governors and Chicago Mayor

Richard Daley as Chair of the Great Lakes Cities Initiative to convene a complementary process of regional collaboration.

In addition to the ten U.S. agencies, governance of the Great Lakes system is shared with eight U.S. states, more than half a dozen major metropolitan areas, and numerous county, local and Tribal governments. Internationally, governance of the Great Lakes system is shared with Canada.

"Collaboration and coordination—building on the broad collection of existing efforts while ensuring leadership and accountability at the national and international level—is clearly a better way," Administrator Leavitt said.

The Executive Order calls for the development of outcome-based goals such as cleaner water, sustainable fish-

eries, and system biodiversity and calls on the Task Force to ensure federal efforts target measurable results.

"I plan to meet personally with each of the eight Great Lakes States governors and with many of the region's mayors and stakeholders over the next thirty days," Leavitt added. "The hallmark of our collaboration will be central coordination—of priorities, policies and plans—and local control—of programs, projects and people. I'll also meet with Canadian government officials within 30 days to begin the Task Force's discussion of how our two countries can better work together to address environmental impacts to the Great Lakes ecology."

The Great Lakes are the largest surface freshwater system on the Earth. They contain more than 90 percent of the nation's surface fresh water and more than 30 million people in the U.S. and Canada depend on the lakes as a source of drinking water. The daily activities of that population, from the water consumed to the waste returned,

directly affect the Great Lakes environment. Major stresses on the lakes also include toxic and nutrient pollution, invasive species and habitat degradation.

Creation of the Task Force continues the commitment made by the Bush Administration with the signing of the Great Lakes Legacy Act of 2002. The Legacy Act addresses the remediation of contaminated sediments in areas of concern. President Bush's 2005 budget proposal includes \$45 million for the cleanup of contaminated Great Lakes sediments, a \$35 million increase over 2004 levels.

In total, between 2002-2004, the Bush administration has invested more than \$1.3 billion across the federal agencies to improve water quality, combat invasive species, restore habitat, cleanup brownfields, and establish new, tougher standards for improved air quality by cutting pollution from power plants and diesel engines.

For additional information, visit: <http://www.epa.gov/greatlakes>.

"The Great Lakes are a national treasure that represents 20 percent of the world's fresh water. The Great Lakes region is an economic engine and recreational haven, and we are making great progress in protecting and restoring this vital natural resource."

—President George Bush

Lamprey traps set in Lake Superior tributaries as high water ebbs

By Bill Mattes, GLIFWC
Great Lakes Section Leader

Odanah, Wis.—Led by Mike Plucinski, Great Lakes fishery technician, and assisted by Nate Bigboy, (ANA) fisheries technician, GLIFWC started adult sea lamprey assessments on the Bad River in late April.

Initiated in 1986, this work is done in cooperation with the U.S. Fish and Wildlife Service (USFWS) Sea Lamprey Control Program in Marquette, Michigan—a program established to suppress sea lamprey abundance in the Great Lakes to allow for restoration of the Great Lakes' fishery.

A Cooperative Agreement between GLIFWC and the USFWS which identifies agency responsibilities in carrying out the adult lamprey assessments on the Bad, Middle, Amnicon, and Poplar Rivers in Wisconsin and on the Misery, Firesteel, and Silver Rivers in Michigan was established in 2004.

In the Great Lakes Basin sea lamprey control and assessment work is led by the Great Lakes Fishery Commission (GLFC) which was established in 1955 by the Canadian/U.S. Convention on Great Lakes Fisheries. It is their mission to provide an integrated sea lamprey management program that supports the Fish Community Objectives for each of the Great Lakes and that is

ecologically and economically sound and socially acceptable. The USFWS serves as an agent of the GLFC, and both work in cooperation with various federal, provincial, state, and tribal agencies in maintaining sea lamprey abundance at or below acceptable levels.

In Lake Superior the GLFC is currently helping to establish targets for sea lamprey populations. These targets are designed to meet the Fish Community Objective for sea lampreys agreed upon by the Lake Superior Committee in 2003, which is to "suppress sea lamprey to population levels that cause only insignificant mortality on adult lake trout." One target looks to reduce the spawning lamprey abundance to an average of 39,000 spawners annually.

The data collected by Plucinski and GLIFWC crews are used to estimate the number of adult spawning lamprey in the Bad and other rivers and to track changes in lamprey biology over time. A portion of the lamprey captured each day are given a mark, which is

unique by week, with the remainder of the lamprey and recaptured lamprey being destroyed and transferred to a landfill.

As lamprey are recaptured a ratio of marked to unmarked animals is tracked and fed into a statistical formula to generate an estimate of the overall numbers of lamprey in the river (see Quick Population Estimate below).

Estimates of the spawning lamprey populations from various rivers of different sizes and flows are then fed into a larger statistical model which generates estimates of abundance for all of Lake Superior. About 5% of the lamprey making the spawning run in the Bad River are captured through GLIFWC's assessment program, where the spawning population has ranged from 2,000 to 13,000 lamprey annually.

If you would like to know more about this subject, please feel free to contact Bill Mattes, Great Lakes Section Leader at P.O. Box 9, Odanah, Wis. 54861 or call 715/685-2120.



U.S. Fish & Wildlife Service representative Sara Ruiter and GLIFWC's Bill Mattes complete paperwork for the limited term transfer of a federal pick-up truck. The vehicle will be utilized by GLIFWC staff during the annual spring adult lamprey assessment. (Photo by Charlie Otto Rasmussen)

Quick Population Estimate

Take 60 silver paperclips and 5 colored paperclips, throw them in a bowl and mix them well.

Draw out about 20 without looking. How many are colored paperclips?

The 5 colored paperclips represent marked lamprey (or M)

The 20 or so you draw out represent lamprey captured after the original marking (or C).

The colored paperclips represent tagged lamprey that have been recaptured (or R).

The total 65 paperclips represent the lamprey population in your river.

Put into this "Modified Schaeffer" formula: $(M+1)*(C+1)/(R+1)$. Did you get about 65? This is your lamprey population estimate.

Red Cliff targets lamprey in Red Cliff Creek Seeks to reduce need for chemical treatment

By Sue Erickson
Staff Writer

Red Cliff, Wis.—Trapping of adult spawning lampreys is not new to Red Cliff fisheries staff. They've been working with the U.S. Fish and Wildlife Service (USFWS) Sea Lamprey Control Program and the Great Lakes Indian Fish & Wildlife Commission for years on lamprey population assessments.

They are continuing that assessment work on Red Cliff Creek through an agreement with the USFWS. Although the creek is small, it is a tributary to Lake Superior and harbors a strong lamprey population, according to Matt Symbal, Red Cliff fisheries biologist.

Red Cliff Creek is also a study stream for the USFWS. The data collected from the spawning run in Red Cliff Creek is used in building sea lamprey population models.

The USFWS population survey of Red Cliff Creek occurring in 2003 estimated that the creek will release 800-900 transformer lampreys this year. A transformer refers to a juvenile para-

sitic lamprey that has completed the larval stage and developed its disc-like mouth. It is ready to find prey for its parasitical existence. Unfortunately, the prey is usually Lake Superior lean lake trout or whitefish.

This year Red Cliff intends to be more aggressive in the extermination of lampreys, Symbal says. Normally, mark and recapture assessments are performed in the creek during the lamprey spawning run. The lamprey are netted, marked and released. If recaptured, they are then killed. The number of recaptured lampreys determines the population estimate.

However, this spring Red Cliff is setting two nets to capture lampreys. The placement of the first, at the mouth of the river, will be used for the mark and recapture studies. Another net set up river will be used simply to catch and exterminate lampreys.

Symbal hopes by increasing the amount of lampreys exterminated, lampricide treatment in the creek will be less frequent. Currently, the creek is typically treated with a lampricide every four years. It will be treated this year by the USFWS using the lampricide TFM (3-trifluoromethyl-4-



Staff from the Red Cliff Hatchery set a net in Red Cliff Creek to trap lamprey. The tribe works with the US Fish and Wildlife Service's Sea Lamprey Control Program, obtaining data for lamprey population estimates. (Photo submitted)

nitrophenol). By exterminating more lampreys, Symbal hopes that the frequency could be reduced to every six years.

While the lampricide is needed to control lamprey numbers, the applica-

tion of the chemical is worrisome to many people, Symbal says. Although the lampricide targets only larval lampreys, many people are apprehensive about long-term impacts that may not currently be anticipated.

Garlic mustard: A major threat to our forests

By GLIFWC Staff

Editor's note: Because of the increasing number of invasive species in the ceded territories and their potential to significantly alter native habitats, Mazina'igan will be featuring an invasive species each issue, to help readers identify invasives when encountered.

Odanah, Wis.—One of the worst invasive forest plants in our area is garlic mustard, says Miles Falck, Great Lakes Indian Fish & Wildlife (GLIFWC) biologist.

Interestingly, garlic mustard is a member of the mustard family, or Brassicaceae, along with cabbage, broccoli, and brussel sprouts (all *Brassica oleracea*), as well as wild plants such as yellow rocket (*Barbarea* spp.), toothworts (*Dentaria* spp.), bitter cress (*Cardamine pensylvanica*). A small and unassuming plant, garlic mustard has spread rapidly in North America, pushing out native plants as well as the insects and other animals that depend on them.

Where did garlic mustard come from?

Garlic mustard is native to Europe and Asia. It was probably brought to North America by early European colonists as a medicinal and salad plant. It soon escaped from cultivation and became established on Long Island, New York by 1868. Like many other introduced plants, it has spread westward from the northeastern seaboard.

Almost since its introduction, garlic mustard has spread at an exponentially increasing rate. By 1993, garlic mustard was spreading in eastern North America at an estimated rate of nearly 4,000 square miles per year. It is now widely established and often abundant in the eastern and midwestern US and adjacent southern Canada, and in several western states and the Pacific Northwest.

Characteristics of garlic mustard

Garlic mustard plants spend their first year as rosettes (with the leaves in a circle close to the ground, like a dandelion). These basal leaves are dark green, coarsely toothed and deeply veined, and somewhat kidney-shaped, with petioles (leaf stalks) roughly as long or longer than the leaf blades. As they grow, these rosettes develop a long, somewhat S-shaped taproot.

Garlic mustard rosettes stay green throughout the year, even under the snow. Patches of these rosettes can be easily spotted in late fall and early spring, when the surrounding vegetation is generally dormant and brown.

Garlic mustard is an obligate biennial, meaning that the plants always bolt in early spring of their second year. Bolting plants produce a stalk up to three feet tall, although plants only a few inches tall can flower and produce seeds. The stalk leaves become progressively smaller and more triangular towards the top of the stem.

Clusters of small, white, four-petaled flowers are produced at the top of stalk, from mid-May to June. Seed pods appear soon after flowering. Garlic mustard is unusual in the mustard family, in that all parts of the plant smell like garlic. This odor fades towards fall.



Garlic mustard rosettes bolting in early spring. Patches of rosettes are easily spotted in late fall and early spring.



Flowering garlic mustard. From mid-May to June, clusters of small, white four-petaled flowers are produced at the top of the stalk.

Similar species

In eastern North America, garlic mustard is the only common forest plant that reaches three feet or more tall and produces white flowers in early spring. The native bitter cress produces small white flowers in spring, but has irregularly lobed or nearly pinnately-compound leaves, more similar to those of broccoli or yellow rocket than of garlic mustard. Bitter cress is generally a much smaller plant also, reaching a maximum of two feet tall.

Additionally, leaves of bitter cress and other native mustard family members do not smell like garlic when crushed. Bitter cress inhabits wet woods, stream banks and open wetlands throughout most of the US, including the upper Great Lakes region. While the leaves, stems and bulbs of wild leek (*Allium tricoccum*) definitely taste like garlic, this native spring ephemeral is a much different plant than garlic mustard, with broad, somewhat elliptical, flat leaves.

Violets (*Viola* spp.) often form rosettes of heart- or kidney-shaped leaves, and some produce white flowers. The flowers of violets appear on separate, short stalks, and are generally larger and more showy (and much different in structure) than are garlic mustard's. Furthermore, violets never produce long narrow seed pods, and their foliage never smells like garlic.

Reproduction and spread

Garlic mustard reproduces entirely by seed. The flowers are pollinated by flies, midges, and bees. Because it is able to self-pollinate, and because it produces large numbers of seeds, small colonies of garlic mustard are able to increase and spread rapidly.

Individual plants produce an average of roughly 350 seeds each, and have been known to produce as many as 7,900 seeds. Dense patches of garlic mustard can produce as many as 10,000 seeds per square foot.

The seed capsules of garlic mustard burst open when ripe, propelling the seeds for up to several yards. The seeds tend to stick to damp surfaces, which may allow them to hitchhike on the fur of animals. Seeds eaten by white-tailed deer and other animals may also survive. Human activities are the primary responsible for garlic mustard's spread over long distances.

In the upper Great Lakes region most seed lays dormant for about 20 months, germinating in February through April of their second year, while in warmer climates (e.g., southern Illinois) the seeds generally germinate the following spring. A small portion may lay dormant for several years. In deciduous forests, the seedlings grow most rapidly in spring and fall, when the trees are leafless and light is abundant.

Habitat

Although it can tolerate sunny habitats, such as old fields and railroad beds, garlic mustard does best in partial shade, and is capable of growing and reproducing in deep shade. It prefers moist, well-drained soil, but can tolerate a wide variety of soil conditions, from wet clay to fairly dry, sandy soil. It is intolerant of very acid soils. Common habitats include shaded riverbanks, woodland edges, and interior woods.

Garlic mustard has a strong tendency to become established in disturbed areas, such as forest edges, roads, and trails. It then spreads from these habitats into closed, undisturbed forest. In Europe it occurs as far north as 68 degrees north latitude, which is 11 degrees farther north than Juneau, Alaska!

Ecological impacts

Garlic mustard is considered a major invasive plant, capable of moving into undisturbed forest and replacing native vegetation. In the northeastern US, it has replaced native spring ephemerals such as trout lilies (*Erythronium* spp.) and spring beauties (*Claytonia* spp.) across large areas. Removing garlic mustard from a western Maryland forest led to a significant increase of annuals and tree seedlings. Garlic mustard also interferes with the regeneration of the more shade-intolerant forest trees, including oaks (*Quercus* spp.). On one site in northern Illinois, garlic mustard dominated the floor of a disturbed oak forest within ten years of establishment. By displacing dozens of other plants, garlic mustard alters the composition and structure of the forest floor plant community.

While garlic mustard is widespread in its native Europe, it generally only occurs in small, scattered populations there. In North America, by contrast, large populations covering more than 10,000 square yards are common. This difference is very likely due to the absence of garlic mustard's natural insect herbivores, diseases, and other pests. Deer prefer most native forest plants to garlic mustard, giving garlic mustard even more advantage over these plants.

Garlic mustard indirectly lowers the reproductive success of certain native butterflies and may even threaten their long-term survival. It does this by acting as a population "sink"—the female butterflies lay their eggs on garlic mustard instead (See Garlic mustard, page 23)

Fish parasite spreads in northeast Wisconsin

By Charlie Otto Rasmussen, Staff Writer

Odanah, Wis.—First discovered in fish on the Eagle River chain in 2000, the nonnative parasite *Heterosporis* is showing up in additional lakes in northeast Wisconsin, including the Michigan border lake, Lac Vieux Desert.

Great Lakes Indian Fish & Wildlife Commission (GLIFWC) biologists are advising tribal fishermen to be on the look out for fish infected with the parasite. While it is not known to kill fish or be harmful to humans, the fillet tissue of fish with *Heterosporis* contains white areas that resemble freezer burn.

“We’re encouraging tribal fishermen to turn in any fish they suspect carries this parasite,” said GLIFWC Inland Fisheries Section Leader Joe Dan Rose.

“Contact your local GLIFWC warden or any inland fisheries biologist, and we’ll arrange to collect the fish for testing.”

Tribal fishermen in the Lac Vieux Desert, Mole Lake and Lac du Flambeau areas are most likely to encounter fish with *Heterosporis*, Rose said. Most recently, the parasite has appeared in fish on Big Arbor Vitae, Echo and Robinson Lakes.

While the parasite commonly shows up in yellow perch in infected areas, it has been identified in different fish species including walleye, northern pike and burbot.

