

Mazina'igan

A Chronicle of the Lake Superior Ojibwe

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Successful harvest follows delayed opening of spring spearing & netting

By Sue Erickson
Staff Writer

Odanah, Wis.—I-C-E and a cold, late spring seem to be the hallmark of 2008's netting and spearing season. Because of a late ice-out on many lakes throughout the ceded territory, tribes experienced a sometimes challenging but bountiful treaty fishing season.

At Mille Lacs Lake in Minnesota the early spring fishing season began on April 5 when Mille Lacs Band members first set nets on reservation. The off-reservation season started up nearly two weeks later on April 24 when tribal members from Lac Courte Oreilles and Mole Lake arrived. The last net was set and lifted prior to midnight on May 9.

In total, the eight combined bands harvested 87,537 pounds of walleye during the 2008 season, surpassing last year's harvest of 87,041 pounds. This includes walleye taken with both net and spear. With the 2008 overall quota for the bands set at 122,500 pounds of walleye, 34,963 pounds remain available for har-

vest. A combined total of 8,082 pounds of northern pike were also harvested from a quota of 12,496 pounds.

The overall tribal quota for walleye and northern in Mille Lacs Lake is allocated on a per-band basis, with a quota allocated to each of the eight participating bands. The amount of fish available to members of each band on a given day depends on how much remains in the specific band's quota. This figure is calculated on a daily basis by GLIFWC biological staff using information from creel teams located at each open landing.

Ice interfered with nets early in the season, particularly on the night of April 29. Ice conditions forced most of the off-reservation nets to be set at the South Garrison landing that evening. In total, including on and off-reservation, over two hundred nets were set. A wind shift in the middle of the night sent a huge shelf of ice careening in the direction of nets. "The ice moved in much faster and more massively than we could have anticipated," said Nick Milroy, GLIFWC inland fishery biologist.



Roger Labine provided muscle power for his son Tony spearfishing the north shore of Bond Falls Flowage in Upper Michigan. Many Lac Vieux Desert Band harvesters use motors only to reach fishing locations and switch over to oars to minimize noise as they seek out walleye. (Photo by Charlie Otto Rasmussen.)

Alerted to the oncoming ice in the early hours of April 30, Mille Lacs and Fond du Lac tribal staff along with GLIFWC staff and tribal netters raced to retrieve set nets. All but twelve nets were accounted for that morning, and

an intensive search for missing nets began, including three of those set on April 28.

GLIFWC enforcement staff employed available technology to identify (See 2008 treaty, page 5)

GLIFWC hosts northern Anishinaabe relatives

By Sue Erickson, Staff Writer

Odanah, Wis.—"Relatives" from the north visited GLIFWC last April, traveling from the Treaty #3 region in southern Ontario on the heels of one of winter's last blasts. About 30 representatives of the Anishinaabeg of Kabapikotawangag Resource Council Inc. (AKRC) were welcomed at the GLIFWC offices on April 16th



Facilitating strategic planning Ojibwe-style and using the language is Fred Kelly, Ojibways of Onigaming First Nation, Ontario. (Photo by Charlie Otto Rasmussen.)

at the onset of a three-day mission to reaffirm the Anishinaabe Akii Protocol, signed by representatives of GLIFWC and the AKRC in 1998, and also importantly to spend two days focusing on strategic planning for the future direction of the AKRC.

The Protocol recognizes the bond between Ojibwe people from the United States and Canada due to common origins, traditions and clan and considers them "brothers and sisters of the Sovereign Anishinaabe Nation," in essence cutting through national, state and provincial boundaries that seem to separate the Anishinaabe Nation.

The AKRC, with six First Nations as members, formed in 1955 and represents the Anishinaabeg of Kabapikotawangag, historically known as the People of the Lake, referring to the Spirit Lake, now commonly known as the Lake of the Woods.

The primary mission of the AKRC is to provide the membership with the resources necessary for life-long development, including but not limited to the protection of their language, culture and their spiritual relationship to the resources and to protect the treaty reserved rights of their member nations.

The knowledge and expertise gained from GLIFWC's nearly twenty-five year history with the implementation and protection of off-reservation treaty rights on behalf of its member tribes have proved a valuable resource to the AKRC. They also seek to implement and protect similar harvesting rights and engage meaningfully in the management of the resources upon which they have traditionally relied.

While AKRC gains technical knowledge from GLIFWC, in return they have shared the rich cultural and spiritual traditions of the Anishinaabeg that they have retained along with their continued fluency in the Ojibwe language, which expresses the unique relationship between Anishinaabeg people and the natural world. As George Kakeway, AKRC director of operations, stated it, "We can share with GLIFWC the cultural and spiritual practices used by our people from time immemorial which are expressed through the language and are all part of sovereignty."

Historically, AKRC has provided consultation and guidance as GLIFWC seeks to incorporate Anishinaabeg values and traditions into all aspects of its work. AKRC's gift of an Opwaagan, a Pipe, for GLIFWC to use at meetings is but one example of sharing cultural knowledge and tradition.

While this was a repeat visit to GLIFWC for some, it was a first for many of the near thirty AKRC representatives. They were welcomed by GLIFWC Executive Administrator Jim Zorn on the 16th and spent a morning meeting with a variety of GLIFWC staff and touring the offices, getting some insights into GLIFWC's multi-faceted programs. In the afternoon, GLIFWC Biological Services Director Neil Kmiecik took them on a tour of Red Cliff's hatchery, which features a coaster brook trout rehabilitation program.

Strategic planning consumed the next two days of the visit. Unlike GLIFWC's strategic planning sessions, the AKRC's sessions were carried out entirely in Ojibwemowin, the native language, and interpreted into English.

According to Kakeway, the planning reflects spiritual governance of the resources, not just practical or corporate principles. "It's largely about treaty rights (See Anishinaabe Akii, page 17)

Special Delivery: Fresh fish from Mille Lacs

Bad River fishermen make short work of a big job for the elderly

By Sue Erickson
Staff Writer

Odanah, Wis.—A successful fishing expedition to Mille Lacs Lake this spring brought about a thousand pounds of fish back to the Bad River Elderly Program, according to Sandy Corbine, Bad River aging coordinator. Last year a similar foray resulted in about twelve meals for the tribe's elderly feeding program during the year.

A complement of ten people—elders, staff and youth—in two vans, one hauling a boat, and a car ventured south to Mille Lacs for the nights of May 4 and 5, returning with their coolers chock full of ice and fish—a nice mix of predominantly walleye, with a good number of northern pike, perch, and one muskie.

The fishing effort, as well as the job of cleaning and filleting, got a real boost from professional-level help. Bad River commercial fishermen Tom Newago, Ron Rufus and David Pero were among those on the trip, so handling the hundred foot nets was no problem. Newago's nephew Andy Stafford also helped and allowed the elders to use his boat for the occasion.

The fish were transported home to be cleaned at the Bad River Elderly Center. Joe Newago, also a Bad River commercial fisherman, joined the force

on Wednesday, May 7, as a slick, assembly-line set-up helped the crew go gangbusters on preparing the fish. Knives flashed and fillets stacked up quickly as experienced hands made short work of a thousand pounds of fish.

All the fish from the first night's lift goes to the elderly feeding program, according to Corbine. Fish from the second night's lift is available to the individuals who helped with the fishing for personal use; however, some of that also usually gets donated back to the program, she says.

You can't get much better than freshly caught walleye fillets in the frying pan. A Friday fish fry at the elderly center provided the elders' first fish feast, using fresh fillets. This treat was much enjoyed by all. The remaining fillets were packed and frozen ready for use during the year.

This was the fourth annual elderly fishing trip to Mille Lacs, says Corbine. The program fundraises throughout the year in order to help pay for the trip, primarily sponsoring lunches, which often feature Corbine's famous pasties.

Those who participated in the trip were Sandy Corbine, her assistant Angela Lemieux, fishermen Tom Newago, Ron Rufus and Dave Pero; Anthony Plucinski, Darren Young, Andy Stafford, and Paul Vitato.

The Elderly Program says miigwech to all those who pitched in!



Tom Newago heads into shore with a catch from Mille Lacs Lake aboard a seaworthy fishing skiff that comfortably accommodates fish, nets and crew. (Photo by Angela Lemieux.)



Picking fish from the nets once on shore, Tom Newago and Ron Rufus are assisted by Bad River youth Darren Young and Anthony Plucinski. The fish were weighed and data recorded at the Mille Lacs Lake landing, then put on ice and taken home to be cleaned. (Photo by Angela Lemieux.)



Sandy Corbine, Bad River aging coordinator, washes cleaned fillets as they come off the "assembly line" set up at the Elderly Center in Odanah. (Photo by SE)



Down to business with fillet knives flying, this assembly line of Lake Superior commercial fishermen expertly filleted about 1,000 pounds of fish caught at Mille Lacs Lake for Bad River's Elderly Program. Making short work of skinning, trimming and deboning are Tom Newago, Joe Newago, David Pero and Paul Vitato. Ron Rufus is on the truck, sorting fish by species. (SE)



The Grand Finale! Charlie Wiggins, cook for the Bad River Elderly Program, turned out a delicious Friday fish fry for the elderly using fresh Mille Lacs walleye. A real treat! (Photo by Angela Lemieux.)