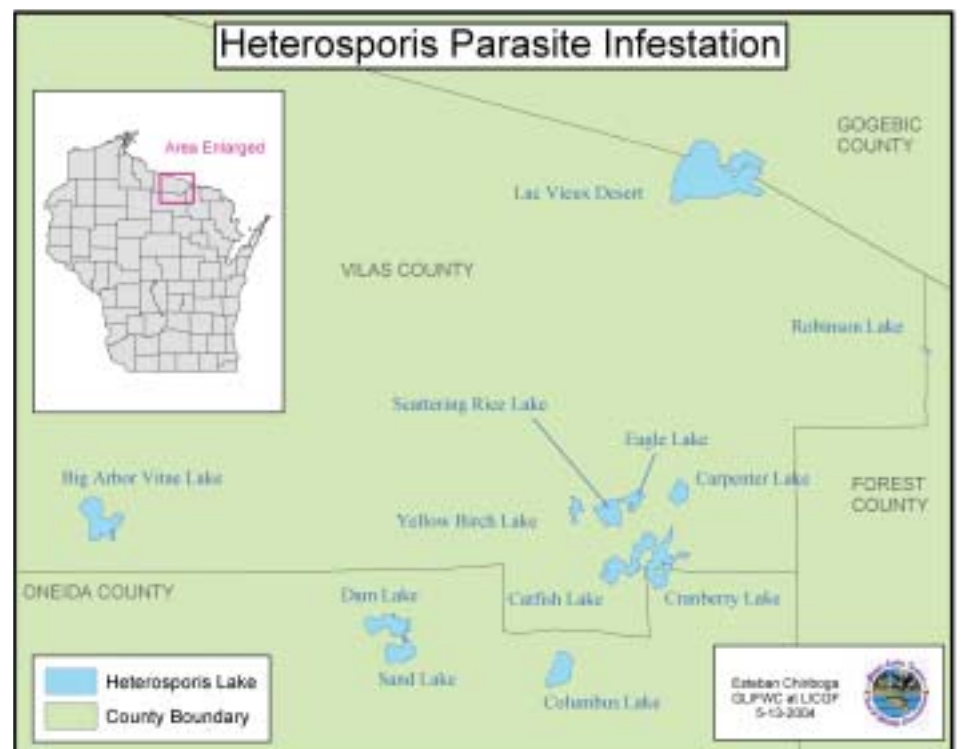
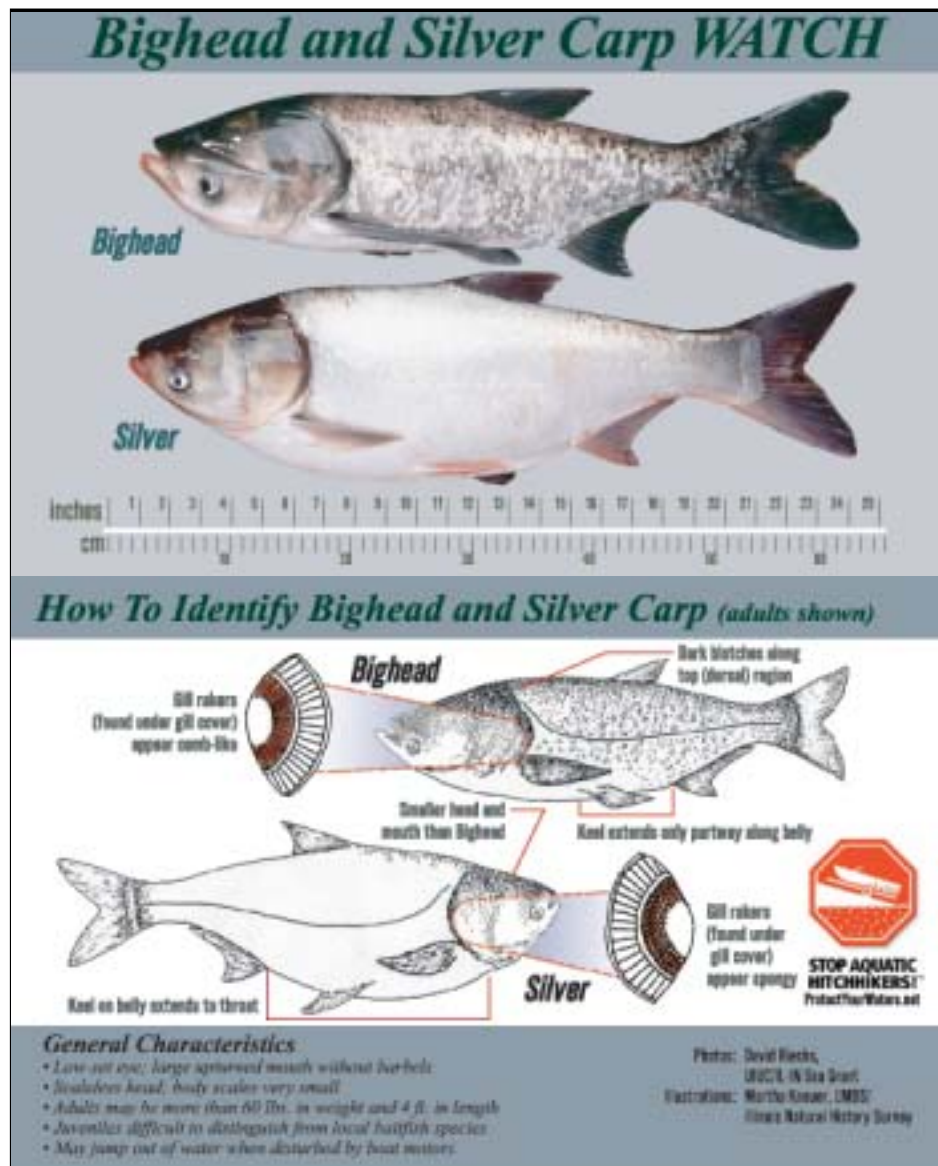
The Wisconsin Department of Natural Resources has published tips to help keep the pathogen from spreading to other waters:

✓Do not throw infected fish back into a lake or other natural water bodies. Instead place the fish in the garbage, burn them or bury them.

✓Thoroughly dry all equipment (outside of boats and trailers, nets, boots, ect.) when moving from one waterbody to another. *Heterosporis* can survive under moist conditions, but is vulnerable to dry conditions.

✓Drain all live wells and bilges away from lakes and rivers, on soil if possible, so the water does not run into a natural water body. Because it is difficult to dry live wells and bilges completely, these areas can be disinfected with a bleach solution of one cup bleach in five gallons of water.

Contact GLIFWC at (715) 682-6619 to report possible *Heterosporis* in fish or for more information.



The exotic fish parasite *Heterosporis* is expanding to additional lakes in northeast Wisconsin. *Heterosporis* is identified by white areas that look like freezer burn on the tissue of fish. (Map by Esteban Chiriboga)

Bighead and Silver Carp

Bighead and silver carp are invasive fish spreading to lakes, rivers and streams in several areas of North America, particularly the Mississippi River and Great Lakes regions. Because they feed on plankton, these fish compete for food directly with native organisms including mussels, all larval fishes and some adult fishes. This competition could reduce numbers of native species, which would ultimately affect the entire food web.

These Asian carp were brought to North America in the early 1970s to remove algae from aquaculture ponds. By the early 1980s, both species had escaped to open waters of the Mississippi River Basin. Use of juveniles as bait and release of adults into new habitats contribute to their spread. Early detection of isolated populations may help slow or restrict the spread of these Asian carp. Your help in reporting new sightings and preventing the spread of these and other non-native aquatic species is vital for protecting our waters.

What you can do

- **Learn** to identify bighead and silver carp (see above).
- **Never release** live fish from one body of water into another.
- **Drain** lake or river water from livewell and bilge before leaving access.
- **Inspect** and remove aquatic plants and animals from boat, motor and trailer.
- **Report** new sightings—note exact location; freeze specimen in a sealed plastic bag; and call the U.S. Fish and Wildlife Service or your state Sea Grant program.

REMINDER: Know the rules!

Specimens are needed to confirm sightings, but some jurisdictions prohibit possession of Asian carp and other invasive aquatic animals and plants. Others may restrict possession for specific uses only. Contact your local natural resource management agency for instructions. Unauthorized introduction of fish, crayfish or plants into the wild is illegal. Protect your property and our waters.

(Produced by Illinois—Indiana Sea Grant, Illinois Natural History Survey, Illinois Department of Natural Resources, and U.S. Fish and Wildlife Service for the Great Lakes Sea Grant Network, 2003.)

Clean your boat

Stop the spread of aquatic nuisance species

Remove all plants and animals.

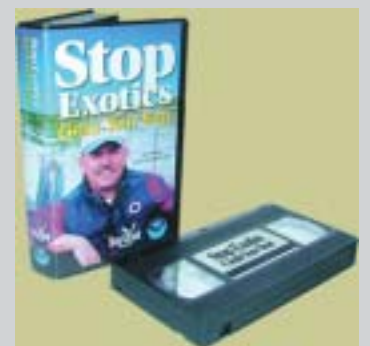
Drain lake or river water from livewell and bilge.

Dispose of unwanted live bait on shore.

Rinse your boat and equipment with high pressure hot water, especially if moored for more than a day.

Dry everything for at least 5 days.

A video on cleaning your boat is available for \$10.00 from Minnesota Sea Grant at 2305 East 5th Street, Duluth, Minnesota 55812-1445 or call 218-726-6191



Using apakwaanaatig (sumac) to form fine art

By Karen Danielsen
GLIFWC Forest Ecologist

Fond du Lac Reservation, Minn.—Jeff Savage, a Fond du Lac tribal member and artist, creates smoking pipes using the natural resources he gathers and processes. He quarries and carves pipestone to fashion elegant pipe bowls—a procedure equally laborious and delicate. For pipe stems, he harvests, dries, and carves the wood of apakwaanaatig (sumac). Sometimes, he uses the wood of aagimak (ash).



Jeff Savage. (Photo by Karen Danielsen)

These plant species work best for pipe stems because their branches have an unusually narrow central pith. The pith, consisting of a substance softer than the surrounding woody layers, may be easily removed to produce a clean, constricted opening to be used for smoke inhalation within the finished pipe.

Jeff spends many hours searching through healthy patches of apakwaanaatig for straight branches of desired width. He tends to these patches, gathering only what he needs. He carefully avoids disturbing smaller plants because he knows that, as they mature, they will provide the materials he will use in the future. Occasionally, he knocks seeds onto the ground to help establish seedlings.

Many of these patches exist along roadsides, and it greatly saddens Jeff when he sees apakwaanaatig ripped away for road maintenance purposes. He cannot understand why roadside brushing activities must blanket such a wide swath. The clearings destroy not only apakwaanaatig, but other plant resources important to the Ojibwe. He views these activities as being excessive and a waste of tax dollars.

Jeff also finds alarming the decimation of some patches by all-terrain vehicle (ATV) use and the complete loss of other patches due to building construction.



Pipe stems and bowls fashioned by Jeff Savage, Fond du Lac artist. (Photo by Jeff Savage)



Apakwaanaatig (staghorn sumac). Its branches are used to make pipe stems.

Finding suitable branches of apakwaanaatig has always been a challenge. Unfortunately, it seems to be becoming more difficult.

When he finally finds the desired branches, he stores them in a cool location, such as in his garage or basement, to allow for optimal drying. The wood must be completely dried before carving. He considers this part of the process as key to making high quality pipes. Otherwise, a finished pipe stem will crack and split apart as it continues drying.

Furthermore, the wood should not be dried too quickly, or it will crack even before carving begins. Jeff dries his gathered branches for at least one year. For his more intricately carved and fragile pipe stems, he often dries the branches for three or more years.

To keep the outer sapwood a lighter whitish-tan color throughout the drying process, which adds complexity to his carving, he peels the bark from the branches immediately after gathering. This prevents the sap from darkening the sapwood. In addition, he gathers in the autumn when the sapwood has expanded to its fullest annual extent.

Once a branch has dried completely, he inserts a red-hot coat hanger into its center to burn away the pith. Traditionally, Ojibwe Indians removed the pith without the use of metal tools. One method entailed splitting the branch, scraping off the pith, and gluing the branch back together with animal hide or tendon glues. Another method used ants or wood worms to eat away the pith.

To form his pipe stems, Jeff uses a simple hand plane and carving knives. The apparent ease at which he carves authenticates his 35 years of experience. Observers, mistaking his talent for a simple task, often quickly recognize their error as soon as their own attempts at carving result in crude-looking and unfinished pipe stems, not to mention bloodied and blistered hands.

His pipe stem styles range from the Eastern Woodland twirled style to the Plains flattened style. He sometimes enhances his pipe stems with feathers and beadwork. The coupling of his pipe stems with his skillfully carved pipe bowls creates fine art meant to be utilized in a good way.

Rarely having a large inventory in stock, he makes smoking pipes upon request. Depending upon the materials at hand, a final product may take as long as a year or as quickly as two weeks to complete. Each pipe has its own unique value and stunning appearance.

Identifying apakwaanaatig

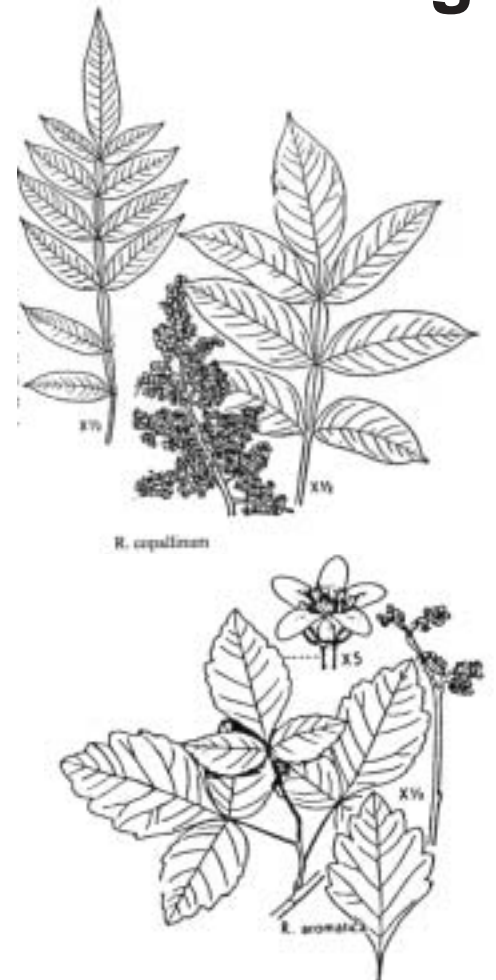
By Karen Danielsen
GLIFWC Forest Ecologist

Tribal members most commonly use staghorn sumac [*Rhus hirta* (L.) Sudw.] for making pipe stems. Found throughout the ceded territories, this shrub usually inhabits dry, open sites along roadsides and forest edges. It can grow up to 30 feet tall.

Although able to reproduce from seed, it frequently clones itself through sprouts from existing roots. These clonal clusters radiate a particularly saturated beauty in late summer when ruby-red fruits reflect vividly off of bright-green leaves. In autumn, equally compelling beauty shines when leaves blaze into a deep shade of crimson.

Other sumac species may be found in the ceded territories. The less common smooth sumac (*Rhus glabra* L.) grows in habitats similar to staghorn sumac. The primary characteristic distinguishing these two species include the smooth, hairless stems found on smooth sumac as opposed to the densely hairy stems found on staghorn sumac. However, to complicate matters, these species apparently hybridize forming a potentially new taxon referred to as hybrid sumac, northern sumac, or pulvinate sumac (*Rhus X puvinata* Greene).

The other species of sumac grow farther south on the edge of the ceded territories. These include fragrant sumac (*Rhus aromatica* Aiton) and dwarf sumac (*Rhus copallinum* L.). Three leaflets on each leaf stem (rachis) differentiate fragrant sumac from other species of sumac, which have seven or more leaflets on each rachis. A broad, winged rachis and smaller growth form distinguish dwarf sumac from staghorn sumac and smooth sumac.



Poison sumac [*Toxicodendron vernix* (L.) Kuntze], though related to the other sumac species, has been placed in a different genus by taxonomists. The flowers of poison sumac hang loose along the branches, whereas the flowers of other sumac species grow in dense clumps at the branch tips. Found sparingly in the southern portion of the ceded territories, poison sumac inhabits bogs and other wetland sites. This plant can cause skin rashes upon touch, similar to poison ivy [*Toxicodendron rydbergii* (Small ex Rydb.) Greene].

Is there a wolf hunt in Wisconsin's future?

"Did you get a wolf permit this year?"

By Peter David, GLIFWC Wildlife Biologist

The rebound in Wisconsin's wolf population has some people wondering if this question might someday be legitimately asked in the state.

Extirpated from Wisconsin soil less than a half century ago, the gray wolf has fought to regain its foothold here. In the mid 70's, wolves from a Minnesota population (which had declined significantly itself) began slipping back into northwest Wisconsin, but between diseases and other sources of mortality, they found the early going tough. A decade later the population was estimated at just 15, and the passage of another eight years found it only at 40. Then, in a fairly classical display of a population growth this nucleus took off, displaying an average growth rate of roughly 28% over the next nine years and reaching 327 animals by 2002. Growth has since cooled, as many biologists expected, averaging about 6% over the past two years, but this level has still been enough to bring the population into the vicinity of 400 individuals this past winter.

Now 400 animals, from some perspectives, is still not a great number. Distribute the same number of our own species across the 5,739 square mile area considered "primary wolf habitat" in the state—lands which biological models suggest have a greater than 50% probability of being occupied by wolves—and we would consider ourselves spread mighty thin. And the *harvest* of another large mammal found in the state—the black bear—has averaged about seven times the 400 level in recent years. Still, this resurgence in the wolf population has been warmly welcomed by the Ojibwe community, who view the wolf (ma'iingan) as a brother with whom their fate is intertwined.

But to some, including many livestock growers, 400 Wisconsin wolves is more than enough. It is also, they note, above the 350 figure which the Wisconsin DNR lists as its management goal for the species. And thus the suggestion of a future public take surfaces.

No matter which side of the fence you are on, everyone with an interest in the issue realizes that this is nothing that could occur in the near future. Wisconsin wolves are still federally listed as a threatened species, and although the initial steps to their delisting are being taken, history suggests that process will unfold slowly—and be steeped in litigation. Then the state would have to complete its own long public input process before instigating an action as controversial as a wolf harvest, if it decides to pursue it at all.

Any proposed harvest, and opposition to it, is likely to be justified in a variety of ways. But what would a public take really be?

A way to address livestock losses

Not really. Livestock growers who experience wolf depredations need the best help they can get; they need it directed to the individual problem wolves, and they need it NOW. This kind of efficient, "surgical" response belongs in the realm of professional animal damage control experts, not general trappers and hunters. (There is even a theory that suggests a general take may increase livestock depredations by disrupting the social structure of packs that had not exhibited this trait.)

A devastation to the wolf population

Not likely. Wolves now have legal protections that didn't exist 50 years ago, when intentional persecution was the driving force of "management." Any sport or subsistence harvest that would occur today would be closely regulated and controlled and founded upon good population information.



Ma'iingan (wolf). (Photo by COR)

A cheap way to maintain the population at the stated goal

The idea here is that you can use trappers and hunters to keep the population near the goal, and they will do this for free—or even pay for the opportunity. The drawback, as mentioned above, is that any legalized harvest would require both intensive monitoring of the wolf population and a tightly controlled regulatory system. These do not come cheap. More over, this argument begs the bigger question of whether we really need to keep the population at a goal that was set fairly arbitrarily in the first place.

The 350 level in the state management plan was a political compromise and a bit of a guess at the "social carrying capacity" for wolves among the Wisconsin public. Habitat and prey models suggest that Wisconsin's biological carrying capacity (BCC) may be only a couple of hundred wolves more. The costs of restraining wolves below the BCC may exceed the benefits that some interests perceive they have gained by the lower population, especially since a general population reduction does little for the individuals having problems with particular wolves.

A way to gain broader public acceptance of a wolf presence in the state (i.e.: increase the social carrying capacity)

Having effective and efficient control of depredating wolves, and reimbursement for losses, may garner some greater acceptance from those individuals who disproportionately bear the costs of having wolves in the state. But there is little evidence to suggest that offering a general take changes many people's acceptance of wolves—in the short run. However, a hunt may be . . .

. . . a way to keep wolves wary

Wisconsin wolves, of necessity, must share the landscape with humans, their livestock, and their pets. Coexistence is possible, but wolves are dependent upon how humans control the nature of the relationship. Intentional persecution could extirpate wolves again, but a total lack of persecution may be a problem as well. Wolves that lose their fear of humans (and some people are even foolish enough to feed wolves) tend to become "problem" animals. This is rarely good for either the wolf in particular, or for peoples' perceptions of wolves in general. It is true that an individual wolf that has been harvested has learned nothing. But a hunted population of wolves may develop behavioral traits that facilitate coexistence with the human population, and increase the social carrying capacity for wolves over the long run.

An important cultural exercise

Hunting and trapping of wolves has long occurred where wolves and people have intersected, and the exercise can have great meaning to the people practicing it. Some people are surprised to learn that the deep and complex relationship the Ojibwe hold with this animal does not preclude its reverent utilization.

No small wonder continued

(Continued from page 1)

There are many stories, some very old Ojibwe stories, passed on in the Mille Lacs Band that refer to sightings of big fish in the lake, says Curt Kalk, Mille Lacs Commissioner of Natural Resources. There have also been stories of such sightings over the years in the community at large, he says.

GLIFWC has been working along with the US Fish and Wildlife Service and the Bad River and Red Cliff tribes on lake sturgeon assessment and restoration in Lake Superior. Once abundant numbers of lake sturgeon have greatly diminished due to an historic overharvest, pollution, habitat degradation due to logging, and the negative impact of dams that restrict access to traditional spawning sites in Lake Superior's tributary rivers. In the 1800s sturgeon were considered a nuisance by commercial fishermen whose nets were ravaged by the huge fish. They were taken from the nets and stacked along the shoreline like piles of logs. Later in the 1800s sturgeon became sought after for their flesh and for their eggs to make the delicacy, caviar. Overharvest greatly diminished their once abundant numbers.

After the appearance of the Mille Lacs sturgeon, speculation was rampant around the landing as to how she actually came to Mille Lacs Lake. Nick Milroy, GLIFWC fisheries biologist, believes it may have entered through one of the river tributaries from the St. Croix River basin during a high water event, or a fisherman may have transplanted it. He estimates the fish could be between forty to seventy years old. But no one knows for sure how old she is, how she got in Mille Lacs Lake, how long she's been there, or if she is the lone, Mille Lacs Lake sturgeon.

Minnesota's record lake sturgeon for angling was caught in the Kettle River and weighed 94 pounds. In 1911, a sturgeon weighing 236 pounds and measuring eight feet was netted in the Lake of the Woods. In Wisconsin, the state record lake sturgeon for hook and line was caught in Yellow Lake, Burnett County. It weighed 170 pounds, 10 ounces and measured 79 inches long.

The sturgeon is a survivor from the Cretaceous period that ended around 64 million years ago, when dinosaurs became extinct. The fish have a prehistoric look, with a shark-like tail and a long, torpedo-shaped body covered with plates called scutes rather than scales.

Sturgeons are toothless bottom-feeders, vacuuming up insect larvae, mollusks, worms, small crustaceans and aquatic vegetation on lake and river bottoms. They are slow maturing species. The females don't spawn until they are 20 to 25 years old. Spawning occurs April through June in moving water or lake shallows. Females spawn only every four to six years, and the male every two to three years. The female may release 50,000 to one million eggs each spawn.

Hopefully, this lady of Mille Lacs Lake is doing well after her brief visit ashore! For more information, contact Nick Milroy, GLIFWC fisheries biologist at (715) 682-6619 or e-mail at nmilroy@glifwc.org.



GLIFWC Wildlife Biologist Peter David fields questions during a presentation on wild rice at a Wisconsin Lakes Convention, Green Bay, Wisconsin. (Photo by Jim Thannum)

GLIFWC adds new Flambeau area warden

By Charlie Otto Rasmussen
Staff Writer

Odanah, Wis.—With a deep affection for the outdoors, men and women across the region often pursue careers as conservation wardens to protect the resources so important to them. Count newly minted Lac du Flambeau Area Warden Chris Spaight among them.

Spaight, a native of Racine County, Wisconsin, joined the Enforcement Division on April 26. Prior to being sworn in at GLIFWC, Spaight served as a part-time warden and wildlife technician for the Department of Natural Resources. As a technician he rooted out exotic species familiar to the ceded territory, like purple loosestrife and garlic mustard. In addition Spaight participated in controlled burns to main-

tain threatened prairie habitats in southern areas of the state.

After extensive experience in hunting, trapping and fishing in southeast Wisconsin, Spaight said he's eager to work with northern wildlife species. In his free time, trapping for beaver, muskrat, raccoon and otter tops his to-do list. Following his recent relocation to Arbor Vitae, Wisconsin with his wife, Spaight looks forward to fisher trapping opportunities which aren't available in the southern reaches of the state.

Spaight earned his enforcement credentials in 2001, completing basic recruit school at North Central Technical College in Wausau. In addition he is a wildlife technician graduate of Fox Valley Technical College in Appleton and has logged coursework at Marian College, Fond du Lac, in an administration and justice program.

GLIFWC wardens to instruct safety courses *Boater Safety classes slated for summer*

Odanah, Wis.—Once again Great Lakes Indian Fish & Wildlife Commission (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 Lac Courte Oreilles, Lac du Flambeau, Mole Lake, 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. Wisconsin satellite office numbers and staff are as follows:

Satellite office	Warden	Office Phone
Bad River	Vern Stone Michael Wiggins	(715) 682-8243
Lac Courte Oreilles	Kenneth Rusk	(715) 634-4333
Lac du Flambeau	Frank White Christopher Spaight	(715) 588-7676
Mole Lake	John Mulroy Roger McGeshick	(715) 478-7615
Red Cliff	Mark Bresette Mike Soulier	(715) 779-5182
St. Croix	Chad Brugman	(715) 866-8126

Stop the spread of invasive species *GLIFWC wardens to attend workshop*

With the growing concern over the spread of aquatic invasive species to Wisconsin's inland lakes, many lake association members and other concerned citizens are looking for ways to get involved. The Clean Boats, Clean Waters volunteer watercraft inspection program is offering training and resource kits to be used by volunteers at boat landings. These materials help volunteers establish a volunteer watercraft inspection program for their lake.

GLIFWC wardens will be attending workshops that are scheduled around the state to encourage volunteers to take a frontline defense against aquatic invasive species. Workshops are open to adults and youth. The cost of the workshop is \$25.00 and preregistration is required.

To register or learn more about the workshops, contact Laura Felda-Marquardt by e-mail, Laura.Felda@dnr.state.wi.us, or at the following telephone numbers: UW-Extension Lakes Program, (715) 346-3366, or the Rhinelander office, (715) 365-2659.

Aquatic invasive species workshop dates & locations

- ☼ June 19, Siren, 9 a.m.–noon, Burnett Government Center
- ☼ June 19, Solon Springs, 6–9 p.m., Solon Springs Community Center
- ☼ June 25, Cable, 9:45 a.m.–noon, Northwest Lakes Conference, Telemark Resort
- ☼ July 15, Vilas County, 6–9 p.m., Lincoln Town Hall
- ☼ July 17, Hayward, 9–noon, DNR Service Center Hayward
- ☼ July 24, Crandon, 9 a.m.–noon, location to be announced



New Lac du Flambeau area warden Chris Spaight, left, gets sworn in by GLIFWC Chief Warden Fred Maulson on April 26th in Odanah, Wis. (Photo by Charlie Otto Rasmussen)

Chi Miigwech from Chief Fred Maulson

This was my first spring season as Chief Warden, and it was clear that much effort goes into managing the spring spearing and netting activities so that our resources will be protected for generations to come.

I would especially like to commend all the tribes on another successful season of exercising their treaty rights. The season was successful, yielding plenty of fish for tribal tables with very limited confrontation from non-members.

I would also like to take this opportunity to commend all GLIFWC full-time, part-time and office personnel who make the season run so smoothly. Managing this extraordinarily busy season requires a great deal of time and commitment from many staff. I also want to extend a thank-you for the cooperation from both state and tribal agencies that worked with us throughout the season, helping to make this a meaningful and peaceful exercise of treaty rights.

Once again, a big Chi Miigwech, and I look forward to working with all agencies in the future!

If you have any questions, please feel free to contact GLIFWC's central Enforcement Office at (715) 682-6619

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). Ratifications are anticipated for 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 contends 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.

To use a fee-exempt campground 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 campgrounds, 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.

For more information contact your local GLIFWC warden or Karen Danielsen, GLIFWC forest ecologist at (715) 682-6619 or email kdaniels@glifwc.org.

Fires burn and caldrons bubble during the sugaring season

By Sue Erickson
Staff Writer

Odanah, Wis.—“Double, double toil and trouble; Fires burn and caldrons bubble.” Shakespeare could have been describing maple sugar season in Indian Country when he wrote these lines. Steam and the sweet smell of maple sap rose from numerous caldrons throughout the ceded territory this spring as folks cooked maple sap down into rich syrup or even maple sugar cakes.

The sap runs when the weather warms to thawing temperatures in the daytime but still freezes at night, so the trek into the sugarbush with buckets and taps is one of the first harbingers of spring.

Bad River tribal member Sharon Nelis had her maple sap vat steaming in

mid-April. With the help of her mother, Darlene, and sons, Gene, Brian and Sam, she processed the sap into the old-time favorite—maple sugar cakes. “I really like the sugar cakes because they store easily and for a long time, and they are so good with squash and oatmeal, or with anything you use brown sugar for!” she says.

Between the sap Brian gathered from their own maple taps and surplus sap from friends, Sharon processed nearly 200 gallons of sap this spring. Enthusiastically, she decided this was the year to once again produce cakes, something she hadn't done for many seasons.

However, even with your eyes on the prize, maple sugar cake production is long and arduous, requiring hours of stirring—double the toil and trouble!

Sharon spent most of one Sunday out in the sugaring shed watching the steaming pot and stirring, stirring and stirring—so the precious sap would not burn. Once it had condensed into a syrup and a smaller quantity, she was able to bring the sweet liquid inside to continue heating and stirring and stirring and stirring.

It is cooked at a rolling boil until it comes to a candy stage, about 240° F. It's easy to burn and easy to boil over, so requires constant attention. Once at that temperature, it is removed from the stove and cooled to about 160° F, but still must be stirred.

Relieved by her mother and sons, she was able to take a few breaks, but still found herself stirring the thickening sap well past midnight. As the maple syrup thickened, it became heavy, sticky and more difficult to stir, but the old arm had to keep it moving over the heat

until its consistency was firm enough to cool and harden into sugar cakes.

Waking the next morning with a sore back and aching right arm, she decided to put the second batch on hold a few days.

Sharon estimates you can look forward to a good eight hours of cooking and stirring if you're after maple sugar cakes. Once the batch is ready to set, she pours it into muffin tins, molding the rich sugar into small, brown rounds, or into a large, flat cookie sheet and cuts the sugar into small squares—ready to be crumbled into a hot bowl of oatmeal or whatever you might fancy.

At the end, she produced a gallon of syrup and a little less than a gallon of maple sugar cakes—tiny treats that can vanish rapidly with little thought of the hours spent tapping, gathering the sap and firewood, and, of course, stirring, stirring, stirring.



Inside the sugaring shed, Darlene Kupsco, Sharon's mother, watches and stirs as maple sap is cooked over a wood fire until it thickens into a syrup.



Once the watery sap has turned into syrup and the quantity has diminished, Sharon Nelis transfers the thick, sweet liquid inside, where she brings it to a rolling boil and then begins to cool it.



Turning maple syrup into maple cakes requires extended cooking and stirring. Above, the color has lightened as it crystallizes.

Photos by Sam Maday

Ceded territory news briefs

Michigan teachers oppose Indian mascots

The Michigan Education Association recently passed a resolution recommending that all Michigan schools eliminate the use of American Indian mascots, nicknames, logos, fight songs, insignias, antics, and team descriptions.

The resolution states: “The Association recognizes that some American Indian tribes, organizations, state and local officials, and private citizens find the use of American Indian mascots, nicknames, logos, and symbols within our public schools to be offensive, and further find that their use has a detrimental effect on the educational achievement of American Indian students.”

—(HONOR Digest, Volume 15 Number 2)

Mille Lacs & Pine County sign policing agreement

The Mille Lacs Band of Ojibwe signed a cooperative agreement with Pine County in March, authorizing Mille Lacs Band tribal police to patrol parts of Ogema Township and Barry Township in the county, where some tribal members reside. The agreement is the culmination of a decade of work.

The agreement formalized an unofficial arrangement that already allowed tribal police officers to patrol in the Lake Lena area. The tribal officers must meet all the state requirements for a peace officer, such as training, licenses and continuing education classes.

Chippewa Flowage herons killed during hailstorm

A hailstorm that ripped through Sawyer County mid-April, dealt death blows to 106 great blue herons at a rookery on Little Banana Island in the Chippewa Flowage. Eleven more birds were found injured and about 50 remained unharmed. The injured birds were captured by the Wisconsin Department of Natural Resources and taken to an area wildlife rehabilitator. Biologists estimate about two-thirds of the rookery was destroyed.

—(Wisconsin DNR News & Outdoor Report, May 4, 2004)

Wisconsin NRB approves delisting wolf

Although the Wisconsin Natural Resources Board (NRB) approved removing wolves from the state endangered and threatened species list, legislative committees must review the change in classification. If the committees approve the change, the wolf will be classified as a Protected Wild Animal in Wisconsin. The gray wolf population in the state is currently estimated at about 400 wolves. Under federal law the wolf remains listed as a threatened species.

—(Wisconsin DNR News & Outdoor Report, May 4, 2004)

A depressing thought—fish on Prozac Drugs and personal care products show up in aquatic environment

Compounds appearing in the nation's streams include human and veterinary antibiotics, antidepressants, cardiovascular drugs, caffeine, biogenics, and respiratory drugs. Scientists are concerned about their impact on the aquatic environment. According to Herb Buxton with the US Geological Survey in Washington D.C., a study sampled waters nationally for 95 chemicals ranging from perfumes to antidepressants. Of the 139 streams tested, half had seven or more of the chemicals and 80 percent had at least one. Researchers are concerned about the impact on aquatics and have found that common antidepressants, such as Prozac, Zoloft, and Paxil, cause developmental problems in fish.

—(Lake Tides, Volume 29, No. 2 Spring 2004)

St. Croix Ojibwe receive grant for new sewer

In observance of Earth Day 2004, the US Department of Agriculture Rural Development selected the St. Croix Chippewa to receive funding for the replacement of sewer mains and the construction of a new treatment facility. In total the tribe received a \$930,000 low interest loan and almost \$2.5 million in grants for the project.

The new plant will serve 641 residential and commercial users on the St. Croix reservation. The new system will replace the current failing private and tribal systems, ending an era of groundwater pollution.