History Nugget

January 25, 1983—US Court of Appeals rules in favor of Lac Courte Oreilles

In its January 1983 ruling the U.S. Court of Appeals for the 7th Circuit agreed with the Lake Superior Chippewa that hunting, fishing and gathering rights were reserved and protected in a series of treaties between the Chippewa and the United States government. This decision has become known as the *Voigt* decision. A three-judge panel reversed Doyle's earlier ruling, concluding that treaty rights were not relinquished in the 1854 Treaty when reservations were established and that the 1850 Removal Order had not extinguished the reserved treaty rights. The Seventh Circuit also returned the case to District Court to "determine the scope of state regulation" and the scope of the rights. This ruling was appealed by the State of Wisconsin to the U.S. Supreme Court. *LCO vs. WI (LCO I)*, 700 F2d 341 (7th Cir. 1983).



Forest roads closed in prime elk calving areas through June

By Charlie Otto Rasmussen
Staff Writer

Clam Lake, Wis.—Motorists venturing into the Chequamegon-Nicolet National Forest near Clam Lake should be aware of temporary road closures around a number of primary elk calving sites. Acting on a request from state wildlife officials, the U.S. Forest Service is restricting motorized vehicle access from May 1 to June 30 on select roads and trails.

“Closing these specific roads helps protect elk during the vulnerable calving period,” said Laine Stowell, Department of Natural Resources Elk Biologist. “We’ve been seeing increased ATV (all terrain vehicle) use, especially over the Memorial Day weekend when calving is at its peak.”

Over the past dozen years, researchers have pinpointed a number of critical calving areas using telemetry that tracks radio-collared elk. Stowell said near-term cows generally favor forests managed with selective timber harvests. These same woodlands see few late spring appearances by a top elk calf predator—black bears.

“These are preferred areas that elk cows have consistently used over the years. They’ve developed a long-term sense of security,” Stowell said. “But

as motorized use increases, elk will avoid these areas and be pushed out toward highways and into less desirable habitat.”

Numbering around 125 animals before 2008 spring calf recruitment, the northern Wisconsin elk population has taken a series of hits in recent years. A rash of river drownings and vehicle collisions near illegal feeding sites flatlined the herd’s annual growth rate. Through public information efforts and a system of highway warning lights that alert drivers of nearby collared elk, however, growth rates are getting back on track.

Stowell expects around 40 calves to be born this spring. Approximately half of those newborns will likely succumb to predation and other mortality factors.

“The temporary road closures aren’t going to have a serious impact on recreational and gathering interests, but it will improve the health of elk herd,” Stowell said. “The sensitive riparian habitats in these areas will benefit as well from a break in ATV traffic.”

The Forest Service consulted with Great Lakes Indian Fish & Wildlife Commission officials in mid-February prior to the road closure action. Treaty gatherers reported no problems when roads were first temporarily closed in spring 2007; however, tribal members experiencing access issues are encour-



A newborn elk calf keeps a low profile near Clam Lake, Wis. A handful of local National Forest roads that cut through principle calving areas are closed to motorized traffic until June 30. (Wisconsin DNR photo.)

aged to call Karen Danielsen or Jonathan Gilbert at (715) 682-6619.

Closures include Forest Roads 1265/1275; the upper reaches of FR 208; FR 1029; and a cluster of roads that enter into a four-square-mile tract east of County Highway GG and east of Little Clam Lake, south of Highway 77, and

west and north of FR 339. Gates block three of the closed roads, and the tract east of Clam Lake is marked by signs. All roads are marked with closure signs with penalty information. For more information call Laine Stowell at (715) 634-2688, or Tom Matthaie at (715) 634-4821.

State residents endorse future wolf hunting, trapping

By Charlie Otto Rasmussen, Staff Writer

Odanah, Wis.—Even though most Wisconsin residents attending the statewide Conservation Congress hearings April 14 voted in favor of wolf hunting and trapping, state resource managers say a possible harvest season is years away.

“We want to develop tools to deal with depredate wolves rather than set up a hunting season,” Adrian Wydeven told the Voigt Intertribal Task Force at their May 1 meeting in Odanah. Wydeven is the lead wolf biologist for the Department of Natural Resources. “Very few wolves in Wisconsin are actually causing problems, but there are places in the state where depredations consistently occur. We want to reduce wolf numbers in those areas.” Biologists estimate the state’s present wolf population at around 550 animals.

The annual conservation hearings are held in each of Wisconsin’s 72 counties. Voting results from questions posed to the public may be forwarded as advisory items from the Conservation Congress to the Department of Natural Resources Board, which establishes policy for the DNR. In all, 4,848 people voted to develop a hunting season and 772 were in opposition.

Wydeven was skeptical about the merits of a wolf hunting season at this time, especially on public lands that are particularly important core areas for wildlife like wolves. “The appropriate place for people to control wolves is on private property where depredations are occurring. That’s what we’re doing through government trappers and landowner permits,” he said.

A related question asked whether people should be allowed to shoot wolves in the act of attacking a dog on public land. That passed by a wide margin as well with a 4,416 to 995 vote. Hounds being trained prior to the September bear hunting season are occasionally killed by wolves in heavily forested areas of northern Wisconsin.

In another closely watched advisory question at the conservation hearings, residents voted 3,092 to 2,768, endorsing a statewide ban on baiting and feeding deer. Currently a ban exists only in select southern Wisconsin counties where deer continue to test positive for chronic wasting disease

2007 tribal rice harvest stable despite fears of low abundance

By Peter David
GLIFWC Wildlife Biologist

Odanah, Wis.—As the manoomin seeds that dropped into the muck last fall begin sending out their spring shoots, GLIFWC staff are wrapping up harvest surveys from the past season. The results followed expectations in many ways, but held some surprises too.

Even before the first ricer was contacted, we knew the season had been a tough one. The very low water levels observed last fall affected rice, and ricers, in a variety of ways. Some beds were left literally high and dry, right down to the roots. Other beds hung on with a few inches of water, enough for a fall rice plant, but not enough for a canoe and a ricing team. And in other spots, the drought is suspected of hurting the rice more indirectly, stressing the plants to the point where disease factors reduced seed production. Harvest estimates were expected to go down, and for state ricers, that is just what the numbers showed.

The estimated number of state-licensed ricers fell by nearly triple digits, from 604 in 2006 to 507 in 2007. Those who did go out found the going tough. Though they made nearly as many trips per person (2.6 versus 2.8) as the year before, their average harvest fell from 37 to 25 pounds of green rice per trip, and the average harvest per active license came in at just 65 pounds, less than two-thirds the 2006 level. All together, state-licensed ricers were estimated to have made a little over 1,300 ricing trips, gathering about 33,000 pounds. No surprises so far.

The off-reservation tribal harvest, however, bucked this trend. First off, the number of tribal ricers showed almost no change (101 in 2007 versus 105 in 2006). Not a big surprise here, given the great cultural significance of manoomin to the Ojibwe.

Good year or bad year, tribal members tend to try to find some rice to harvest. More surprisingly, they managed to harvest the same amount of green rice per trip (54 pounds) as the year before. Even more surprisingly, they actually increased the number of ricing trips they made, averaging 5.5 trips per license in 2007 compared to 3.8 in 2006. As a result, average tribal harvest per license actually jumped up from 206 pounds in 2006 to 299 pounds in 2007. Overall, tribal ricers were estimated to have made 561 off-reservation ricing trips, harvesting 30,525 pounds of the sacred food.

It’s possible that some of the unexpected results in the tribal harvest is attributable to a shift in which tribal members harvested, and where. Some of the “lighter” harvesters may have taken a year off after learning about the condition of the beds, especially if they had some rice left over from the relatively good year in 2006. They may have been replaced by some more serious ricers who normally rice on-reservation, such as Bad River members who had to look elsewhere when the tribe made the difficult decision to close the Kakagon Sloughs to ricing last fall due to low water levels on Lake Superior.

Manoomin management efforts again contributed to the 2007 harvest. Of the seven waters most heavily harvested by survey respondents, three had been seeded by GLIFWC and its cooperators, and a fourth has been the subject of other rehabilitation efforts by the St. Croix band.

It’s too early to tell yet what 2008 will bring; many lakes remain low, but much can change in the months ahead. What will not change, however, is the great cultural and ecological significance that manoomin contains.

GLIFWC would like to thank all of those who participated in harvest surveys—your information sharing will help preserve this critical resource for the generations to come. Miigwech!



GLRC strategizes to clean up gichigami

By Reggie Cadotte
GLIFWC Policy Analyst

The Great Lakes Regional Collaboration (GLRC) is an ongoing effort to address threats to the Great Lakes Basin. A group of concerned people from federal, tribal, state, and local agencies developed a Strategy to Protect and Restore the Great Lakes (Strategy), which was approved for release on December 12, 2005.

The GLRC and the GLRC Strategy developed following a 2004 Executive Order by President Bush, which created a Great Lakes Interagency Task Force to promote a Regional Collaboration of National Significance for the Great Lakes, known as the GLRC.

The GLRC Executive Committee and the GLRC Executive Subcommittee are in the process of implementing the GLRC Strategy through six specific initiatives. These are the Mercury Phase-down Strategy, Mercury Emissions Reduction, AIS Rapid Response, Great Lakes Clean Boat, Habitat and Wetlands, and Beach Initiatives.

The GLRC website is updated whenever new information regarding these Initiatives becomes available. Below are brief snapshots of the specific initiatives:

Mercury Phase-down Strategy Initiative

This is a strategy to reduce the amount of mercury entering the environment by removing or limiting the amount of mercury initially put into products. This Strategy has undergone intensive review from public and private sectors as well as a 60 day public comment period. The GLRC Executive Committee is allowing all final revisions to be made as a result of these intensive reviews and comments. The GLRC Executive Committee will be approached to approve the release of this document.