Doing it right: A boy, his teachings and his net

Mille Lacs, Minn.—If you are a Mille Lacs elder, you might have answered a knock on your door this spring and found Ben Sam with a neat package of cleaned fish for your dinner—a nice gift from a smiling nine-year old who has been taught to take care of his elders, among other things.

Like many young boys, Ben is a fishing enthusiast and has been setting a net since he was five years old. However, he was only allowed to net after attending a ceremony where he was taught about the Ojibwe values connected with netting and the taking of fish. Fishing isn't about getting the biggest one, or getting the most, or setting and lifting the fastest. It's about taking responsibility for your community, your family, your fishing gear, and the fish. To Ben, thanks to his mentors, it's all about respect.

That's why, when Ben headed out for his twelfth, and probably final, net set this spring, asemaa (tobacco) was offered to the Water Spirits and the Creator before heading out into the lake. This is something he has learned must be done each time he sets, acknowledging and thanking the water beings whom he depends on for food.

It was May 1 and the run of spawning fish was slowing down, but Ben was going to give it a try. Usually, he and his father, David, set their nets from a canoe, but on this day, they, accompanied by Ben's mother, Mary, and brother Keenan Weyaus, were headed to a spot further out into Mille Lacs Lake, so they launched their larger speedboat.

Keenan was along to learn and enjoy the expedition, but not to set a net, because he needs to go through the ceremony first and learn about his responsibilities and values associated with netting. Waiting didn't seem to bother Keenan at all, but he's looking forward to going through ceremonies this summer so he can set his own net this fall.

At age nine, Ben already knows a lot about fishing Mille Lacs Lake. He does the majority of the work himself and is totally respectful of his gear and the fish he takes. He credits his parents, grandma and elders for all he has learned, both about the skill of fishing and the values that are part of the process.



Ben helps with all aspects of the netting expedition, including launching and pulling the boat out.



Ben Sam, nine-year old Mille Lacs tribal member, has been setting his net in Mille Lacs Lake since he was five.

He loaded his tubs along with his white, buoyant markers with his name and address boldly printed on each, and his net, which was carefully laid inside a tub. All the gear was clean and neat. He donned his life vest, and the crew set off across the lake.

Once at the site, Ben hooked a weight on the first float and then gently and carefully lowered his net off the bow of the boat, easing it out so nothing would become entangled. Once the entire 100 feet of net had reached the water, the second marker was attached and plopped into the water. The net was set for the night.

Everyone knew that there probably wouldn't be too many fish in that net come morning because the season was ending, but Ben's spirit stuck with the net throughout the evening. Every once in a while Ben would give a little jerk, and he would utter a strange little "klunk." Asked about what was going on, he said he could feel a fish hitting the net. So even while on shore and at home, a part of Ben stayed with the net until morning.

He also angles during the summer and spears through the ice and in the open water, spending a good amount of time on the lake harvesting fish through a variety of means. He speared his first northern when he was 4 1/2 years old.

As a matter of fact, Ben is a young man of all seasons, participating year round with his family in the harvest of traditional foods—small game, deer, wild rice, berries and maple sap. Netting began just as the family finished the maple season, producing syrup and maple cakes from the sap they gathered this spring.

"Ben knows so many things already," states a proud grandmother, Betty Kegg. "He knows how to make birch bark baskets, fry bread, how to prepare basswood. He's always right there wanting to learn. He follows our traditions and culture. He will listen and do things correctly."

Once morning rolled around, Ben had to be ready to lift at 8:00 a.m.—a time established with Mille Lacs Conservation Officer Loyd Ligneel, who was present at the landing when Ben and his family arrived.

(See "I was taught to treat my fish with care," page 13)



Setting the net.



Ben attaches a weight and a marker at each end of the net.



Pulling the net in the morning, Ben had a nice catch of walleye with a few northern and suckers.

Article & photos by
Sue Erickson, Staff Writer

“I was taught to treat my fish with care”

(Continued from page 12)

The morning air was crisp off the lake as the boat sped toward the net's site. As the boat approached the bobbing markers, Ben crawled to the peak of the bow, ready to lift his net. The marker came in first, then he started with the net, careful to pull it into the tub and not to let it drop. Several dark, silvery walleye appeared, then a good-sized northern, a couple of suckers—Ben looked pleased. The lift was better than anticipated. He continued pulling until the entire net plus fish were in the tub, and he lifted the last marker. It was a respectable catch—about 40 pounds of fish.

His best lift this year had brought in 126.6 pounds of fish. Ben keeps things precise.

Several of his earlier sets had been for ceremonial purposes, when he set his net for fish just to be used at special feasts or funerals.

Once back on shore, the job wasn't over. Ben's fish had to be taken to Mille Lacs Band's creel station, where Ben could pick the fish from the net and have his catch weighed. At the creel station, Ben and Dave took the tub of

fish to one of the tall tables made by Ben's namesake, Leonard Sam especially for picking fish from nets. This way, nets do not have to touch the ground, Ben explains. “I was taught to treat my fish with care. I put my fish in buckets. We do not put them on the ground,” he says. “I treat my net like it is really important to me—like my family. I never put it on the ground.”

Patiently and carefully, Ben and Dave extracted the fish from Ben's net. The walleye and suckers came out fairly easily, but the two northern had made quite a tangle and took some time to undo.

Once the net was picked, it was taken in a tub to the truck, and the fish went to the creel clerk, where they were separated by species and weighed—28.8 pounds of walleye, 16 pounds of northern and 4 pounds of sucker—a nice catch!

Ben was happy. He always sets one net and says it's important “not to be greedy and not to take too much.”

From the creel station, the boy, his net and his fish go home for the last segment of the harvest—cleaning the fish. But first, Ben and Keenan take the

net to the back yard where they hang it to dry on a clothesline. Keeping it in the tub, they lift it and carefully hook it to the line, never letting the net touch the ground—back and forth across the length of the clothesline until the entire 100 feet of net is hung.

Then it's back to the fish. Cleaning is a small assembly line process at the back of the truck. The fish are at all times kept off the ground. It's an unspoken rule. Dave takes care of the filleting—defly removing walleye filets and trimming the area most likely to harbor mercury. Once the filets are removed, the fish goes to Ben, who removes the cheeks of each walleye—the especially, delicious morsels—which he places in a bowl. The fish is carried into the house to be washed and bagged. Finally, it is clean-up, and the job is done.

It's a lot of work, but the fish are good and fresh—the best there is. To Ben, the best part of fishing is eating the fish, but you can be sure that Ben Sam isn't going to be greedy—he will happily share his catch and be thankful to and for each fish that hit his net at night. He is also thankful to those who have taken the time to teach him, especially elders.



Bobby Wind, Mille Lacs creel clerk, takes a measurement on one of Ben's walleyes.



Picking fish out of the net can be time-consuming. Ben's dad, David, offers some advice.



Keenan Weyaus helps Ben bring his fish to the creel clerk to be counted, measured and weighed.



The work is still not done. Keenan and Ben hang the net out to dry, being careful not to let the net touch the ground.

“Ben knows so many things already. He knows how to make birch bark baskets, fry bread, how to prepare basswood. He's always right there wanting to learn. He follows our traditions and culture. He will listen and do things correctly.”

—Betty Kegg

Tribes mark 30 years of *U.S. v. Washington* implementation

Boldt Decision brought management to state

Olympia, Wash.—February 2004 marked the 30th anniversary of a landmark event for fishing tribes in western Washington—a crucial chapter in the story of treaty rights for native people.

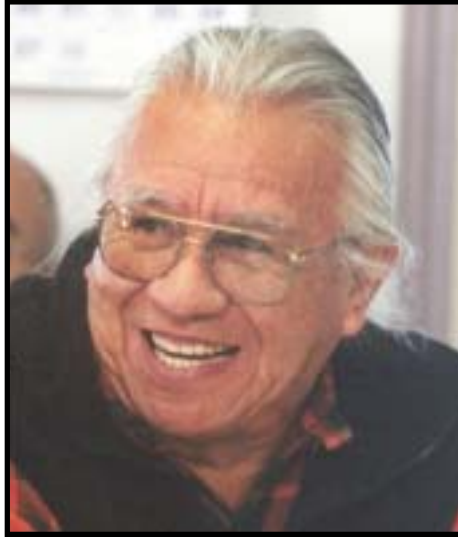
The story begins with five treaties between the U.S. federal government and the tribes, all of which included provisions preserving “[t]he right of taking fish, at all usual and accustomed grounds and stations, is further secured to said Indians in common with all citizens of the Territory.”

Since treaties with Indian tribes are declared by the U.S. Constitution to be the “supreme law of the land,” these rights took their place among the most hallowed American traditions. But unfortunately, these obligations were soon forgotten. After years of struggle, including public protests, the tribes were forced to seek defense of their treaty rights in federal court.

Using legal scholarship, historical information, testimony from tribal elders and other experts, U.S. District Judge George Boldt re-affirmed these rights, which had been violated for more than 100 years. On Feb. 12, 1974, his decision in *U.S. v. Washington*—the famous “Boldt Decision”—marked a new era.

A watershed moment for treaty Indian tribes in western Washington, the Boldt decision paved the way for cultural revival, economic regeneration, and sound ecosystem management. One generation later, the positive impacts of Boldt still reach throughout the entire region.

“Before the Boldt Decision, there was no meaningful fisheries management plan in this state—zero,” said Billy Frank Jr., chairman of the Northwest Indian



Billy Frank Jr., Northwest Indian Fisheries Commission chairman.

Fisheries Commission. “After Boldt, for the first time, harvest quotas had to be clearly defined. Salmon began to be managed on a river-by-river basis. The by-guess-and-by-golly approach to salmon management was gone. The decision also ensured that the tribes’ voice for ecological responsibility would be heard.”

Judge Boldt’s ruling set in motion a chain of events that culminated in modern co-management, where the tribes work on equal footing with the State of Washington as joint managers of the area’s natural resources.

“We fought hard to be recognized as co-managers with the State of Washington,” said Bob Kelly, director of the Nooksack Tribe’s natural resources department. “The Boldt Decision empowered the tribes to promote sound fisheries management and protect the habitat that salmon rely on.”

“Since the tribes have lived with the salmon for thousands of years, we have a long history of resource stewardship,” said Lorraine Loomis, fisheries manager with the Swinomish Tribe. “No one wants to save the salmon more than we do, and after the Boldt Decision, we were able to sit at the negotiating table and advocate for fish.”

It also ensured that the tribes, who had fished area waters since time immemorial, would continue to do so. For Scott Schuyler, natural resources policy coordinator for the Upper Skagit Tribe, tribal fishing is crucial to maintaining that cultural heritage.

“Fishing is essential to who we are as a people, to our identity,” said Schuyler. “Tribal fishermen today are trying to hold onto that legacy, and to make sure there are fish runs for our children.”

Ironically, just as courts re-affirmed the tribes’ fundamental treaty rights, habitat destruction and degradation throughout the state contributed to diminished salmon runs. Now, tribes catch fewer fish than they did before the Boldt Decision, some 30 years ago. But this condition, tribal leaders say, just inspires them to fight harder for salmon recovery.

“We’ll do whatever we have to do to bring the salmon back,” Frank said. “We have always fished for salmon, and we always will.”

(Reprinted with permission from the *Northwest Indian Fisheries Commission News*.)

Historic agreement signed for the protection of native cultural artifacts

Lansing, Mich.—Each year in Michigan a significant number of native remains and cultural artifacts are inadvertently unearthed by landowners applying conservation practices to protect natural resources.

The lack of a formal process between private landowners receiving federal funds to apply conservation and Tribal entities for the protection of cultural artifacts and remains has been a source of difficulty in the past.

An agreement formalizing the process for protection of native cultural artifacts and remains was signed between the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) and the Michigan Anishinaabek Cultural Protection and Repatriation Alliance (MACPRA) on April 22nd in Mount Pleasant, Michigan.

Michigan State Conservationist Ron Williams signed the agreement on behalf of NRCS, and Cecil Pavlat, a member of the Sault Ste. Marie Tribe of Chippewa Indians, signed as the Chairperson of MACPRA.

The NRCS is the first federal agency to enter into a formal agreement with MACPRA. The agreement will establish a close working relationship with Michigan Historic Tribes for the protection and repatriation of tribal related cultural resources. MACPRA was empowered through a consensus agreement by Michigan’s 12 federally recognized tribes and two state historic tribes.

“We acknowledge the significance of the cultural resources found in many

locations throughout Michigan, and are committed to the protection of culturally important resources and repatriation of native human remains by MACPRA in Michigan,” stated Ron Williams. “With a formal process in place we can more effectively notify tribal leaders, investigate findings and, in the case of inadvertent discoveries, expedite the removal of these resources and return them to their protectors.”

“This is a very positive step towards protecting the ancestral graves of

American Indians found here in Michigan,” said Donna Budnick, American Indian Affairs Specialist for the Michigan Department of Civil Rights. “MACPRA has set an example for how tribes can work together with governmental agencies on common concerns. The cooperation between MACPRA and USDA-NRCS could be a model for other states having similar issues.”

“We look forward to working with the USDA-NRCS on issues regarding the protection of tribal cultural proper-

ties. We are very pleased that the USDA-NRCS recognizes and acknowledges the nation to nation relationship that exists between tribal organizations and U.S. Governmental agencies,” said Cecil Pavlat, MACPRA Chairperson. “The cooperative effort of both parties should be applauded and recognized as an example for other similar agreements in the future.”

For more information visit the MACPRA website at www.macpra.com.



MACPRA members and USDA/NRCS members after the signing of the agreement. Back row, standing from left to right Albert Jones, Sandy Penn, Glenn Lamberg, Wes Andrews, Joe Mitchell, Donna Budnick, Nathan Wright, Winnay Wemigwase, Alina McGeshick, Mike Willis, and Christina Coulon. Front row left to right: Will Bowman, Bonnie Ekdahl, Sharon Detz, Cecil Pavlat, Ron Williams, and Kathy Gugulis. For more information visit <http://www.macpra.com>.

Spring lake trout assessments provide data to track restoration progress

By Bill Mattes, GLIFWC Great Lakes Section Leader

Hancock, Mich.—For the fourth consecutive year GLIFWC Great Lakes Section and Michigan Department of Natural Resources Lake Superior Research Station staff have cooperated with tribal commercial fisherman Gillmore Peterson to perform routine assessments of lake trout in Lake Superior outside of the Keweenaw Waterway near Hancock. For the first year tribal commercial fisherman Joe Newago assisted with assessments near Eagle River, Michigan.

This work tracks the progress of restoration and helps develop management strategies by collecting information on the abundance, mortality, sea lamprey wounding, growth, and diet of lake trout in Lake Superior.

The collection, analysis and reporting of the data is standardized in the spring lake trout assessments, which occur lakewide from late April through May to index abundance of stocked (fin-clipped) and wild (not fin-clipped) lake trout from the catch per effort (CPE) in 4 1/2-inch multi-filament nylon gill nets.

Sea lamprey wounding rates collected during the assessment are ex-

pressed as the mean number of wounds per 100 lake trout caught. This provides managers with a measure of damage caused by lamprey to the fish communities in Lake Superior because lake trout are the preferred prey and are the native top-predator in the lake. The mortality caused by lampreys can be estimated from a relationship between marking rates and the probability of a lake trout surviving a lamprey attack.

In Lake Superior the Great Lakes Fishery Commission (GLFC) is currently helping to establish targets for sea lamprey populations. These targets are designed to meet the GLFC's Fish Community Objective for sea lampreys agreed upon by the Lake Superior Committee in 2003, which is to "suppress sea lamprey to population levels that cause only insignificant mortality on adult lake trout." One target is to attain a marking rate of five wounds per 100 lake trout observed in the spring assessment catch. Another target looks to reduce the spawning lamprey abundance (see Sea Lamprey article, page 5).

The data collected on abundance, mortality, growth, and age are used in statistical catch-at-age stock assessment models, which are a valuable tool for predicting harvest limits and helping with allocation of fish resources in Lake Superior.

Record number of lake sturgeon captured during assessments

By Sue Erickson, Staff Writer

Odanah, Wis.—The number of captured lake sturgeon is up this spring, according to Henry Quinlan, fishery biologist with the U.S. Fish & Wildlife Service (USFWS). In fact between the Bad and White Rivers, a record number of 178 sturgeon were captured during the spring spawning assessments. Quinlan attributes this year's success to conditions that allowed assessment crews to put in 20 days of capture effort.

"Perhaps as a result of increased effort, optimal water level and temperature conditions, or a larger spawning run, we captured a total of 178 sturgeon in the Bad and White Rivers this spring," he says. The cool water temperatures, in the lower range of sturgeon spawning preferences, during the assessment may have prolonged the spring spawning run. While pleased with this year's results, Quinlan believes even more sturgeon could have been captured if the assessment netting could have continued longer.

The Bad River spawning run has been surveyed periodically since the late 1980's. However, limited information is available on the size of the spawning run and age structure of the spawning population, according to Quinlan.

The USFWS has conducted an annual survey of the spawning run in the Bad River since the mid 1990's with support and assistance from the Bad River Band.

GLIFWC has provided assistance through observation and capture of fish at the Bad River's lower falls and by helping collect biological data at the down river capture location. In 2001, the survey effort in the White River was added and that effort has continued through 2004.

The assessment objectives are: "To collect biological information (length, girth, weight, sex, age, and spawning condition) and estimate the abundance of adult lake sturgeon during the spawning run in the Bad and White Rivers."



Corey Brazdil, GLIFWC intern and USFWS Biologist Glenn Miller measures a Bad River lake sturgeon. (Photo by Nate Bigboy)

Dynamics & biology of siscowet lake trout in Lake Superior

By Bill Mattes, GLIFWC Great Lakes Section Leader

East Lansing, Mich.—Dr. James Bence,

Associate Professor of Fisheries and Wildlife at Michigan State University, and a team of co-investigators has received approval for funding from the U.S. Fish & Wildlife Service (USFWS) Great Lakes Fisheries Restoration Act to study the dynamics and biology of siscowet lake trout in Lake Superior. This project will seek to develop an improved understanding of the population dynamics and biology of the deepwater siscowet lake trout in Lake Superior.

The project will address two questions: What are the sustainable levels of lake trout harvest that can be obtained from Lake Superior? What is the ecology of the deepwater fish community in Lake Superior? Addressing these questions are important to Fish Community Objectives established for Lake Superior and to those who harvest fish from Lake Superior.

Most of the emphasis in lake trout rehabilitation has been on lean lake trout populations, which are generally regarded as living in depths of 240 feet or less. Observations of increasing catch of siscowet in the tribal commercial fisheries during the 1980s and early 1990s led to establishment of the Great Lakes Section's siscowet surveys during 1996, 1997, 2000, and 2003.

Similar trends around the lake led the Lake Superior Technical Committee to develop standardized surveys lakewide. These surveys have explored the lake to assess siscowet densities and verify the reports of the commercial fishermen and indicate that siscowet are substantially more abundant than lean lake trout.

Siscowet lake trout likely play a dominant role in the current Lake Superior fish community, making up better than two-thirds of the total predator biomass as compared to lean lake trout, and given the high densities of siscowet lake trout, natural concerns have arisen about possible competitive effects of siscowet on lean lake trout.

Diet data indicate that overlap in the diets of lean and siscowet lake trout, with coregonines and sculpins as important prey fish for both. A recent study of fish community changes in Lake Superior by Charles Bronte of the USFWS in Green Bay, Wisconsin and others has shown siscowet catch rates steadily increasing in commercial fisheries since the 1950s, with catch rates in 1999 exceeding those in 1950 by more than an order of magnitude.

In addition, specimens with intermediate characteristics between leans and siscowets, which commercial fishers have historically observed and had assumed that they arose from reproductive hybridization between leans and siscowets, have been seen. This recent observation may have important biological and management implications.

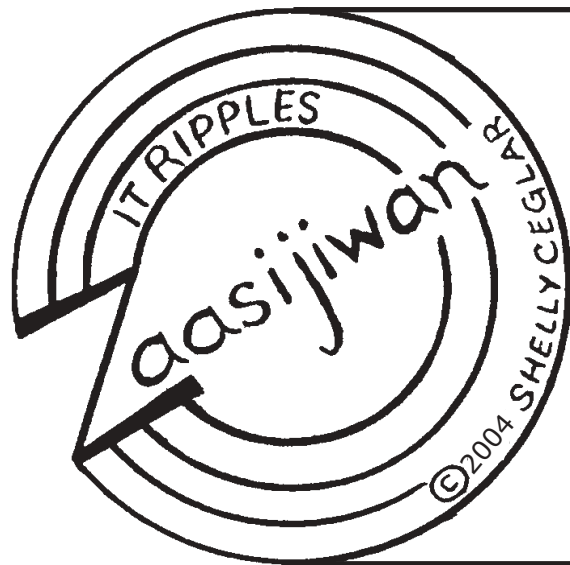
Clearly siscowet lake trout are an important part of the Lake Superior fish community, as they were historically. Dr. Bence along with co-investigators Bill Mattes, Great Lakes Indian Fish & Wildlife Commission, Great Lakes Section Leader; Mark Ebener, Chippewa-Ottawa Resource Authority; and Shawn Sitar, Michigan Department of Natural Resource Marquette Research Station, see this project as an important opportunity to improve our understanding of the deepwater fish community of Lake Superior and to refine sustainable yield objectives for lake trout to account for the siscowet form.



Siscowet lake trout. (Reprinted from www.seagrant.wisc.edu)



GLIFWC interns Corey Brazdil and Ben Michaels release lake sturgeon back into the Bad River after they have recorded weight and length and tagged the fish. (Photo by Nate Bigboy)



Niibin

Niibing nimbabaamaadizimin. Babaamaadiziyaang, aagodinong niwaabamaanaanig ingiw awesiiyag. Bimidaabii'iweyaang, nindikid, Naasanaa waawaashkeshi! Gakina awiia owaabamaawaan iniw waawaashkeshiyan. Gaye waabashkikiing, ninandawaabamaa mooz. Ishpemiing, Nimaamaa owaabamaan migiziwan.

It is Summer

(When it is summer, we travel about. When we travel about sometimes we see those wild animals. When we drive along, I say, "Look out deer! Everyone, they see them those deer. Also in the swamp, I look for a moose. Up above, in the sky, my mother sees an eagle.)

Bezhiig—1

OJIBWEMOWIN (Ojibwe Language)

Double vowel system of writing Ojibwemowin.

—Long vowels: AA, E, II, OO

Waasa—as in father

Ambe—as in jay

Ziibing—as in seen

Mooz—as in moon

—Short Vowels: A, I, O

Gaye—as in about

Imaa—as in tin

Waagosh—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.

VTA—Verbs, Transitive, Animate

Action words which refer to a living thing, someone, him/her. The root word is a command.

Waabam—See someone.

Okawi'—Find someone's tracks.

Noondaw—Hear someone.

Miizh! Miin—Give something to someone.
(conjugate miin)

Agim—Count someone.

Bimiwizh! Bimiwin—Carry someone along.
(conjugate bimiwin)

Gagwejim—Ask someone questions.

Ganawenim—Take care of someone.

Niizh—2

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

A. Zaaga'iganing onaagoshing anokiiwag amikwag.

B. Waanzhang, niwaabamaag ingiw waagoshensag.

C. Ziibing, waagosh onitaa-nooji'aan waaboozoon.

N O M G

I N A E S K

W A R J G I W

A A M I K W A G

A G I B N I A L T

B O Z B E D S A U C

A S H F Q I A I Y V A

M H W A A G O S H A D W

A I B I M O S E D A A M

A N G Y P B E X E O N K

G G A A T E B I D O O N

D. Megwaayaak iwidi odaminowag ingiw gidagaakoonsag.

E. Daga bimosedaa!
Bimibaatoog waasa!

F. Aatebidoon
mazinaatesijigan.

G. Ambe omaa,
agwajiing. Inashke!

Niswi—3

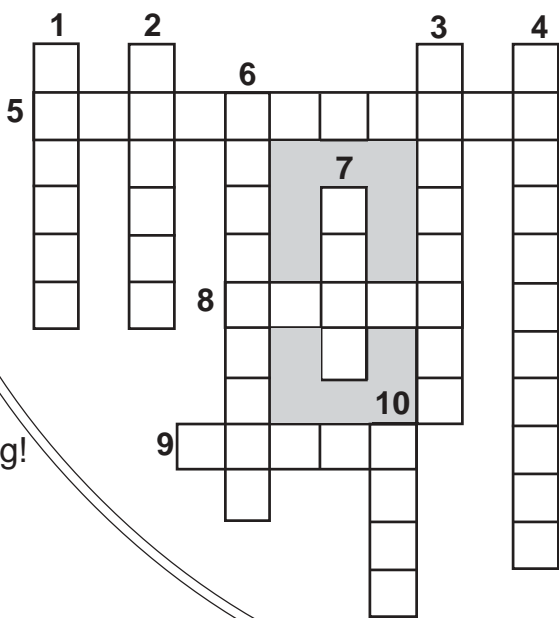
IKIDOWIN ODAMINOWIN (word play)

Down:

1. Someone
2. See someone.
3. Carry him/her along!
4. Run!
6. Wild animals
7. Beaver
10. Count someone.

Across:

5. Swamp
8. Over there.
9. Far



Niiwin—4

VTA conjugations

Niwaabamaa—I see him/her.

Giganawenimaa—You take care of him/her.

Omiinaan—S/he gives something to him/her.

Ningagwejimaanaan—We ask him/her/them.

Gidagimaanaan—We all count him/her/them.

Ginoondawaan—You all hear him/her.

Odokawi'aawaan—They find his tracks.

4th person (s/he or they)—Action to bear.

makwa has plural ending: "n"

Inini owaabamaan makwan.

A man sees the bear.

Goojitoon! Try it!
Translation below.

1. Gabe giizhik _____ noondaw _____ opichi.

2. Nindede _____ miin _____ i'iw akiwenziiyan oodenaang.

3. Ziibing ina _____ gii-odokawi' _____ amik?

4. Gii-niizho diba'iganek, _____ ngii-waabam _____ aakoziwigamigong.

5. Ininiwag _____ gagwejim _____ iniw Ikwewan.

ni....aa

gi....aa

o....aan

o....aawaan

gi....aan

Translations:

Niizh—2 A. At the lake, when it is evening s/he works, the beaver. B. By the den, I see those fox pups. C. At the river, the fox skillfully hunts a rabbit. D. In the woods, they are playing those fawns. E. Please let's all walk. Run far! F. Turn off the television set. G. Come here outside. Look!

Niswi—3 Down: 1. Awiiya 2. Waabam 3. Bimiwizh 4. Bimibaatoog 6. Awesiiyag 7. Amik 10. Agim Across: 5. Waabashkiki 8. Iwidi 9. Waasa

Niiwin—4 1. Throughout the day you all hear him that robin 2. My father he gives things to that elder man in town. 3. At the river did you find the tracks of the beaver? 4. When it was 2 o'clock, I saw her at the hospital. 5. The men they ask those women.

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.

This may be reproduced for classroom use only. All other uses by author's written permission. All inquiries can be made to MAZINA'IGAN, P.O. Box 9, Odanah, WI 54861.

The long-skirts: Three Fires Mide women Some observations

By Sue Erickson, Staff Writer

Editor's note: The following article is based on conversations with members of the Three Fires Midewiwin Lodge only, so does not necessarily reflect the beliefs or practices of the many other Mide Lodges. Three Fires is a contemporary Midewiwin Lodge based on the original Midewiwin teachings.

"When he sees one of us, Junie Butler at Bad River's Hatchery always says, 'Watch out! The long-skirts are coming. Something good is going to happen!'" relates Sue Nichols, Three Fires Mide Lodge member with a shy twinkle in her dark brown eyes, obviously pleased that the so-called "long-skirts" are linked with the positive.

In respect to tradition, Three Fires women wear long skirts during Lodge ceremonies. Some choose to always wear their long skirts. When young women first come to the Lodge, the tradition of the long skirt can cause some consternation. "Skirts? Why do we have to wear skirts?" they ask, according to Roxanne Martineau, Fond du Lac band member. "You should feel so proud to wear a skirt that flows and gently brushes the face of Mother Earth" is one simple, but powerful response to that question.

The long skirts worn by the Three Fires Mide women help define their role within the Lodge, and it certainly is not a role of subservience, but one of a great deal of power and dignity. Perhaps, more than a restriction, the long skirts set women free to embrace the beauty and power of womanhood. As Three Fires member Laura Horton, Seventh Generation Native Institute, Fort Francis, Ontario, commented, women in the Lodge are free to enjoy the beauty of being themselves. "We accept our hair turning gray. We are comfortable with our hair color, comfortable with ourselves. Becoming a grandmother is a rich, rewarding journey," she says. "We also get a handle on health through the Lodge. How and what we eat—the natural foods—is part of the Lodge teachings. We understand much more clearly the gift of life."

Probably one of the most predominant themes heard from members of the Three Fires Midewiwin Society when talking about the role of women within the Lodge, was that men and women, while accepting certain specific responsibilities, are mutually supportive. "In all creation there's a duality, a balance," explains Martineau. "Males are responsible for some items and females for others, but they are supportive of each other."

As explained by Jim Schlender, GLIFWC executive administrator and Lodge member, the structure of the Lodge itself is symbolic of the duality. The poles on one side of the lodge structure represent the males and on the other side represent the females. They join at the center, and together they compose the framework that holds up the Lodge. With either side missing, the Lodge could not stand.

"This example stems from an old Midewiwin teaching regarding duality," says Three Fires Grand Chief Eddie Benton-Banai. "Duality does not mean separateness, but means dual responsibility—equality."

When Martineau first came to Lodge she was seeking something, but she didn't know what it was. It was seven years of visiting ceremonies before she finally gave her asemaa (tobacco) to the Lodge. At first the voice of the Drum drew her, but later she realized it was the women of the Lodge. "Their carriage—they were gentle, proud, kind. There was a way they commanded respect, held themselves tall and straight, and always showed compassion. I wanted that. They seemed to give so much strength to Lodge. I wanted that pride, that assurance."

Martineau says that so much understanding of the traditional women's role was lost with colonization, especially with boarding school experiences and the loss of language. "Sexism was taught to our children. Girls stayed at the sewing machines. Women were taught to be shy and unsure of how to be women within



Walking on behalf of the water, participants circled the northern portion of Lake Michigan during the 2004 Mother Earth Water Walk organized by Josephine Mandamin, Fort Francis, Ontario. Last year the Water Walk encompassed Lake Superior. The walk started at Walpole Island and finished late May in Hannahville, Michigan.

our communities. They became either subservient or excessively aggressive. They don't know how to speak to their spirit or act on it. Now, they need to be taught their duties."

In fact, much of what the Three Fires women do is teach through role modeling—modeling the traditional, Ojibwe lifeway within a contemporary environment in a way that reflects spirituality, concern, compassion, respect, discipline, and service. "We teach each other by doing. Newcomers to the Lodge are put to work, and they learn by doing," says Horton. "We teach while we are doing something, so others learn why we are doing these things. It is our individual responsibility to understand what we are doing and also to understand the language."

"It's all about service—for both men and women. We both serve each other at meal time, and we both clean up," Horton says, although women generally prepare the food.

Within the Lodge there are specific tasks for which either males or females carry the responsibility. Men, for instance, are responsible for the fire and women for water—two elements both necessary for life. Hosting the Winter Ceremonies at Bad River, the Bad River Three Fires women hauled water from the artesian well outside of Ashland after offering asemaa and thanks to the Creator, so that Lodge members could have the purest water available.

Water is considered the blood of Mother Earth, and the responsibility to keep it pure and clean is taken seriously within the Lodge, where waste and pollution is frowned upon.

That responsibility, for instance, spurred Three Fires Elder Josephine Mandamin, Fort Francis, Ontario, to embark on the Mother Earth Water Walk around Lake Superior last year, and again this year, to traverse on foot the shores of northern Lake Michigan, carrying water in her copper bucket. The walk is not political. It is a prayer for the well-being of the Earth's precious water supply. "This is a spirit walk, not an anger walk," Mandamin says with a wide, warm smile. It's done because of her responsibility as a woman and spiritual concern for the safety of the water, not for any political purpose or gain. As in 2003, she did not know where she would stay or how she would pay the travel expenses, she went on her prayer mission with faith, starting at Walpole Island, and stopping at points visited by early Mide ancestors during the westward migration, all the way to Hannahville, Michigan.

Mandamin says she was spurred to act following Sundance Ceremonies several years ago, when one of the leaders clearly charged those present to look after the well-being of the water. This is her personal contribution as a woman—a keeper of the water.

"We have been given the responsibility to pray for that water and for the blessing of having it," states Robin Powless, Bad River tribal member. "When we hold it up and when we give everyone a drink, or when I drink, I think of the life that it gives. We also respect it, and so treat it with respect. We are careful not to spill. It is also our responsibility to learn what to do on behalf of the water. For this you must learn by watching, be observant, if this is the knowledge you are seeking."

The women as Keepers of the Water is a concept that stems from the Creation Story, so it is a very early teaching, says Nichols. "It is an honor not a burden to sing songs and speak on behalf of the water. Everyday of your life you take care of that water," she says.

(See *Three Fires Mide*, page 22)

Three Fires Society

The Three Fires Society is a contemporary organization built upon principles and precepts of Native American culture and practices. It was inspired by the historic, pre-Columbian, Algonquin confederacy of Native American Nations, known as the Three Fires Confederacy.

The indigenous tribes, now known as the Menominee, Ojibwe, Odawa, and Bodawatomi, know themselves as the Anishinabe people, are principal, but not exclusive to the contemporary revival of the Three Fires Society, Midewiwin Lodge.

Mission

We, The Three Fires Society Midewiwin Lodge, *'The Way of the Heart,'* will continue the work to revive and maintain the principles of the Midewiwin way of life, including the seven major teachings: Respect (Mawnawjiwin); Love (Zaagidwin); Knowledge (Gikayndawsoowin); Bravery (Zoongidayaywin); Truth (Daybwaymoowin); Honesty (Gwuyukawjiwin); and Humility (Duhbuhsaynimooowin).