Mercury Emissions Reduction Initiative

This initiative of the GLRC intends to address all the sources and sectors of mercury deposition as well as the technology available to reduce the overall input of mercury to the Great Lakes Basin. The Great Lakes Binational Toxics Strategy workgroup is tasked with providing this initial research and information to include in a strategy to address mercury emissions reduction.

Aquatic Invasive Species Rapid Response Initiative

The GLRC has developed a Rapid Response Protocol to use if a new aquatic invasive species is thought to appear. Through this initiative, a list of technical and public points of contact for the Great Lakes Basin with aquatic invasive species or public consultation expertise has been compiled. The protocol and contact list developed through this initiative need to be tested to ensure their effectiveness at preventing the additional spread of aquatic invasive species.

Great Lakes Clean Boat Initiative

This initiative is tasked with compiling existing information, brochures, and other media available to the recreational boater in terms of aquatic invasive species. Information and programs to help prevent the spread of aquatic invasive species is widespread although scattered throughout the Great Lakes Basin. The intention of this initiative is to help spread the word about these existing programs to help prevent the spread of aquatic invasive species. Please remember to check and clean your boats when moving from one lake to another.

Habitat and Wetlands Initiative

This GLRC Strategy identifies the loss or degradation of wetlands and habitat as a major threat to the Great Lakes Basin and its ecosystem. This initiative has developed a Progress Report and Call to Action with the

challenge of restoring or enhancing 200,000 acres of wetlands in the Great Lakes Basin. This report identifies progress and partners in protecting, enhancing, or restoring wetlands or habitats. The GLRC Executive Committee will be approached for final approval to release this report to the public pending all necessary revisions or modifications.

Beach Initiative

The Beach Initiative is a part of the coastal health priority of the GLRC Strategy. Beach managers will be supplied with guidance documents and tools to effectively determine when a beach's health may be at risk. Sanitary surveys and predictive models can assist beach managers in protecting human health from contaminated beaches. These are highly technical tools that should only be used by professional and skilled people. However, you can help by cleaning up any trash and litter you may find when you visit your favorite beach. Contact your local health department or beach manager if you notice anything out of the ordinary.

More detailed information about any of these initiatives can be found at the GLRC website www.glrc.us. A link is provided on each page to express your thoughts or concerns about the GLRC, the GLRC Strategy, or any of the above initiatives. This link appears on the left and is entitled "Give us Feedback." Only so much can be done to protect the Great Lakes through one collaborative group of concerned people. Every agency, organization, and community action group is encouraged to review and implement the GLRC Strategy as they can.

If you or your group of concerned citizens are actively involved in the implementation of the GLRC Strategy, please go to the "Give us Feedback" link and let the Great Lakes Regional Collaboration partners know. The future generations thank you for your efforts!

Students learn the cultural significance of eagle feathers

By Calvin Perron, Bay Mills News

Bay Mills, Mich.—As a wet spring snow fell heavily outside, accompanied by the echoes of thunder rumbling softly in the distance, Bay Mills Community College's (BMCC) Migizi Hall seemed the fitting place for the students of the Bay Mills Ojibwe Charter School to gather to hear cultural teachings about the bald eagle from respected pipe carrier and veteran Dwight "Bucko" Teeple.

After all, the students had gathered on Friday, April 11th to soak in Teeple's extensive knowledge of the eagle in a building aptly named to honor the bird the Anishinaabe people deem so sacred. "Migizi," the name of the hall where the teachings took place, just so happens to also be the Ojibwe word for the bald eagle.

"The eagle is sacred to us because it is our messenger to the Creator," Teeple explained to the large group of students in attendance, which also included students from BMCC, and an assortment of other community members. "And the miigwan, or feather, is a gift from the eagle. We use the feather to send a message to the Creator."

Teeple told the students a story, passed down to him many years ago, about the migizi and how its migwaan became to be used for prayer by the Anishinaabe people. Teeple said that one day as an eagle was flying around, it saw an Anishinaabe man who wanted to pray but didn't have any tobacco to offer up his prayers. As the eagle flew around the man, it let one of its feathers go, giving it to the man as a gift, so he could use it to pray. From that moment on, Teeple said the Anishinaabe have used the eagle feathers for prayer.

While Teeple estimated that each eagle has roughly 7,000 feathers, in addition to being used in prayer, feathers from various parts of the body are used differently. The tail feathers are used to make bustles for men's regalia, while fluffs, the white, fluffy feathers that come from the backside of an eagle's tail, are oftentimes worn by fancy dancers in their hair or in the caps of men. In addition, Teeple said that breast feathers are worn to show one's affection, or bravery,

and the tiny feathers from the head of the eagle show wisdom.

Teeple explained that eagle feathers had traditionally been given to someone to signify that they were now an adult. Although they were given to young men in the past for their bravery in battle and for going on the warpath, Teeple said the world is a much different place now. Now, eagle feathers are primarily given to acknowledge significant accomplishments, such as graduating from school, returning from a fast, or for performing a tremendous deed in the community. Many veterans receive eagle feathers when they return home from war, but Teeple said he believes a "veteran" also includes those who put their lives on the line fighting for their people.

"I'm a veteran and put my life on the line for this country," Teeple explained to the students. "But so are those who placed their life on the line for their people. Those who survived Wounded Knee and those who fought for our fishing rights—those people are veterans in my eyes."

As a member of a federally recognized tribe, Teeple explained to the students that they have the right to apply to the US Fish & Wildlife Service for not just an eagle feather, but also for tails, wings, and even an entire eagle if they want to. When an eagle is found dead they are shipped to one of two eagle repositories, either in Oregon or Colorado, where they undergo autopsies to determine a cause of death. From here they are distributed to those who have filled out a successful application. Although it is a lengthy process, one which can take up to three-to-four years, Teeple said it is the only way one can "legally" possess an eagle feather. Since they are protected under both the Endangered Species Act and the Migratory Bird Act, Teeple said that the punishment for possessing an eagle feather and



Bucko Teeple explains the meaning of eagle feathers at Bay Mills Community College. "The eagle is sacred to us because it is our messenger to the Creator, and the miigwan, or feather, is a gift from the eagle. We use the feather to send a message to the Creator," Teeple said. (Photo submitted.)

not having the proper paperwork is severe. Those who possess them and don't have the proper paperwork are doing so at their own risk, he added.

However, if one were to happen upon an eagle's feather while alone out in the woods, or walking the beach, Teeple said one must first offer tobacco in order to receive the gift. Once in their possession, Teeple said the owner of an eagle feather has a very powerful gift.

"If you take care of it, it will take care of you and your family," he said. "Some like to hang them in their homes, and others like to hang them in their car, sort of like an Indian version of the plastic Jesus on the dash. Use it for your prayers, and the spirit of the eagle will take them to the creator for you."

(See Cultural significance of miigwan, page 7)



2008 treaty spring spearfishing & netting season

(Continued from page 1)

submerged nets, using GPS along with side-scan sonar, which views a contour of the lake's bottom plus objects in the water column. According to Chief Warden Fred Maulson, Enforcement's GPS uses a Navionics HotMaps chip, which provides a base for grid checks. At night they also relied on GPS with spotlights. If equipment indicated the presence of a suspicious object, another boat with drag hooks would drag for the detected objects. As of May 16, eleven of the fifteen nets were accounted for and four remained missing.

Fish found in retrieved nets were subtracted from the appropriate tribal quota and an estimate of 40 pounds of walleye per net has been deducted for

the missing nets. Maulson says that incidents relating to the missing nets continue to be under investigation by the Enforcement Division.

Fish found in nets within the first six days were in good condition. Many of the fish in retrieved nets were cleaned and frozen by enforcement and biological staff for distribution to tribal elderly programs.

Spearfishing effort in Wisconsin & Michigan

Meanwhile in Wisconsin and Michigan, tribal spearers took to the shores of many northern lakes on a nightly basis. The season began a little later than usual due to the late ice-out,

but tribal spearers found plenty of fish once the ice left the shores.

In Wisconsin, preliminary figures show that tribes harvested a combined total of 27,872 walleye and 257 muskellunge as of May 15. This compares to 30,700 walleyes and 303 muskellunge speared in 2007.

As in Minnesota, GLIFWC creel teams monitored each open landing in Wisconsin, recording data on walleye and muskellunge harvested from each open lake. That information was forwarded to the central office for entry into a data file and the information was returned to each tribal registration station so that quotas and permits remaining on each open lake were adjusted on a daily basis.

In Michigan preliminary numbers show the tribal harvest of walleye totaled 5,901 and 11 muskellunge. Elevated water levels allowed Lac Vieux Desert members to harvest walleye from Bond Falls Flowage for the first time in several years. LVD spearer Roger LaBine said water covered a portion of the reservoir's primary walleye spawning bed along the north shore, and fish were available there in early May.

The 2008 season proved to be very successful, yielding a bountiful supply of fish from ceded territory lakes.

All figures used in this article are preliminary figures only. All data will be reviewed before figures are finalized.

GLIFWC staff writer Charlie Rasmussen contributed to this article.



GLIFWC Enforcement Chief Fred Maulson and Warden Rabindran Arunagiri assisted tribal netters with net removal when ice closed in at Mille Lacs Lake's South Garrison landing. (Photo by Charlie Otto Rasmussen.)



GLIFWC creel clerk Mark Bresette Jr. examines a Diamond Lake walleye to determine its gender while young Red Cliff fisherman Chase Quam sleepily looks on. (Photo by COR.)



A father and daughter fishing duo from Bad River were early birds at Mille Lacs Lake for the off-reservation netting season. Mike Plucinski and daughter, Melanie, were pleased with a nice catch from their morning lift on April 26. (Photo by Kristen Thannum.)



A number of Red Cliff youth got firsthand experience in spearing this spring when they went out with Mark Duffy, George Newago and Justin Newago on Lower Eau Claire Lake. They also learned how the fish are creeled once they are brought ashore. (Photo by Mike Soulier.)



Part of the nightly ritual at landings open for spearfishing involves checking tribal permits. GLIFWC Warden Vern Stone gives the "o.k." to Bad River tribal member and veteran spearfisherman Joe Bates at a landing on Lake Owen, Bayfield County before Bates and his son, Forrest, headed out onto the lake. (Photos by Sue Erickson & Lynn Plucinski.)



Lac du Flambeau tribal members Robert Chapman, Lyle Chapman and Tom Maulson come ashore with catch from Mille Lacs Lake following an early morning lift. (Photo by Fred Maulson.)



UPPER PHOTO: Heather Naigus, GLIFWC warden stationed at Marquette, monitors Keweenaw Bay fishermen spearing trout in Marquette County. Observer and photographer Duane Pape noted, "These were good people doing good things, enjoying the bounty of the earth..." (Photo by Duane Pape.)

RIGHT PHOTO: A hefty northern pike makes an armful of fish for young Ethan Greene, pictured with his cousin Charlie Thannum, both Bad River members fishing at Mille Lacs Lake. (Photo by Kristen Thannum.)



GLIFWC electrofishing crews complete population estimates, assist with sample collections

By Sue Erickson, Staff Writer

Odanah, Wis.—Everything was ready and crews were raring to hit the lakes for spring walleye assessments this year, but the continued influx of northern cold air and freezing temperatures until late in the season kept electroshocking boats and crews at bay. But even with a delayed start, assessments went well overall.

GLIFWC electrofishing crews in Wisconsin encountered few problems with remnant ice in the lakes. However, this was not the case in Minnesota where GLIFWC worked cooperatively with the Minnesota Department of Natural Resources (MDNR), the US Fish and Wildlife Service (USFWS) and the Fond du Lac Band to mark walleye this spring for a population estimate in Mille Lacs Lake. Ice conditions made access to many of the large lake's shorelines difficult if not impossible at times, according to GLIFWC Inland Fisheries Biologist Nick Milroy. "At times we were limited where we could shock," he says, "but the crews really put out a big effort, and we finished up strong, marking nearly 10,000 walleye despite cold, wind and ice."



A GLIFWC electrofishing survey boat strikes out into Lake Mille Lacs at dusk on April 29. Crew leader Ed White and crew members Kris Arbuckle and Nick Blanchard launched from the public landing at Cove, Minnesota and shocked shoreline areas for adult walleyes over ten inches. (Photo by Charlie Otto Rasmussen.)

GLIFWC had one electroshocking boat at Mille Lacs and contracted with the USFWS to supply the crews on two of its boats. The Fond du Lac Band contributed their electrofishing boat and crew, and the MDNR captured fish using both fyke nets and electroshocking boats.

While electroshocking crews and boats did not suffer any damages from the ice, there were a couple occasions where shifting winds and fast-moving ice nearly caught the crews by surprise.

While the "marking" half of the population estimate was completed this spring, boats and crews returned mid-May to do the "re-capture" half. Once these numbers are "crunched," results of the study will be reviewed at the July 1837 Ceded Territories Fisheries Committee meeting. GLIFWC previously participated in a cooperative three-year walleye population estimate as well as a two-year population estimate on northern pike in Mille Lacs Lake. These studies also included the MDNR, USFWS and the Fond du Lac Band.

In Wisconsin electrofishing crews tackled eleven lakes this spring completing both mark and recapture on those lakes, seven being long-term study lakes. A GLIFWC crew also worked cooperatively with the Mole Lake and St. Croix electrofishing crews and with the Wisconsin Department of Natural Resources. GLIFWC and the WDNR performed a joint assessment on Sherman Lake in Vilas County. WDNR set fyke nets for marking the fish, and GLIFWC used electrofishing equipment for the recapture survey. About 14,000 walleye were marked this spring.

In addition to collecting data on the captured walleye, including taking some spine samples for aging, the electrofishing crews as well as GLIFWC wardens helped collect samples for GLIFWC's ongoing walleye mercury studies. Assessment crews collected 44 samples this spring from walleye on four lakes, according to GLIFWC Inland Fisheries Biologist Mark Luehring. Additional samples were collected from tribal spearers.

For the second season samples of muskellunge cleithra were also collected. The cleithra is a bone that lies directly behind the gill, somewhat like a shoulder bone. It is one of the few good aging structures for muskellunge, according to Luehring; however, collecting the bone sample is lethal to the fish. This is why taking samples from speared fish in the spring is a good opportunity to collect more samples and provide a more comprehensive database on the species for use by both state and tribal biologists. This spring 38 cleithra samples were taken from fish in seven lakes. Previously, 28 cleithrum were taken during a winter creel survey.

Lakes in Wisconsin where GLIFWC and tribal crews performed population estimates this spring included: Kentuck, Squaw, and Sherman Lakes, Vilas County; Butternut Lake, Forest County; Squirrel and Bearskin Lakes, Oneida County; Bass-Patterson Lake, Washburn County; Upper Turtle Lake, Barron County; Katherine Lake, Oneida County, and Rose and Sawyer Lakes, Langlade County.

Database manager gets technological boost

By Sue Erickson
Staff Writer

Odanah, Wis.—Managing the stats as they come flying in off the open landings during the off-reservation spring spearing and netting season is a monumental task—especially at the height of the season when many landings are open nightly in Wisconsin and Michigan, and daily lifts are taking place at Mille Lacs Lake in Minnesota as well. Since all catches are calculated on a daily basis, stats from each day's harvest have to be entered and applied against quotas in order to determine remaining quotas on open lakes each day.

Generating these daily totals from the mass of statistics coming from landings largely falls upon the desk of GLIFWC's Database Manager Jennifer Krueger, who is assisted by Leanne Thannum, Biological Services Administrative Assistant and Micah Cain, fisheries data entry aide.

While relying previously on the fax and phone to get data into the central database, a new, computerized system was instituted this year to streamline the influx of information from the Mille Lacs Lake fishery.

The system, Krueger says, is on "Google docs," available free on the Google server, which allows the user to share the information entered with those

who have been specifically invited to share the information on the site. "It's definitely not open to just anyone," she says. "A link has to be emailed to an invitee, and there are different types of viewers allowed. Individuals can be invited to share in order to view the information only or invited to view as well as make changes."

Essentially, the data is entered into a spreadsheet that allows for the breakdown by lake, by tribe and by fish species. GLIFWC wardens, biologists as well as some staff from member tribes have a link to a statistical form. After accessing the form, they click on the tribe and then enter the needed information, such as harvest data like pounds and numbers, permit numbers, and whether harvest was by net or spear. Once they press "submit," the information is automatically transferred to a spreadsheet and daily recalculation of quotas is generated.

This replaces a previous system of faxing daily catch reports, which are then manually entered into the computer for recalculation—so the system constitutes a great timesaver.

Krueger has been pleased with the system to date. "The only downside has been that the file does not handle more than one-megabyte," she says, which is not enough capacity, especially if calculations for Wisconsin tribes are generated through the system in the future.

Krueger found out about the Google docs from GLIFWC Inland Fisheries Biologist Nick Milroy. She received significant help in setting up the system for this year's netting season from Brian Borkholder, Fond du Lac fisheries biologist, and his wife as well as from GLIFWC's Network Administrator Lee Cloud, who helped establish the system so it wouldn't exceed the one-megabyte limit.

At some point in the future, Krueger hopes to see a similar system in place to handle data from the Wisconsin spring spearing season as well. She believes each tribe will need a separate file due to the quantity of information that is entered. However, that's all in the future. For now, she was happy to have the technological help needed to translate Mille Lacs data quickly into the necessary information on a daily basis.



GLIFWC Database Manager Jennifer Krueger and Fisheries Data Entry Aide Micah Cain. (Photo by Sue Erickson.)

Tribes launch VHS surveillance program in ceded territory waters

By Charlie Otto Rasmussen, Staff Writer

Odanah, Wis.—A year after pathologists confirmed the arrival of a deadly fish disease in Wisconsin waters, tribal hatchery managers are teaming with the Great Lakes Indian Fish & Wildlife Commission (GLIFWC) and other agencies to test fish from brood stock lakes and those reared in hatcheries. The disease—viral hemorrhagic septicemia, or VHS—poses no human health risk but can infect a wide range of species including walleye, muskellunge, northern pike, and yellow perch.

“Tribal officials want to keep VHS out of their hatcheries and make sure any potentially infected hatchery stock are not released into ceded territory lakes,” said Matt Hudson, GLIFWC environmental biologist. Hatcheries from GLIFWC member tribes produced and stocked over 54 million fish in 2007, boosting populations in Lake Superior and inland waters.