Achieving balance in these principles is to have Wisdom (Gawdjigikayndumowin) in body, mind and spirit.

Respect given to nibi (water)— life-giver & life-taker

By Sue Erickson
Staff Writer

Odanah, Wis.—It was a small group of Three Fires Mide women who gathered on the shores of the Kakagon River early in April shortly after the ice broke up, freeing the river to run for another season. They gathered to give thanks and honor the water and the water beings—those plants, fish and animals that live in the water and have long provided sustenance for the Anishinaabe people.

A light, cool drizzle dripped from a grey sky, producing a typical, soggy spring day as the women arrived prior to noon. Each carried supplies and a contribution to the feast. Fortunately, the Bad River Hatchery building gave them a riverside shelter for their preparations.

It was obviously important to them to do the ceremony at the right time and in the right way. The women were grateful to the hatchery crew, who always remind the women of the need for the ceremony and are supportive throughout.

A sage smudge stick burned as they took out the various materials needed to make their offerings with bundles of tobacco attached. This ceremony is a community ceremony, performed by Annishinaabeg (Ojibwe people) as part of the responsibilities given to them.

This was not only a time to perform a ceremony, but also a time of teaching and talking about the significance of what they were doing. Bad River tribal member and Three Fires Lodge member Essie Leoso acknowledged that much of what they had learned about this particular ceremony came from a ceremony held at Mole Lake, which was done on behalf of the entire community.

“Every ceremony brings harmony and balance; it will create a flow of energy because that flow comes from the spirits. They have all returned. It’s that cycle. These are the generations, and this is us honoring life. The water spirits are powerful. They give us life and can take our life. We need to respect that energy it brings us. This ceremony reminds me of the New Year. It’s the first one that happens, even before

Spring Ceremonies is the water ceremony when the ice goes out.”

Robin Powless, also a member of the Three Fires Lodge and the Bad River Tribe, commented that the ceremony was also to protect the hatchery crew as they go out onto the water each year as part of their work.

After the prayer sticks were completed, a food bundle was prepared containing small amounts of various food offerings. This food bundle would be presented to the water spirits with respect thanksgiving and blessings for all.

At noon the men and women went down to the water, some also carrying bundles from home or personal tobacco ties on behalf of family members. With a prayer of humility and respect, the prayer sticks were released to the river in the four directions, and the food bundle was given up to the water spirits.

The prayer was one of thankfulness and was also for the safety of those who would soon be out on the water, once again seeking its bounty for sustenance.

Demonstrating “that flow of energy,” the strong, spring current of the Kakagon River quickly carried the brightly colored offerings away, seemingly eager to accept them all. The tobacco ties, just spots of bright colors, rode on the river’s flowing back into the distance as the women and hatchery crew returned from the water’s edge to feast and continue to think about the great life-giving power of nibi (water) and the responsibility we all have to preserve and insure that these ceremonies continue for future generations.

Participation in this annual ceremony is open to the entire community each spring.

WIEA’s Student of the Year awarded to Sam Maday



The Wisconsin Indian Education Association (WIEA) recently named Sam Maday, Bad River tribal member and Ashland High School (AHS) senior, “Wisconsin Indian Student of the Year.” Son of Bad River members Stan Maday and Sharon Nelis, secretary for GLIFWC’s Planning and Development Division, Maday was nominated for the award by Mike Wiggins, AHS home school coordinator, and Sue Erickson, *Mazina’igan* editor. Both were impressed with Sam’s willingness to speak out when he published an article called “Native Pride” in the school’s newspaper. The article also ran in the last issue of the *Mazina’igan*. Maday defined the traditional meaning and roots of Native Pride in contrast to the unruly and disrespectful behavior that some students in the school flaunt as Native Pride. Besides the outstanding article, Maday has shown leadership in many aspects of student life, participating and excelling in academics, sports and music. His numerous metals plaster the front of his letter jacket. He is known to be reliable, conscientious and compassionate. Sam plans to attend UW-Superior in the fall and is currently considering studying journalism and photography. Sam is pictured above with his mother, Sharon Nelis, during the WIEA Annual Conference at the Ho-Chunk Casino Convention Center, Baraboo, Wisconsin.



Preparing for the Water Ceremony at noon, Sue Nichols, Robin Powless and Annie Maday begin to make tobacco ties, which will be tied on prayer sticks and set afloat in the Kakagon River in the Four Directions. (Photo by Sue Erickson)



Women from the Bad River reservation gathered for a spring Water Ceremony shortly after the ice went out, acknowledging the water spirits and giving thanks for water and for the sustenance provided by the water beings. Above, Essie Leoso readies to take prayer sticks the women made down to the Kakagon River where the ceremony took place. Shelley Beam, Linda Lemieux and Maria Nevala assist. (Photo by Sue Erickson)

Fall harvest opportunities

Introduction

During 2000 and 2001, GLIFWC staff interviewed tribal elders regarding non-medicinal uses of plants. With approval from the elders, we have decided to share this information as a regular feature in *Mazina'igan* in the form of a harvest calendar.

In this issue, the harvest calendar is devoted to those plants that may be gathered for non-medicinal uses during the upcoming fall months of waatebagaa-giizis, leaves changing color moon (September); binaakwii-giizis, falling leaves moon (October); and gashkadino-giizis, ice is forming moon (November).

Fruits and Nuts

raw, jams, jellies, pie fillings, breads, pancakes

atiteminan—nannyberries
 mashkiigiminag—cranberries
 aniibiiminan—highbush cranberries
 miinesag—hawthorn berries
 asasaweminan—chokecherries
 bagwaj zhoominan—wild grapes

Nuts

raw, roasted, flour, pie fillings

waawiye bagaanag—black walnuts
 bagaanaak bagaanag—butternuts
 wakikaanag bagaanag—pine nuts
 bagaanag—hazelnuts
 mitigwaabaak bagaanag—hickory nuts
 mitigomizh bagaanag—oak acorns

Grains

casseroles, soups, breads, pancakes
 manoomin—wild rice

Roots

roasted, sauteed, steamed, boiled

waabiziipin ojiibikan—arrowhead roots
 okadaakoon—wild carrots
 oga'da mun ojiibikan—yellow waterlily roots
 bagwaji zhigaagawinzhiiig—wild leeks
 bagwaji zhigaagananzhiiig—wild onions
 apakweshkway ojiibikan—cattail roots
 anaakanashk ojiibikoon—bulrush roots
 anaakanashk ojiibikoon—rush roots

Greens

raw, sauteed, steamed, boiled
 *watercress leaves

Cold beverages

asasaweminan—choke cherries
 bagwaj zhoominan—wild grapes
 apaakwaanaatig miinesan—sumac fruits
 mashkiigiminag—cranberries

Tea

oginiig—rosehips
 apaakwaanaatig miinesan—sumac fruits
 wiinisiibag miinesan—wintergreen berries
 wiinisiibag aniibiishan—wintergreen leaves
 mashkiigobag aniibiishan—swamp tea leaves
 kaakaagiwanzh aniibiishan—hemlock leaves
 zhingob aniibiishan—balsam fir leaves
 giizhik aniibiishan—white cedar leaves
 okwemin nagek—black cherry bark
 asasawemin wategwaanan—choke cherry twigs
 gagige bag—princess pine



Utility items

mazaanaatigoons—nettle stems (twine)
 giiziso-mashkiki inaskoon—goldenrods stems (pipes)
 apakweshkway waabigwaniin—cattail flowers (torches)
 nookwezigan waabigwaniin—fleabane flowers (smoke attracts deer bucks)
 oziisigobimizh wadikwanan—willow branches (baskets)
 apakweshkway aninbiishan—cattail leaves (weaving)
 anaakanashk inaskoon—bulrush stems (weaving)
 *angelica stems (whistles)

Ceremonial items

miskwaabiimizh aniibishan—red willow bark (tobacco)
 wiigob ojiibikan—basswood roots (tobacco)
 giizhik aniibiishan—white cedar leaves (smudge)
 mashkodewashk aniibiishan—wild sage leaves (smudge)
 apaakwaanaatig inaskoon—sumac stems (pipe stems)

Commercial products

gagige bag—princess pine
 zhingob waatigwaanan—balsam fir boughs
 wakikaandag gomizhomin—pine cones

Miigwech to those speakers in Mille Lacs, Minnesota and Lac du Flambeau, Wisconsin for their help in providing us with the Ojibwe names for these plants.

***We have been unable to find the names for these plants in Ojibwemowin.**



Atiteminan—nannyberries.

Disclaimer

While the list identifies those plants that can be harvested during the fall months, we strongly recommend that before you pick them, you meet with elders in your community to talk about proper ways of harvesting, times of harvesting and proper preparation of the plants before eating them.

This is important because some plants need to be harvested in certain ways to ensure that they will continue to grow, while other plants need to be properly washed and prepared prior to eating or using them. In addition, those elders can also help you in different uses of these plants.

Tribes map out safer walleye lakes in the upper midwest

By Charlie Otto Rasmussen
Staff Writer

Odanah, Wis.—For many American Indians, a diet that includes traditional foods is a key ingredient in maintaining a healthy lifestyle. The presence of harmful toxins like mercury in fish, however, has created challenges for tribal members seeking to serve nourishing and safe meals to their families.

In the Lake Superior region, a natural resource agency representing 11 Ojibwe tribes has developed a series of lake maps using GIS technology to help consumers assess the risk of eating walleye—a mealtime staple for centuries—from specific water bodies. The Great Lakes Indian Fish & Wildlife Commission (GLIFWC) is completing its 16th year of walleye mercury sampling in lakes where tribal spearfishermen harvest fish each spring.

After testing walleye filets from four different size groups, GLIFWC staff utilizes GIS to create color-coded maps that clearly display measured mercury levels in each study lake. In a

glance, tribal fishermen can choose the appropriate lake to harvest fish.

“There’s a heightened awareness of the dangers of mercury, especially to developing children,” said Joe Dan Rose, GLIFWC fisheries biologist. “Many tribal spearfishermen request these maps before the fishing season to select lakes and sizes of fish that are lower in mercury.”

Burning coal, wood and waste releases mercury into the atmosphere, and it commonly returns to earth in precipitation. Upon entering lakes and streams, certain bacteria chemically convert mercury into a more toxic compound known as methyl mercury. Methyl mercury travels up through the food chain as larger organisms eat smaller organisms, eventually accumulating at elevated levels in the flesh of top predator fish like walleye.

For humans, methyl mercury is a neurotoxin affecting the brain and spinal cord. Women of childbearing age, children under 15 and fetuses represent the most-at-risk group from methyl mercury poisoning. While fish like walleye provide important dietary nutrients, too much methyl mercury is

linked to developmental impairment in children. Overexposed adults may experience tremors and tingling sensations in the hands, blurred vision, and speech problems, and in rare cases, paralysis and death.

To address the different threat levels, GLIFWC staff generated twin mercury advisory maps for each member tribe. The top map (see illustration below) is more restrictive and is for use by pregnant women, women of childbearing age and children under 15. The bottom map is less restrictive and is for use by women beyond childbearing age and by men. Information including color indices and consumption guidelines appear on the reverse side of each map.

Although longer, older walleye generally contain higher concentrations of methyl mercury, each regional lake map contains a unique color index that specifies safe length ranges for consumption. The criteria for walleye consumption are based on Wisconsin Department of Health guidelines, which recommend limiting intake of fish with 0.5 parts per million (ppm) mercury and avoiding all fish with 1.0 ppm or more of mercury.

Encompassing portions of Minnesota, Wisconsin and Upper Michigan, the advisory maps highlight a region where Ojibwe Indians exercise fishing, hunting and gathering rights reserved through treaties with the United States in the mid-1800s. In cooperation with state and federal agencies, GLIFWC

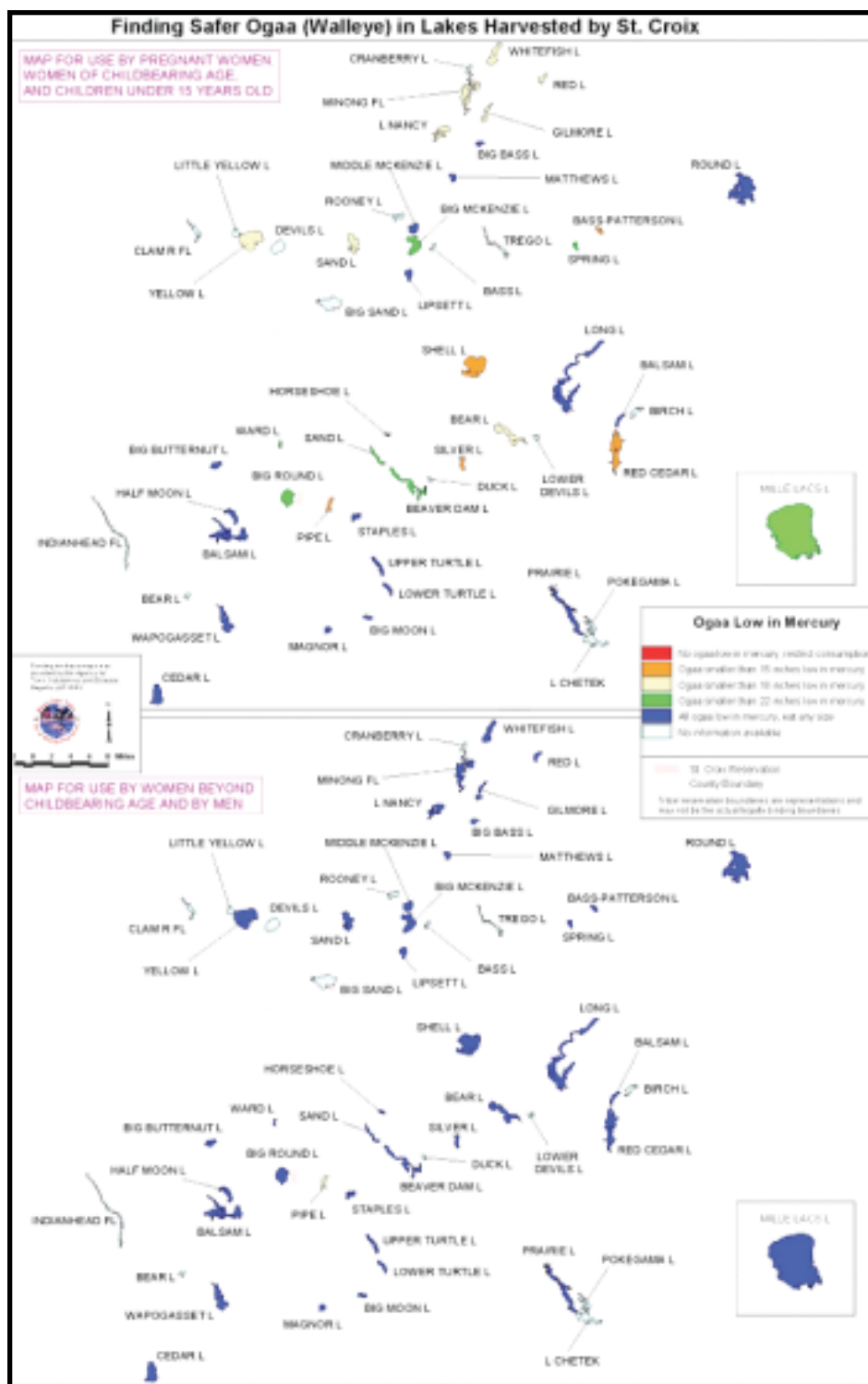
monitors and manages natural resources on treaty-ceded lands.

From 1989 to 2003, a total of 2,736 walleye filets have been tested from 190 lakes. Of these lakes, 12 are part of a long-term study to monitor trends in mercury levels. In addition, 70 muskellunge, a large predatory fish also consumed by tribal members, have been analyzed from 17 lakes.

Funds to conduct monitoring, testing, and GIS map production have been provided by grants from the Administration for Native Americans, the Agency for Toxic Substances and Disease Registry, and the United States Environmental Protection Agency (EPA).

Once testing of the 2004 walleye samples are complete, GLIFWC plans on issuing updated mercury advisory maps that include additional lakes in Michigan and Minnesota. Due in early 2005, the new maps are expected to include revised fish consumption guidelines based on EPA and Food and Drug Administration standards. High quality 11 x 17 inch glossy mercury maps are available at no cost at GLIFWC offices and tribal registration stations.

For more information contact John Coleman, GLIFWC Environmental Section leader at (608) 263-2873, colemanj@calshp.cals.wisc.edu or GLIFWC Environmental Biologist Matt Hudson at (715) 682-6619, mhudson@glifwc.org. Mercury maps and additional information about GLIFWC are at www.glifwc.org



GLIFWC staff utilizes GIS to create color-coded maps that clearly display measured mercury levels in each study lake. In a glance, tribal fishermen can choose the appropriate lake to harvest fish. Information including color indices and consumption guidelines appear on the reverse side of each map.

Adam Deweese joins GLIFWC staff as environmental biologist

By Sue Erickson, Staff Writer

Odanah, Wis.—Adam Deweese recently joined GLIFWC’s staff as an environmental biologist with the Biological Services Division. Starting his position on April 19, he is working on updating GLIFWC’s fish consumption maps, which correlate with the Environmental Protection Agency’s risk-based consumption guidelines and developing a training program on how to use and understand the advisories.