In coordination with tribal hatchery staff, Hudson is collecting spleen and kidney samples from VHS-susceptible fish at several ceded territory lakes. Organ samples have been collected from yellow perch captured in fyke nets and—in the case of Lake Owen—obtained from walleye speared by Red Cliff fishermen. Resource technicians from Lac Vieux Desert, Red Cliff, Lac Courte Oreilles and St. Croix Bands annually tap eggs and milt from adult spawning walleye from ceded territory lakes for hatchery production. These lakes were the focus of GLIFWC’s VHS surveillance efforts.

“Testing the spleen and kidney is currently the best method we have to detect VHS,” Hudson said. Infected fish may display signs of severe bleeding and bulging eyes.

The U.S. Fish & Wildlife Service’s La Crosse Fish Health Lab is running tests on sixty samples from each lake with results due around mid-June. Another round of VHS testing may occur in early summer using young-of-year fry and fingerlings born in tribal hatcheries, Hudson said.

According to pathologists, disease detection is best accomplished when water temperatures are under 60 degrees Fahrenheit. Researchers have learned that the virus becomes largely inactive during high summer, limiting testing to spring and fall. Infected fish transmit the virus through urine and reproductive fluids. Fish can also acquire VHS when they eat infected fish.

Hudson said funds for VHS testing are being utilized by tribal hatcheries at Bad River and Lac du Flambeau, which use resident brood stock for fish culture programs. A grant from the U.S. Department of Agriculture’s Animal and Plant Health Inspection Services is providing the crucial funds for tribal VHS surveillance efforts in 2008.

Scientists remain unclear on the means VHS hitched a ride into the Great Lakes sometime around 2002, but a primary suspect is infected ballast water from ocean-going ships. Certain species of both saltwater and freshwater fish are affected. While VHS has not been detected in Lake Superior, dead fish from Lake Michigan and Wisconsin’s inland Lake Winnebago system tested positive for the disease last year.

In order to help stop the spread of VHS—as well as a host of aquatic invasive species—boaters are strongly encouraged to drain all water from boats, containers and fishing equipment before leaving waterways. All aquatic plants and debris should be removed from boats, trailers and motors as well.



Mark Duffy (foreground), Red Cliff conservation officer, assists GLIFWC’s Matt Hudson, environmental biologist, in collecting samples from tribal spearers’ catches to test for mercury and VHS. Red Cliff Hatchery Manager Matt Symbal looks on. Testing the spleen and kidney is currently the best method of testing for VHS. Collected samples will be sent in for laboratory analysis. (Photo by Jim Stone.)

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Jason Verpoorten, Tomahawk, rode along during an electrofishing assessment run on Kentuck Lake this spring. GLIFWC’s Inland Fisheries Biologist Mark Luehring (right) and Verpoorten hold walleye taken aboard during the “recap” run on the lake. (Photo by Sam Quagon.)

Cultural significance of miigwan

(Continued from page 4)

Over the years, Teeple said collection has grown to include not just the feathers of golden eagles and bald eagles, but also feathers from an eagle from North Africa and another from Southeast Asia. One of his prized possessions, a feather from South America, was given to him by “some Mayan folks” for assisting them in their attempts to repatriate one of their ancestor’s headdresses. Teeple said this particular South American raptor is so rare that he assured the students they would never see a feather of its kind again in their lifetime.

If and when the children receive their first feather, Teeple said it is important they take care of it. An offering of food, along with tobacco and water, should be made recognizing the bird for giving up its life to give those prayers for you.

“Everyone has a right to own an eagle feather, men, women and children,” he said. “But they have to be treated with respect. They’re not an ornament. Make sure to make your offerings, and it will take care of you.”

Think twice before flushing those pills!

How common medications and personal care products are threatening water supplies

By Matt Hudson, GLIFWC Environmental Biologist

Odanah, Wis.—The headline from a front-page April 17 story in the *Chicago Tribune* asks a provocative question, “What’s in your water?” The story went on to describe the results from tests the newspaper conducted on city drinking water that found trace amounts of prescription and non-prescription drugs and other chemicals discovered in household goods and personal care products.

The headline draws attention to a growing concern about the potential health effects of trace levels of drugs (or pharmaceuticals) and personal care products (such as soaps and fragrances) used by all of us that are turning up in rivers, lakes and drinking water supplies all across the country.

How is this happening? Where is this stuff coming from? The answer to these questions ultimately leads back to all of us as a society and is yet another reminder that many of the things we have come to use, and often depend on in modern life, have unwanted costs once we dispose of them. But what are those costs and are they something we should even be concerned about? If there is a problem, what solutions are available and what can individuals do to protect themselves and prevent contributing to it?

All of these questions are tough to answer because we are only at the very beginnings of understanding whether finding the residues of medications and

convenience products in water poses real threats to human or ecological health. Let’s explore this issue further to learn about what we know and what can be done about it.



Chemicals found in many common household products and medications are making their way through water treatment facilities to rivers, lakes, and to our kitchen taps.



Caffeine and Tylenol in my drinking water, what’s the deal?

Modern society has provided us with many benefits, including medications and products that have helped us live longer, prevent serious illness, promote good hygiene, wake us up in the morning, keep our clothes clean, and make it easier to grab a bite to eat. Unfortunately, many chemicals we use have been developed and produced without fully understanding how they move through the environment once released and how they interact with living things outside of their intended uses.

Until recently, no one gave much thought to what happens to the pharmaceuticals we put into our bodies and the chemicals in products we put on our bodies once they are flushed or rinsed down the drain. Like trash in your trash can, once the garbage truck picks it up, it’s “out of sight, out of mind,” right? It turns out that is not the case at all. Advances in our ability to measure chemicals in the environment have led to the discovery of many chemicals with common, household names in our rivers, lakes and drinking water. Some examples include caffeine, Tylenol (acetaminophen), birth control pills (ethinylestradiol), perfumes and other fragrances (synthetic musks), detergents (alkylphenol ethoxylates), antidepressants (fluoxetine), and anti-bacterial soap (triclosan).

When we dispose of these products down the drain or excrete them from our bodies, they most often go to a sewage treatment facility or household septic system. These systems have been designed to remove solid waste, nutrients and pathogens, but not pharmaceuticals and personal care products. While some of these chemicals are removed as a “co-benefit” of current treatment (amounts vary depending on the type of treatment), many make it through the treatment process and are released to rivers, lakes, and groundwater in the treated sewage. As a result, sewage outflows from communities and industry are places where many of these chemicals are concentrated.

Run-off from confined animal feeding operations is another important source of these chemicals because of all the hormones and antibiotics used in modern meat production. Because many bodies of water (including groundwater) that receive treated sewage and run-off are also sources for drinking water, the result is trace amounts of pharmaceutical and personal care product chemicals can often be detected in drinking water.

“Endocrine disruption” is the concern

What does this all mean? It’s important to keep in mind that just because we can detect medications and hormones in our water supplies doesn’t mean there is a health issue or that we should or even could stop using many of these things that are part of our everyday lives. However, we may have to begin re-thinking the way we design and dispose of our drugs and personal care products.

It turns out that detecting chemicals in the environment is the easy part. The hard part is translating that information into making an informed response as a society. Right now the problem lies in the fact that we lack a complete understanding of the potential health effects to humans, fish and wildlife that are exposed to pharmaceuticals and personal care products in water. Many of these chemicals were designed to be biologically active in order to serve a function such as treating a disease or killing bacteria. As a result, when the chemicals are released to the environment, they can cause unintended biological responses when organisms are exposed to them.

The term “endocrine disrupting compounds” or EDCs has become a common phrase to describe any chemical released to the environment that has the ability to cause a response by an organism’s endocrine system. The endocrine system is the body’s signaling system that affects things like sexual development, growth, brain development, metabolism, and reproductive health. Hormones such as testosterone in males and estrogen in females provide these signals by binding to things called receptors. Should other chemicals very similar to hormones bind to these receptors (such as EDCs), they can trigger unintended effects.

Examples of effects that scientists have measured on organisms in the environment such as fish and frogs (particularly below sewage treatment outflows) include: reduced reproductive success, altered sex ratios and developmental abnormalities. While impacts to a few individual organisms may be unsettling, the real concern is whether these chemicals are having effects that impact entire populations of fish and wildlife.

Pollution prevention— a variety of solutions

Pollution prevention is a simple concept that relies on the idea that the best way to prevent the environmental impacts of pollutants is to prevent their release in the first place. In the case of pharmaceutical and personal care products, we don’t yet have a full understanding of the effects they are having on us and the environment, so taking a pollution prevention approach is being viewed by many as the best approach as we wait for more answers from scientists.

Because there are so many pharmaceuticals and personal care products being used for such a variety of different applications, a variety of solutions are needed. In some cases chemical bans or phase-outs may be the answer. This is already happening for some chemicals like the fluorinated compounds formerly used to make Scotchgard, and Canada recently announced it will take regulatory action on a chemical found in many plastics called bisphenol A.

Canada and the European Union are taking strong governmental action to screen and evaluate all new and existing chemicals that are registered for use in their countries. These actions are intended to help manufacturers and regulators make more informed decisions about the health and safety of chemicals that are in use or proposed for use.

Green chemistry is a concept being widely promoted as a way to examine the life-cycle impacts of chemicals from production to their end of use in order to manufacture chemicals that provide functions desired by industry and consumers without polluting the environment. Other solutions include installing additional water treatment such as activated carbon filters to municipal sewage treatment and water treatment facilities. These filters are very effective at removing most of the compounds we are concerned about, but the additional treatment would come with a steep price tag. Part of the solution also lies with all of us to become better stewards of the products and medications we buy and use and how we dispose of them.

From individuals as part of the problem to individuals as part of the solution

What makes the issue of pharmaceuticals and personal care products in the environment so unique and challenging to manage is that each one of us is potentially a source of these chemicals. Individual responsibility will play a role in limiting (See **Pollution prevention**, page 19)

Deadly lake trout predators continue to thrive in Lake Superior

By Bill Mattes, GLIFWC Great Lakes Section Leader

Odanah, Wis.—Sea lampreys are on the move again. Although delayed by a week or so by the cool spring weather, the invasive sea lamprey is once again starting to move up streams connected to Lake Superior where the male will build a nest out of gravel found on the stream bottom, and a female will join him to spawn in the cool clear waters. Afterward the adult sea lampreys die, leaving their offspring to carry on the life cycle.

Sea lampreys invaded Lake Superior over 50 years ago, and since the late 1950's the Great Lakes Fishery Commission (www.glf.org) has spearheaded a control program to lessen the impact this parasitic fish has on other Great Lakes fishes. The USFWS in Marquette (www.fws.gov/midwest/Marquette/) is the agent through which the adult assessment program is run. GLIFWC crews have helped to carry out the lamprey population assessments on the Bad River since 1986.

Last year saw a record catch of sea lampreys in the Bad River, and due to poor conditions in the fall of 2007, a treatment of the Bad River to kill larval lampreys was put off until this fall.

Consequently, the GLIFWC crew, lead by Great Lakes Fishery Technician Mike Plucinski, expects a large run of adult lampreys again this year.

To control sea lamprey a chemical lampricide is used in streams to kill larval sea lamprey before they transform into a parasitic adult. As larva, sea lampreys live in the soft sediments of streams where they filter out their food from the water, but as adults they become parasitic and feed on other fish. This can be devastating to other Great Lakes fishes.

To feed, a sea lamprey uses its mouth, which is ringed with multiple rows of teeth enabling it to attach to fish. It uses its bony tongue to scrape through soft and hard tissue alike, rasping through the fish's outer defenses. Once attached, the sea lamprey secretes an anti-coagulant to keep the blood from clotting and sucks out the fish's body fluids as food, leaving the fish dead, bleeding to death or likely to die of infection.

2007 estimates calculate that feeding sea lampreys in Lake Superior killed 982,000 pounds of fish. In comparison, the total human harvest in 2007 was 6.1 million pounds for all fish harvested from Lake Superior. The most common prey for sea lampreys is the lake trout, because it spends time near the lake bottom where sea lampreys tend to lay and wait for

victims to swim past, and because lake trout have a relatively soft body with only small scales for protection. Having large hard scales isn't, however, a sure protection against the sea lampreys. Even the heavily protected lake sturgeon can fall prey to sea lampreys. Lake sturgeon

have hard scutes layering the sides of their bodies which sea lampreys have been known to get through.

To read more and for more pictures, follow the links to the Great Lakes Section's Sea Lamprey page at www.glifwc.org.



Living in the deep waters of Lake Superior is not a refuge from sea lampreys. As this photo shows, a siscowet lake trout was attacked by a sea lamprey on its head. The round area is where the rows of teeth attached and the pit in the center is where the rasping tongue broke through to softer tissue. (Photo by Bill Mattes.)

Coaster brook trout under consideration for endangered species status

By Bill Mattes, GLIFWC Great Lakes Section Leader

Odanah, Wis.—The US Fish and Wildlife Service (USFWS) recently received a "Petition to List" the coaster brook trout as an endangered species under the Federal Endangered Species Act (ESA). Coaster brook trout are lake-dwelling brook trout that were historically widespread and common in the near-shore waters of Lake Superior. They are described as brook trout that spend part of their life in the Great Lakes.

A species can be listed under the ESA in one of two ways. One is external, when the USFWS receives a Petition to List, as in the case of coaster brook trout. The other is internal, when the USFWS or another federal agency takes it upon themselves to start the process. In both cases, a Status Assessment for the species in question is the next step.

The Status Assessment is completed by the USFWS and provides time for agencies and others to submit data regarding the species in question. This information can then be included in the status assessment. Once complete, the USFWS will use the Status Assessment to determine if the species is a "distinct population segment" and will conclude one of the following;

- Warranted, whereby the species would be proposed for listing as an endangered species under the ESA.
- Warranted but precluded, whereby the species would be proposed for listing as an endangered species under the ESA, but as a 'candidate species' due to other species having a higher priority.
- Not warranted, whereby the species would not be considered under the ESA.

In Lake Superior, tribal, state, and federal agencies have developed plans to rehabilitate brook trout in near-shore waters. Currently, lake-run populations of brook trout are found in remote areas, including populations around Isle Royale and in the Cypress, Big Gravel, and Little Gravel Rivers in Ontario. The Nipigon River in Ontario contains the most-robust population in the Lake Superior basin, and a small population exists in the Salmon-Trout River in Michigan. It is thought that other tributaries may contain undocumented runs of coaster brook trout. In U.S. waters, brook trout stocking is currently carried out by the Red Cliff Band and the Grand Portage Band in waters near their respective reservations in an effort to rehabilitate native populations.

For more information on the coaster brook trout, visit the USFWS website at www.fws.gov/midwest/eco_serv/soc/fish/cobr/index.html or contact Bill Mattes, Great Lakes Section Leader at (715) 682-6619 ext 120 or email bmattes@glifwc.org.



The Misery River in Michigan is swollen by spring rains and snowmelt, but the lamprey traps are fishing. The first day's catch was a couple dozen white suckers and a few trout. Soon the traps will be full of adult lampreys that will be swimming upstream to spawning grounds which are blocked by this low-head barrier dam. The dam blocks the migration of non-jumping fish like the sea lampreys. Many of these structures exist around the Great Lakes, built for the sole purpose of stopping sea lampreys from getting access to spawning grounds. (Photo by Bill Mattes.)



Jerry Jondreau (left) and Shawn Seppanen, Keweenaw Bay Indian Community fishery technicians, and Chris Chosa, GLIFWC LTE (background), set a fyke net for sea lampreys in the Silver River, Michigan. (Photo by Gene Mensch.)



Stories from the sugarbush

Sixth tribal sugarbush established on National Forest lands

By Karen Danielsen
GLIFWC Forest Ecologist

Waabanookwe, a Lac Vieux Desert tribal member, and Waawaashkeshiwinini, a Lac Courte Oreilles tribal member, have been gathering ziinzibaakwadaaboo (maple sap) on private property for the last few years. This year, they extended their iskgamizigan (sugarbush) to include national forest land.

They accomplished this by working with the Lac Vieux Desert tribal government, the USDA Forest Service and GLIFWC staff in accordance with the Memorandum of Understanding Regarding Tribal-USDA Forest Service Relations on National Forest Lands within the Territories Ceded in the Treaties of 1836, 1837, and 1842. This becomes the sixth tribal sugarbush established through this process, and the first on the Ottawa National Forest.

They started gathering ziinzibaakwadaaboo after Waabanookwe told Waawaashkeshiwinini about her mother's childhood memories of visiting the iskgamizigan at the old village along the Lac Vieux Desert shoreline. After hearing the stories, Waawaashkeshiwinini suggested they bring back the tradition. Since he has worked iskgamiziganan (sugarbushes) pretty much wherever he has lived, he looked forward to starting a new one.

During their first year, they tapped about 50 maple trees in the yard of Waabanookwe's mother. Her mother loved the opportunity to once again experience a functioning iskgamizigan and to taste ziinzibaakwadaaboo fresh from the tree. It delighted Waabanookwe to share this activity with her mother.

The following year, they moved their iskgamizigan to a larger private lot, which had been recommended by their friend, May-guay-kub, an Odawa from the Little River Band in Michigan. The lot lies adjacent to the national forest land that now encompasses the newly established tribal sugarbush.

By extending their iskgamizigan onto national forest land and increasing the availability of trees, they have greater flexibility to afford the trees more years of rest between tapping. Furthermore, they like having



access to national forest land in the happenstance they lose access to the private lot.

Currently, they tap about 150 trees. Before gathering ziinzibaakwadaaboo, they show their respect by offering asemaa (tobacco) and prayers. They pause to recognize and appreciate the trees' sacrifice for the nourishment of people.

After gathering ziinzibaakwadaaboo, they transport it to May-guay-kub's house. There they boil it for hours under a rustic, yet comfortable, lean-to. To keep the fire burning hot, they use the numerous cords of firewood cut and stacked by May-guay-kub.

They generally produce about 15 gallons of zhiwaagamizigan (maple syrup) each year. They also produce a delectably rich maple cream which requires further boiling, cooling to a thick consistency, and vigorous stirring. The latter task being rather grueling and best suited for...well, let's say...brawny individuals.

The maple cream has the consistency of frosting and tastes delicious on pancakes, fry bread, bagels and cakes. It melts in the mouth, leaving a wondrously maple-sweet flavor, an indulgence easy to savor.

Another scrumptious treat is made by combining and heating one gallon of zhiwaagamizigan with a dozen quart bags of mixed nuts. They heat the mixture, while constantly stirring, until the zhiwaagamizigan thickens and just begins to smell smoky and burnt.



Making maple syrup and other maple treats, including maple sugar nuts pictured below, were May-guay-kub, Odawa; Waabanookwe, Lac Vieux Desert, and Waawaashkeshiwinini, Lac Courte Oreilles. They recently extended their iskgamizigan to national forest land. (Photos by Karen Danielsen.)