Deweese is also completing his doctorate in Water Resources Science at the University of Minnesota-Duluth (UMD). He is trying to relate predictors of methyl mercury contamination in walleye to indicators, like the percent of wetlands in adjacent watersheds.

He completed his Master of Science degree in ecology at the University of Tennessee, Knoxville, after he had earned a Bachelor of Science degree in biology at East Tennessee State University in Johnson City.

While at UMD, Deweese completed his course work for the doctorate program and was employed as a teaching assistant for general biology laboratories and also in advanced ecology laboratories. Previously, he was employed by the Tennessee Department of Environment and Conservation, Division of Superfund where he worked primarily on Superfund site investigations.

Although he grew up near Chicago in Oak Park, Illinois, he is not a newcomer to the Northland. He spent many summers in the Minocqua area at his parents’ cottage and has spent many hours on Squirrel Lake fishing crappies.

He and his wife, Ruth, and five-year old daughter, Emma, live in Washburn. He prefers recreational activities that can include Emma, so enjoys hiking with the family and is waiting for Emma to shed the balance wheels on her bicycle, so they can go mountain biking together. He’s also interested in learning to fly fish, an angle of fishing he’s never tried.



Adam Deweese

Workgroup formed to review Michigan mining laws

Keweenaw Bay joins with eye to Yellow Dog Plains

L'Anse, Mich.—As Kennecott Exploration Company decides whether to pursue mining operations on the Yellow Dog Plains, officials from the state, Keweenaw Bay Indian Community (KBIC) and a host of groups—both in support of and opposed to this project—are outlining revisions to Michigan's mining laws. The Michigan Department of Environmental Quality (DEQ) organized a May 3 meeting in St. Ignace where stakeholders on both sides agreed that existing regulations were not adequate to cover sulfide mining.

"Michigan law really doesn't cover the operation and clean-up of sulfide mining," said Mike Donofrio, KBIC natural resources director. "It deals with open pits, like you see with iron mines, and doesn't provide for regulation of the deep-shaft sulfide mining being proposed at Yellow Dog."

Once home to many thriving mining districts, Upper Michigan retains only two open-pit iron mines, Empire and Tilden, located in Marquette County not far from the Yellow Dog Plains. Kennecott has conducted exploratory drilling in the Upper Peninsula over the past decade and detected an estimated 5-million ton rock deposit containing nickel and copper at the Yellow Dog Plains east of the KBIC reservation. The mineral deposit, however, is situated between two vulnerable waterways, the Salmon Trout and Yellow Dog Rivers.

The metallic mining workgroup is planning a round of meetings through early summer and has 120 days to formulate regulatory recommendations to

the Michigan legislature to consider. With upcoming elections and unresolved budget woes, legislators aren't expected to look at mining law changes until next year.

The DEQ serves as the primary mining law enforcement and regulatory agency.

Intertribal support

Environmental and legal staff from (GLIFWC) are also consulting with KBIC to discuss the impacts of sulfide mining on cultural and natural resources in the ceded territory. Following the decades-long battle with various mining companies interested in tapping a mineral deposit near Crandon, GLIFWC staff has developed expertise in sulfide mining.

"We work to provide a critical eye in the review and analysis of the potential impacts of sulfide mining proposals," said Ann McCammon Soltis, policy analyst at GLIFWC. "All the issues that come with establishing a mine need to be addressed with good science and the best information that can be gathered."

McCammon Soltis said the Yellow Dog site, or Eagle Prospect, is similar to the proposed Crandon mine in a very significant way: the potential to generate acid mine drainage. Target minerals like nickel and copper are bonded to sulfur, forming sulfide compounds. When exposed to air and moisture, a chemical reaction generates sulfuric acid that can leach into the environment.



Keweenaw Bay biological services staff met with GLIFWC sulfide mining specialists on May 6 to share information and discuss the impacts of a potential nickel and copper mine on the nearby Yellow Dog Plains. (Photo by COR)

GLIFWC identified numerous problems with the plan to create a copper sulfide mine near Crandon. For example, the estimated 16 million tons of leftover sulfide tailings, or waste rock and minerals, would become a continual threat to the region's groundwater.

Using GIS mapping technology and modeling, GLIFWC experts made clear the difficulty of operating a sulfide mine and perpetually containing sulfide waste near fragile ground and surface water systems.

At a May 6 meeting in Baraga, Voigt Intertribal Task Force Represent-

tative Wayne LaBine related some of his experiences dealing with the proposed Crandon mine on the eastern edge of the Mole Lake reservation in northeast Wisconsin. In the mid-1970s, LaBine was among the first tribal members to oppose the Crandon mine that threatened to harm wild rice beds and contaminate significant environmental and cultural resources. He encouraged Keweenaw Bay members to maintain traditional Anishinaabe perspectives as they faced the possibility of harmful sulfide mining near their own reservation.

Articles by
Charlie Otto Rasmussen, Staff Writer

Stamp sands in the Keweenaw

GLIFWC study to map mining waste at spawning reef

Odanah, Wis.—In collaboration with Canada-based National Water Research Institute (NWRI), GLIFWC is preparing to launch a study funded by the U.S. Environmental Protection Agency to measure the impacts of waste mining residue on a Lake Superior fish spawning ground.

Situated on the eastern shore of the Keweenaw Peninsula, Buffalo Reef is an historically productive spawning area for whitefish and lake trout. Shifting sediment known as stamp sands threatens to cover the gravel spawning grounds at Buffalo Reef and potentially other areas as well.

The byproduct of crushing or stamping rock containing rich mineral deposits like copper, stamp sands were routinely dumped into Lake Superior and its tributaries by mining companies.

Researchers at Michigan Technological University estimate that around one-half billion tons of stamp sands were distributed from Keweenaw milling operations alone. Researchers also discovered high mercury concentrations in stamp sands, making the finely ground waste rock even more toxic to the local environment.

"Although most copper mining sites shut down more than 70 years ago, stamp sand deposits persist and are unable to support vegetation," said Ann McCammon Soltis GLIFWC policy

analyst. "In large enough quantities migrating stamp sands can negatively impact aquatic and plant life."

The Gay Peninsula located just northeast of Buffalo reef is actually an artificial spit of land, constructed out of stamp sands. Researchers believe that stamp sands eroding from the peninsula may be spreading across sensitive aquatic habitats including Buffalo Reef. To determine the extent of stamp sand sedimentation, NWRI researchers plan to use acoustic signature technology to map out stamp sands and native sands in the Buffalo Reef spawning region. Video will also be taken in areas known to contain stamp sands and areas of native sands to determine whether the two can be distinguished visually.

"The data will give us a good baseline for the distribution of native and stamp sands," McCammon-Soltis said. "Follow-up surveys will be able to document any movement of stamp sands into Buffalo Reef." Some tribal fishermen have reported that the stamp sands are moving toward the reef.

GLIFWC conducted fisheries assessments on the reef from 1986 to 2002, confirming spawning activity by lake trout and whitefish. Fisheries crews are planning to double their survey efforts at Buffalo Reef to get a more comprehensive look at fish spawning patterns.



Accepting a \$445,830 award from the Environmental Protection Agency (EPA) on behalf of the Great Lakes Indian Fish & Wildlife Commission (GLIFWC), is Jim St. Arnold, GLIFWC's Administration for Native Americans program coordinator. The presentation took place at Myrtle Beach, South Carolina in April. The award funds a project enabling tribal researchers, in collaboration with Citizens for a Better Environment of Milwaukee, to develop, implement and evaluate a comprehensive, systematic and culturally sensitive intervention program to reduce risks associated with subsistence-based consumption of fish contaminated by methyl mercury. The Grant is funded through the EPA's Science to Achieve Results (STAR) grants program in cooperation with the U.S. Department of Health and Human Service's Agency for Toxic Substances and Disease Registry. Pictured with Jim St. Arnold is William H. Farland, EPA.

The New Land

Open house celebrated at former Crandon Mine site

By Nick Vander Puy
For Mazina'igan

Amid the greening hardwoods and white trillium the "No Trespassing" signs have been removed, and resting in place on the gate to the former mine site is another sign. It says "Clean Water for Seven Generations."

The new sign reflects the stunning conclusion to an almost thirty-year struggle to prevent some of the most powerful multinational mining corporations in the world from building a metallic sulphide mine less than a mile upstream from the Mole Lake Sokaogon Chippewa community in northeastern Wisconsin.

In October 2003 the Sokaogon Chippewa, with help from the Forest County Potawatomi, ended the threat by purchasing the five thousand-acre mixed woodland dotted with lakes and streams from Nicolet Minerals and the Connor family for more than sixteen million dollars. A few days later the tribes withdrew permits for building the proposed Crandon Mine. For now, the wild rice beds and water are protected.

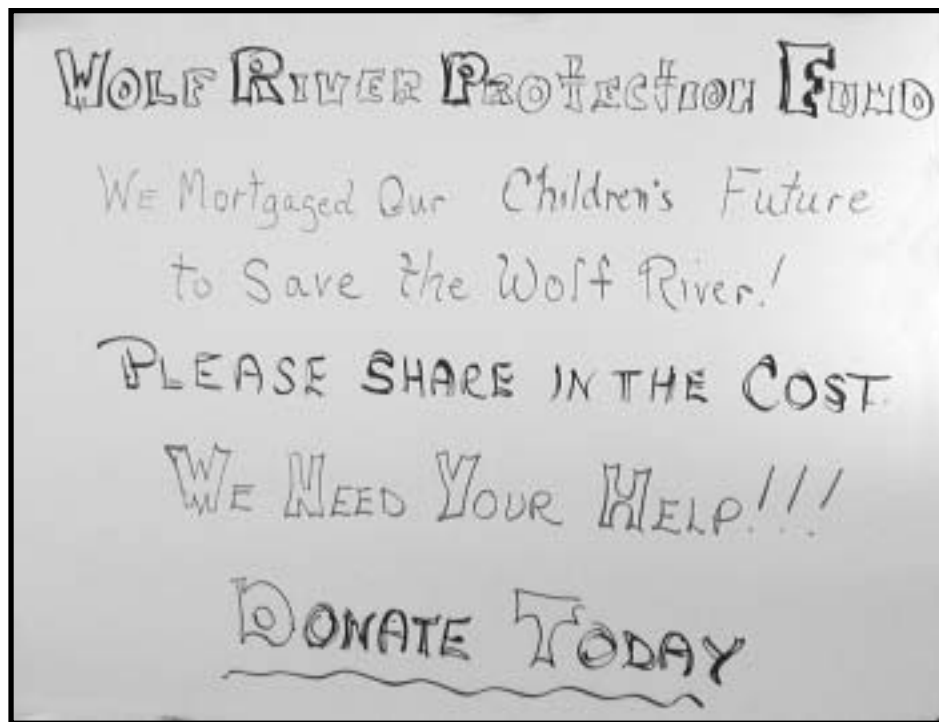
In keeping with the traditions of their ancestors, the Mole Lake Sokaogon Chippewa have pledged to protect the Wolf River watershed forever. Thousands of people, both Indian and non-Indian grassroots environmentalist and

sport fishing groups, played a role in helping the Mole Lake people reacquire some of their ancestral lands next to the reservation. Some of those people gathered at the environmental building at Mole Lake on May 15 and walked up to the former mine site for a ceremony. Longtime fighters Tom Ward, Bob Schmitz, and Roscoe Churchill were there. The women's water staff was carried by Debbie Mc Nutt and Frannie Van Zile. The ogitchidaakwe Frannie Van Zile said, "I'm beginning to feel like I'm coming home."

Once out at the former mine site, tobacco was passed; there was singing on the drum; and the red and blue tobacco ties were placed on a basswood tree—the same basswood the people put their tobacco ties on several years ago during an Indigenous Environmental Network at Mole Lake.

At the time people were concerned about being arrested by the Forest County Sheriff's Department for trespassing. But on Saturday, May 15, 2004, with the land back with the Mole Lake and Potawatomi, there were smiles all around. Mole Lake Tribal Judge Fred Ackley said, "There aren't many place left in the world as beautiful as this, where red, black, yellow, and white people can gather together in harmony with the Creator."

The women's oak water staff was a gift in 1994 from Ronnie Smith, who's since gone onto the spirit world. The



staff carries several eagle feathers and received two more at the ceremony on Saturday. One was for Louis "Big Z" Shepherd who is a Vietnam War vet and back in the eighties served on the first mining impact committee. The other feather was for Alice Ackley, Fred Ackley's sister.

Alice Ackley had polio since she was two years old. She didn't let her wheel chair slow her down in the late sixties, when she participated in the American Indian Movement takeover at Alcatraz. She was an accomplished painter. She lived next to Fred and Fran at Mole Lake, offering moral support for the anti-mining movement.

Her health was failing last fall when she painted a scene of the land out at the former mine site. It's an oil on canvas showing the greening hardwoods, some spruce and balsam trees, and her signature red bird. It's the way she told Fred and Fran she wanted the land to look. She gave Fred and Fran the painting in early October.

After the land was purchased, a few weeks later, Fred was singing the

Eagle Song at the victory celebration at the Potawatomi community center. That's when he got word that Alice had gone on to the spirit world.

Alice Ackley's painting, "The New Land," will be auctioned off to raise money for the land and restoration.

The tribe will owe an eight million dollar note in 2006 to BHP Billiton, the mining company that sold Nicolet Minerals Company to the Connor family. The Wolf River Protection Fund has been established to help the Mole Lake Sokaogon Chippewa community pay the note.

There are \$500,000 dollars worth of core drills drilled in the 'seventies that need to be filled. Managing the land and waters will be an added burden for which the Tribe is seeking help. To volunteer time and expertise, or make a donation, please go to www.wolfriverprotectionfund.org, or all Tina Van Zile at 715/478-7605

(Nick Vander Puy is an independent public radio producer for Superior Broadcast Network. More stories can be heard at www.superiorbroadcast.org.)

GLIFWC to survey 35 lakes for aquatic invasive species

GLIFWC biological staff will be surveying several lakes this summer for the presence of aquatic invasive species (AIS). Invasive species can degrade aquatic habitats by outcompeting native plants, impairing access, and disrupting entire food chains.

To date, most reports of AIS have been incidental reports provided by biologists conducting other work, recreational users, and property owners. One objective of this work will be to determine if AIS are more widespread than current reports suggest.

This survey will specifically target AIS with an emphasis on invasive plants. While most of us are familiar with purple loosestrife and Eurasian water-milfoil, new invaders such as European frogbit, hydrilla, and waterchestnut may go undetected until they become well established. Thus a sec-

ond objective of the survey will be to identify any new invaders that may be gaining a foothold in northern lakes.

This work will be coordinated with ongoing efforts by the DNR, lake associations and others engaged in this work to develop a more complete picture of the threat posed by AIS to northern lakes. Maps depicting the results of this effort will be posted online at: <http://www.glifwc-maps.org>.

A total of 35 lakes were chosen for surveys this summer. These lakes comprise several important walleye and wild rice lakes and include 13 GLIFWC long-term study lakes. The majority of the surveys will take place between June 14 and September 17, 2004. Surveys will target the near shore areas of each lake, especially around boat landings.

The following lakes are scheduled for surveys:

County	Lake	County	Lake
Bayfield	Namekagon Lake	Oneida	Pelican Lake
Bayfield	Siskiwit Lake	Oneida	Rice River Flowage
Bayfield	Totagatic Lake	Oneida	Spur Lake
Burnett	Briggs Lake	Oneida	Squaw Lake
Burnett	Clam Lake	Oneida	Squirrel Lake
Burnett	Clam River Flowage	Oneida	The Thoroughfare
Burnett	Gull Lake	Sawyer	Chippewa Flowage
Burnett	Long Lake	Sawyer	Nelson Lake
Burnett	Loon Lake T41N R15W S36	Sawyer	Pacwawong Lake
Burnett	Phantom Lake	Sawyer	Round Lake
Forest	Butternut Lake	Vilas	Allequash Lake
Forest	Metonga Lake	Vilas	Annabelle Lake
Gogebic	Lake Gogebic	Vilas	Aurora Lake
Iron	Gile Flowage	Vilas	Kentuck Lake
Iron	Sherman Lake	Vilas	Lac Vieux Desert
Iron	Turtle Flambeau Flowage	Vilas	Upper Ninemile Lake
Mille Lacs	Mille Lacs	Washburn	Bass Lake
Oneida	Bearskin Lake		

Three Fires Mide women

(Continued from page 17)

The Lodge is comprised of four Doorways, representing the Four Directions. Women from each doorway are given a water belt. "That water belt means they are the chief kwe (woman) of the water ceremony," says Benton-Banai. "They have full authority for that and are responsible for teaching the younger women all the way down to grandchildren and great grandchildren."

Actually, that position is designated to three women from each Doorway, says Agnes Schlender, Lac Courte Oreilles, who wears a waterbelt. It's given to a grandmother, a mother and a daughter—so it's inter-generational. "We teach each other," she says, "and also have the responsibility to teach to our respective peer groups." This creates an outreach incorporating all age groups. If, for instance, a woman wearing a waterbelt does not have a living mother, a grandmother would then be designated from that Doorway.

Both Nichols and Powless also spoke about the bonds between Three Fires members, both with men and women. Some members only see each other at the ceremonies held four times a year, yet there exists a closeness, a bond, an understanding. "Among the women, it's like we're sisters. You are not alone. It's like having a family of 500," says Powless.

Nichols believes that the teachings of the Lodge increase the nurturing of children, even if they are adults. "You view children as gifts and as sacred. I didn't think in these terms before, but now the meaning of my children and my responsibility to them is much deeper, much richer."

For Powless, she learned through the Lodge to talk to her children differently. "I need to talk to their hearts and spirits, not to their minds. They can block you from their minds, but not when you speak to their hearts. It is important to incorporate stories and teachings into daily life," she says.

Because the Lodge women take their role and duties seriously and bring it with them into their communities, it's not surprising to know that if the long-skirts are coming, something good is likely to happen.

Mikwendaagoziwag— They are remembered Sandy Lake ceremonies set for July 28

To remember those who perished at Sandy Lake during a failed attempt to remove Ojibwe bands from Wisconsin and Michigan in 1850, GLIFWC sponsors annual ceremonies at the Sandy Lake site near McGregor, Minnesota.

Ceremonies are slated for noon at the U.S. Army Corps of Engineers (ACOE) site on Sandy Lake. Ceremonies will be preceded by a paddle across Sandy Lake to the ACOE site. The paddle will begin at 9:00 a.m. Following the noon ceremonies, all will join in a feast.

Everyone is welcome to attend and to participate in the paddle across the lake. For more information, please contact GLIFWC at (715) 682-6619 or GLIFWC's website at www.glifwc.org.

"Tell him I blame him for the children we have lost, for the sickness we have suffered, and for the hunger we have endured. The fault rests on his shoulders."

—Flat Mouth, Leech Lake Ojibwe
speaking of Territorial Governor Alexander Ramsey



Healing Circle Run July 10-16, 2004

The 2004 "Healing Circle" run/walk is intended to be a prayer for healing. During the 2001 Healing Journey Run, participants recalled 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." Individual and family healing is possible after addictions (e.g. alcohol, drugs) and abusive or violent behavior are acknowledged and steps taken to prevent them from returning.

Healing is also needed after the loss of a loved one and by the incarcerated, the orphaned, and sick. Native people also suffer from the inter-generational trauma and scars left by war, racism, oppression, and many destructive policies aimed at assimilation.

The 2004 "Healing Circle" run/walk will occur from July 10-16, 2004. The run/walk will connect eight Ojibwe reservations in northern Wisconsin, Michigan, and Minnesota starting at the Lac Courte Oreilles Reservation on July 10 (Day 1), at Lac du Flambeau on July 11 (Day 2), at Mole Lake on July 12 (Day 3), at Lac Vieux Desert on July 13 (Day 4), at Bad River/Red Cliff on July 14 (Day 5), at Fond du Lac/Black Bear Casino on July 15 (Day 6), and at St. Croix and returning to Lac Courte Oreilles on July 16 (Day 7). A map is available at GLIFWC's website www.glifwc.org.

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 giwewigiizhigookwaymartin@glifwc.org at (906) 366-7040. All participants must assume personal liability, as well as responsibility for their own transportation and expenses.

Management & control of garlic mustard

(Continued from page 6)

of the native toothworts, but the larva are unable to survive on garlic mustard. Garlic mustard also replaces the native forest herbs that many forest insects need to survive.

Status in area

Garlic mustard is increasing in range and abundance across the upper Great Lakes region. It has become common in southern Wisconsin and southern Lower Michigan and is spreading northward. Recently several patches have been found in western Upper Michigan, in the Ottawa National Forest and in the Porcupine Mountain Wilderness State Park. Garlic mustard is considered "highly invasive" in Upper Michigan, "ecologically invasive" in Wisconsin, and is a "prohibited noxious weed" under Minnesota law.

Management and control

If there is any doubt as to whether a plant is garlic mustard, its identity should be verified with a knowledgeable individual before control measures are taken.

Manual control can be effective for small stands and for isolated plants. Manual control methods have an advantage over chemical methods, because they have less impact on the surrounding native vegetation.

Garlic mustard reproduces only by seed, making colonies particularly vulnerable to a loss of seed production. Flower stalks should be cut just above ground level, to prevent the plants from producing new flowers from the bases of the stalk leaves. Diligently removing the flowerheads of all the plants in a colony before ripe seeds form will eventually eliminate the population. Mechanical cutting may be useful for larger infestations—weed whips are often the least damaging in natural communities, while mowers may be appropriate along roadsides, etc. Cutting is most effective during full bloom, before the seeds are formed; if plants are cut too early they may have sufficient resources left in their roots to produce new flower stalks. If ripe seeds are already present, the tops should be bagged and removed from the site.

Pulling garlic mustard is labor intensive and can harm nearby plants, but has the advantage of being able to be conducted throughout the growing season. At least the upper half of the rootstock should be removed, or the plants might resprout. Tamping down any disturbed soil may reduce germination of remaining seeds. Pulled plants can be left onsite to dry out and decompose, as long as they do not have ripe or ripening seeds. Yearly monitoring and treatment must continue for at least five years or so, until the soil seed bank is completely exhausted.

Chemical control is often the only option for controlling large stands. Pesticides should only be used when other methods of control are not practical or possible, and when the benefits outweigh the risks. Spraying should be done when winds are calm and when rain is not expected for at least a day or so. Care should be taken to as much as possible avoid spraying surrounding vegetation. The directions on the label should always be followed carefully. Early spring and late fall are the best times to spray garlic mustard, as the rosettes are green and actively photosynthesizing at these times, while most other vegetation is dormant. Sedges

(CAREX spp.) and other evergreen and semi-evergreen herbs may still be harmed by spraying, though. This last problem can be avoided by using a broad leaf selective herbicide.

Because of the potential health and environmental risks associated with herbicide use, it is strongly recommended that those preparing to treat garlic mustard patches with herbicide first consult their local resource agency for advice.

Cultural control involves manipulation of natural forces such as flooding or fire to control invasives. Fall or spring burns may be effective in controlling garlic mustard, if repeated each year until the seed bank is reduced (typically three to five years). Single burns may increase garlic mustard populations. Follow-up measures such as hand-pulling may still be needed, to eliminate any new plants arising from the seed bank.

A study in an upland hardwood forest in northern Illinois found that fire could be a useful tool ONLY if used in early spring, before the native vegetation begins to grow. Late spring burns damaged garlic mustard to some degree but damaged the emerging native vegetation even more. Late spring burning to control garlic mustard is appropriate only in fire-adapted communities such as prairies.

Biological control provides the only hope for controlling garlic mustard across North America. In Europe, garlic mustard is associated with at least 69 insect and seven fungi species. Research is underway at the Center for Applied Bioscience International (CABI) in Switzerland on insects and other organisms that may control garlic mustard. The goal is to identify organisms that will control garlic mustard without damaging native plants. As of 2001 six insects (five weevils and one flea beetle) had been selected for testing in Europe for their specificity to garlic mustard.

Even if effective, host-specific biological control organisms are found, they will not completely eradicate garlic mustard from North America. Rather, a rough "balance" will eventually be reached between these organisms and their introduced host, diminishing garlic mustard's ability to invade and dominate native vegetation.

Reporting

If you notice garlic mustard on the landscape, it should be reported to the United States Forest Service (USFS), your state Department of Natural Resources (DNR), or to GLIFWC.

For more information

This article was adapted from a more detailed article posted on GLIFWC's website—see <http://www.glifwc.org/epicenter/>.

Literature references for this article are listed at http://www.glifwc.org/epicenter/Alliaria_petiolata/refs.html.

Links to other websites on garlic mustard appear at http://www.glifwc.org/epicenter/Alliaria_petiolata/links.html.

Information on weed control can be found in the TNC Weed Control Methods Handbook at <http://tncweeds.ucdavis.edu/handbook.html>.



RETURN ADDRESS:
GLIFWC
P.O. BOX 9
ODANAH, WI 54861

ADDRESS SERVICE REQUESTED

NON PROFIT ORG
POSTAGE PAID
PERMIT # 203
EAU CLAIRE, WI

Printed by: EAU CLAIRE PRESS COMPANY, EAU CLAIRE, WI 54701

MAZINA'IGAN STAFF:
(Pronounced Muh zin ah' igun)

Susan Erickson **Editor**
Lynn Pucnski **Assistant Editor**
Charlie Otto Rasmussen **Writer/Photographer**

MAZINA'IGAN (Talking Paper) is a quarterly publication of the Great Lakes Indian Fish & Wildlife Commission, which represents eleven Ojibwe tribes in Michigan, Minnesota and Wisconsin.

Subscriptions to the paper are free. Write: MAZINA'IGAN, P.O. Box 9, Odanah, WI 54861, phone (715) 682-6619, e-mail: pio@glifwc.org. Please be sure and keep us

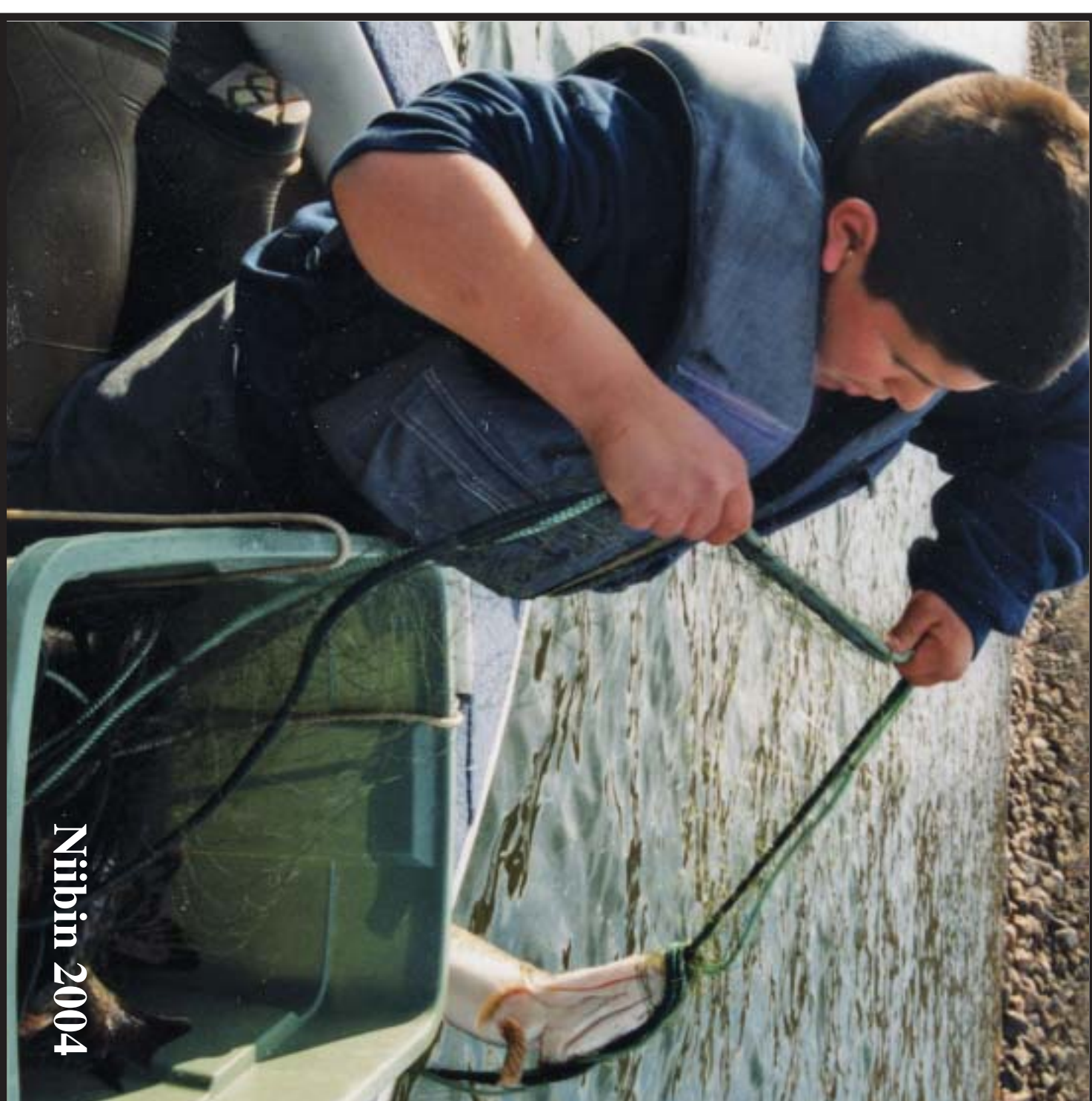
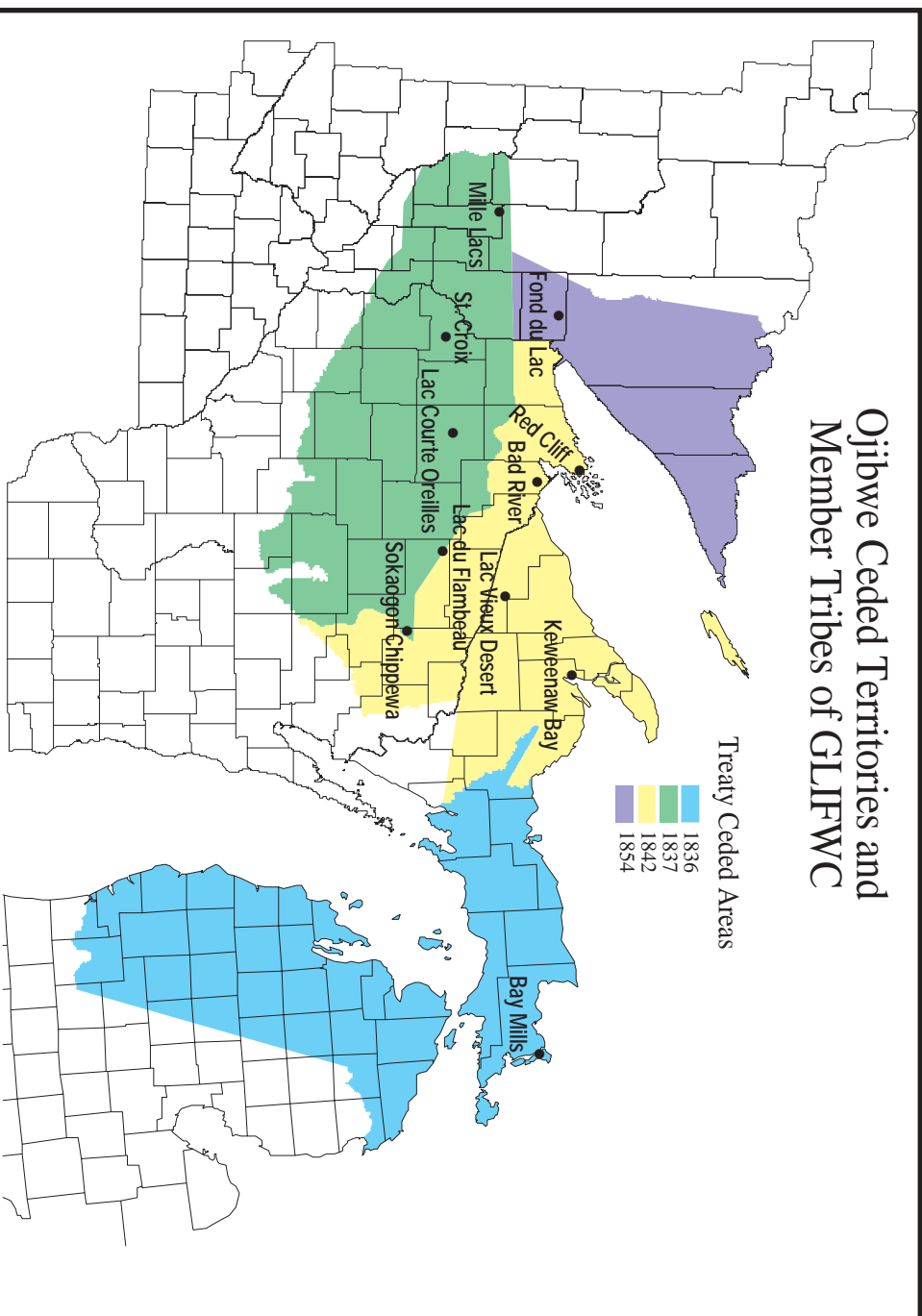
informed if you are planning to move or have recently moved so we can keep our mailing list up to date.

MAZINA'IGAN reserves the right to edit any letters or materials contributed for publication as well as the right to refuse to print submissions at the discretion of the editor.

Letters to the editor and guest editorials are welcomed by MAZINA'IGAN. We like to hear from our readership. The right to edit or refuse to print, however, is maintained. All letters to the editor should be within a 300 word limit.

Letters to the editor or submitted editorials do not necessarily reflect the opinion of GLIFWC.
For more information see our website at: www.glifwc.org.

**Ojibwe Ceded Territories and
Member Tribes of GLIFWC**



Nibin 2004

Mazina'igan
A Chronicle of the Lake Superior Ojibwe