Turning off the heat, they continue stirring until the zhiwaagamizigan forms the texture of granulated sugar. They offer these maple sugar nuts for giveaways at ceremonies and other events. While cooking these treats, they keep in mind the intended purpose and embrace good thoughts. Recipients of these gifts always respond with ample gratitude.

Although they have no plans to sell their zhiwaagamizigan, Waabanookwe's nephew has designed a canning label for a potential business called Maple-masters Company. Extremely pleased with the label, they expect to use it whether or not they decide to commercialize.

At the season's end, they store their zhiwaagamizigan along with their canned venison, pickled fish and wild rice. Soon berries will be ripening, which they will also gather. As might be expected, "a trip to the grocery store" for them often means a walk in the forest.

As a final note, Waabanookwe and Waawaashkeshiwinini want to extend a chi miigwech (big thank you) to those who helped establish their tribal sugarbush on national forest land. In particular, they appreciate the time and effort provided by George Beck, Lac Vieux Desert planner; Norm Nass, district ranger, Ottawa National Forest; Mary Rasmussen, Forest Service tribal liaison; and GLIFWC staff.

Jim Merhar's iskgamizigan (sugarbush)

" is is the good life "

By Lorraine Norrgard
For Mazina'igan

Ziigwan...Spring! It's that time of year again, when the sun becomes more intense, and the snows melt away. When the nights are still freezing, but the days warm up to the mid 40's, the ziinzibaakwadaaboo (maple sap) runs. This happens sometime between the first week of March, and the first week of May. It is an exciting time of year, and the Anishinaabe people look to Waabanong (the East) as a new harvest year begins.

Jim Merhar, a White Earth enrollee, originally from Sandy Lake, is ready with taps in 1200 maple trees. Though times have changed, and Jim uses modern equipment to harvest and process the sap into maple syrup, he maintains a traditional connection to the season and gives thanks for the sweet gift of the maple tree.

Jim has been tapping trees in the sugar bush since he was a twelve-year-old kid, beginning. He tapped maple trees near his

home in Bovey, Minnesota, for years and just recently moved his operation to land belonging to a friend located north of Inger, Minn. There he built a small sugar shack to house his evaporator and connected the tree taps by plastic hoses and joints down hill to his holding tanks, a modern system he began using in 1995. During a visit by White Earth Band District Three Representative Gus Bevins and friend Al Baker from Waubun, the process was demonstrated in detail.

Jim explained, "When the sap is running, it has a sugar to water ratio of about 2.5%, or about 35 gallons of sap to make one gallon of syrup. Sometimes the trees run all night and sometimes not at all. The trees have a mind of their own."

There is a lot of science to Jim's operation, and he starts on the land by looking over the site and measuring the slope with a glass level. He likes to find a small ravine to follow downhill, but he has to find a gentle grade of between 3-6%, so the sap doesn't run down too fast. He creates a plan and then strings the (See "This is the good life," page 22)



Jim Merhar's sugarshack. (Photos by Lorraine Norrgard)



Jim Merhar has been tapping trees since he was twelve years old.



Hidden surprises: Zhaashaagomin (Jack-in-the-pulpit)

By Karen Danielsen,
GLIFWC Forest Ecologist

Odanah, Wis.—Zhaashaagomin (Jack-in-the-pulpit, *Arisaema triphyllum*) blooms in our northern forests from late May to early July. Its green and maroon striped “flower” may be easily overlooked as it blends humbly with its shady surroundings. Yet upon discovery, its unique beauty offers many noteworthy surprises.

First of all, what looks like one flower, actually consists of many. Countless minute flowers develop near the base of a swollen club-like structure, called a spadix. The spadix sits inside a broad, leafy cylindrical structure called a spathe. Together these structures—using a liberal dose of imagination—look like Jack (the spadix) in the pulpit (the spathe).

Surprise number two is that on the same plant, Jack becomes Jill. Though the exact trigger remains unclear, the flowers on the spadix may be all male one year and all female the following year. The reverse can happen also. Researchers believe that larger plants tend to develop female flowers, but environmental conditions and genetics may also be important factors.

Thirdly, when blooming, the plants smell like mushrooms! The spadix emits this subtle earthy, fungal odor to entice small flies. As the flies visit one plant to the next, in search of delectable decaying food, they crawl to the depths of each spathe, unwittingly pollinating the flowers.

The fourth surprise is that the three “leaves” balanced at the tip of each long stem really compose one compound leaf divided into three leaflets. The Latin name *triphyllum* refers to these three leaflets. Plants bearing male flowers tend to produce just one leaf (a stem and three leaflets), while plants with female flowers usually generate two stems with three leaflets each.

Another surprise is that this relatively small herbaceous plant, often shorter than two feet, can live at least twenty years and often longer. Growth during the first two years after seed germination occurs primarily underground with the development of an enlarged root called a corm. The corm stores the nutrients needed for this long-lived plant.

For the next few years, the plant limits its above-ground growth to one small leaf, which photosynthesizes to add more food stores to the corm. At long last, the plant produces male flowers, followed after another few years, or so, by female flowers.

After pollination occurs, the spathe wilts and the female flowers begin forming clusters of jade-green berries. By late summer, the fruits turn bright scarlet, attracting birds and rodents. The seeds are dispersed upon passing through the digestive tracts of these animals.

People should not consume the fruits as they contain microscopic crystals of calcium oxalate that cause intense burning in the mouth, esophagus and stomach. Calcium oxalate crystals occur throughout the entire plant.

Curiously, the Anishinaabe name may suggest the consumption of these fruits. According to Dana Jackson and Bob Powless of the Bad River Language Program, “zhaashaag” possibly refers to the act of chewing and “min” means fruit.

The name zhaashaagomin is also used for another low-growing plant with bright red berries—bunchberry (*Cornus canadensis*). Although not too terribly flavorful and somewhat mealy, fruits from this plant may be eaten. Perhaps, through time, people just started calling the two plants the same name.

Uncertainties regarding Anishinaabe plant names highlight the urgent need to preserve the language. These plant names often indicate notable characteristics of each plant as it relates to the Anishinaabe culture. Thus, losing plant names can mean losing knowledge significant to the culture.

Zhaashaagomin (focusing again on Jack-in-the-pulpit) reproduces by more than just seeds. Its corms develop bulblets that break from the parent plant to



Zhaashaagomin blooms in our northern forests from late May to early July. To find this plant, visit hardwood stands with rich and moist soils. It also grows in boreal and beech forests. (Photos © 2005 & 2007 George Rembert.)

mature into new plants. So, upon encountering one plant, take a moment to look for its offspring.

To find this plant, visit hardwood stands with rich and moist soils. It also grows in boreal and beech forests. However, always remember to look carefully because this unassuming plant has mastered the art of camouflage.

Fee-exempt Camping at National Forest Campgrounds

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

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

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

For fee-exempt camping in NATIONAL FOREST campgrounds you must:

1. Be a member of a band that has ratified the Tribal/USFS Campground Agreement.
2. From your tribal conservation department or other person designated by your band, obtain a tribal camping permit, **the list of fee-exempt 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.

Birch Bark Harvest

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

Please be aware that the Great Lakes Indian Fish & Wildlife Commission (GLIFWC) has prepared other maps of areas not planned for timber harvest, but likely contain significant numbers of birch trees for tribal bark gathering. These maps were published in the Fall-2002 Mazina'igan supplement.

Please contact Karen Danielsen at (715) 682-6619 ext. 125 or email kdaniels@glifwc.org if you would like copies of the proposed timber harvest maps or the *Mazina'igan* supplement.

CONTEMPORARY STYLE OJIBWE MOCCASINS



FLOWER
WAABIGWAN



by Biskakone from Waswaagoning



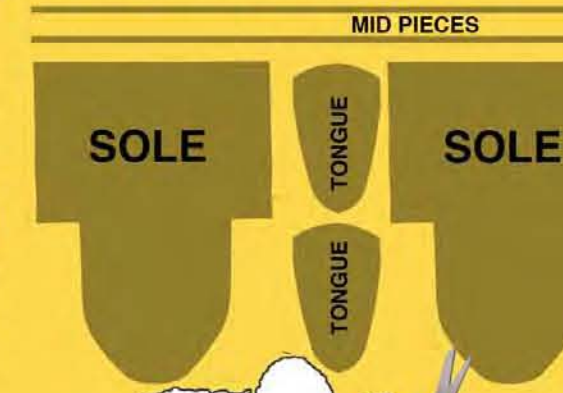
CUT
ONIKODAN

MOCCASINS

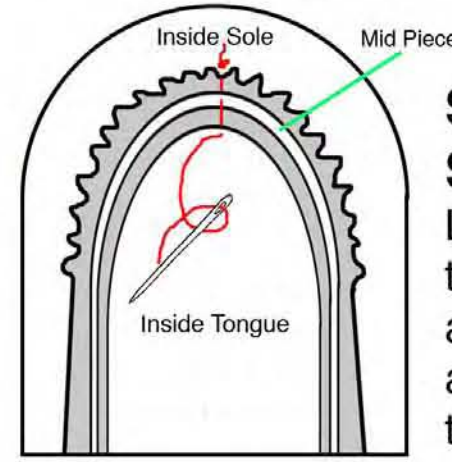
TO SEW
GASHKIGWAASO

STEP 1. THE CUTS

Cut out the patterns to the left. You will have a total of 6 pieces. Trace them on the hide and cut them from the hide. Take time to make precise cuts.

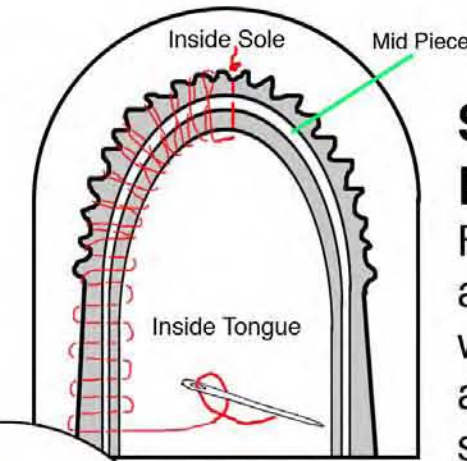


BEAD WORK
MANIDOOMINENSIKAAN



STEP 2. STARTING

Line up the center of the tongue, mid piece and the sole as pictured and start sewing them together.



STEP 3. PUCKERS

Follow this diagram and make puckers with the sole. When you are finished with the left side then start at the center and do the right side as well.

STEP 4. THE HEEL

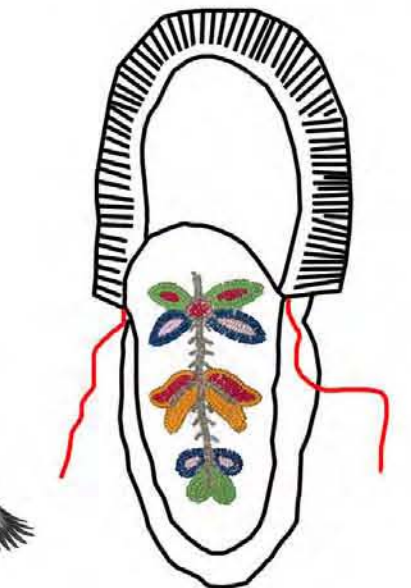
Follow this diagram and sew up starting at the bottom all the way to the top.

STEP 5. THE FLAP

A simple straight stitch will seal the flap to the sole

STEP 6. THE CUFF

Because we are using buckskin, we will have a buckskin cuff as well. Just fold down the sides of the sole and sew them down as pictured.



STEP 7. FRINGES & TIES

Now you can leave the cuff plain or you can fringe it. Add the tie and you are finished!!



YOU MAY WANT BEADWORK ON YOUR MOCS. ADD IT BEFORE YOU SEW IT TOGETHER!

TO MAKE MOCCASINS YOU WILL NEED:



Most commercially tanned hides have a smooth and soft side. It is up to you to decide which side you want to be on the outside. Some people prefer the soft side because it looks a little more natural than the glossy smooth side. When cutting your baskwegin please take your time and make every cut even and straight, thus you will have fine looking moccasins. These patterns can be copied and scaled on a scanner or xerox machine to fit your foot. If you want beadwork on these moccasins, please add it to the tongue and cuff before sewing it together. Any further Questions? Please Contact Biskakone. biskakone@yahoo.com



SOLE
NAGAAKIZID

USE SCANNER OR COPIER
TO REDUCE OR INCREASE
TO YOUR FOOT SIZE

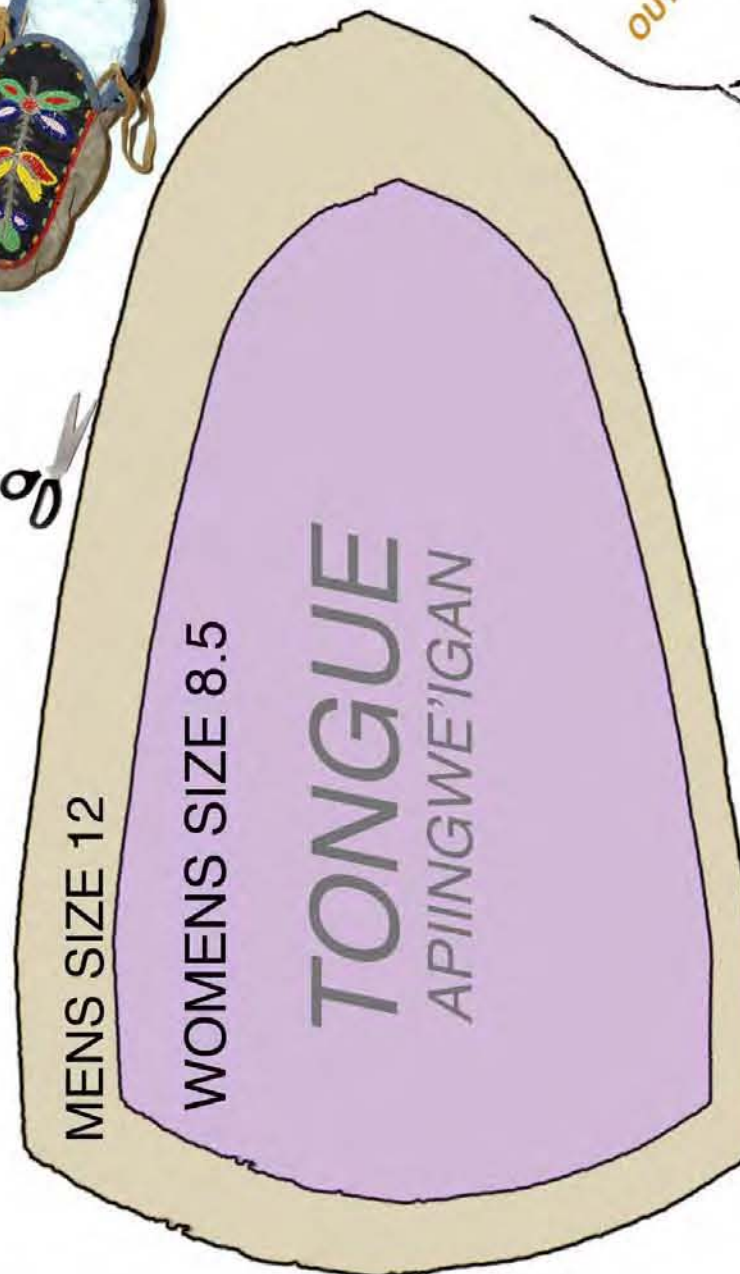


WOMENS SIZE 8.5



BEAD WORK
MANIDOOMINENSIKAAN

MENS SIZE 12



MENS SIZE 12

WOMENS SIZE 8.5

TONGUE
APIINGWE'IGAN

Why the declining moose numbers?

FdL's moose roundup checks herd, looks for answers

Mike Schrage, Fond du Lac Band Wildlife Biologist

Fond du Lac Reservation, Minn.—The February morning started out for the cow moose like most any other winter morning—cold, still and quiet. The morning sun rose, and she and two other moose fed out into a cutover; browsing on birch twigs and taking what warmth the bright sun gave them.

From high overhead came the droning of a small airplane. The moose paid it little mind as such sounds aren't uncommon in Minnesota's forests anymore. The plane kept circling overhead, but the cow kept her attention on the sapling she was eating.

If the cow had been able to monitor radio transmissions, she would have heard something like the following conversation:

"Yeah, Scott we have three moose at your two o'clock and about 500 yards. Looks like a cow and maybe two bulls."

"Two o'clock and 500, we're on our way."

"Okay they're at your 12 o'clock now and...300 yards...200...look to the right of those small cedars."

"I got her."

The cow's world erupted in sound as a small white helicopter clattered over the treetops and dropped down into the cutover. She turned and bolted for a nearby spruce swamp while the two bulls doubled back behind her. The helicopter ignored the bulls and swung in behind the cow as she high-stepped through the deep snow for cover. In only a few seconds it caught up to her and hung in the air 15 yards above and behind her.

"Okay dart's out and it's a good hit." Keep an eye on her if she goes in that spruce. I'm going to back off and give her time. Hopefully she stays in this opening."

"Roger, we got her in sight, and it looks like she won't go far."

A few minutes later the cow's legs went out from under her, and she crumpled to the snow on her belly. She vaguely became aware of human smell and sound and movement nearby, but her body wouldn't react anymore. Then she lost consciousness.

A short half hour later the cow stumbled to her feet. Her senses were coming back to her and she could see and hear human figures close by moving slowly away. She stood unsteadily for a minute and then cautiously took a few steps. Something unfamiliar hung around her neck, and the unpleasant reek of human scent was on her.

Suddenly, nearby, the helicopter's engine coughed to life. The cow found she could run again, and as the helicopter rose and peeled away behind her, she trotted into the forest.

Searching for answers

The Fond du Lac Resource (FdL) Management Division in cooperation with the 1854 Treaty Authority and the Minnesota DNR have been studying the moose herd in the 1854 Ceded Territory since 2002. Between 2002 and 2005, 114 moose have been successfully radio-collared and tracked to determine their movements and causes of mortality. Before last month, 28 of the original moose remained on the air with functioning collars.

In 2007, Fond du Lac's Wildlife Program was awarded a new grant from the US Fish and Wildlife Service's Tribal Wildlife Grants Program to continue the study. The first objective in this next phase of the study was to capture and radio-collar 35 adult cow moose. Adult cows were selected because they are more important to the future growth of the moose herd than bulls, and they can provide research information on pregnancy rates and calf survival. At this point in the study there isn't much more new information to be learned from collaring bull moose.

The Fond du Lac Band contracted with Quicksilver Air out of Fairbanks, Alaska to handle the moose captures last February. Quicksilver Air has worked on the moose study for several years and has the specialized skills and equipment necessary to dart moose. They brought an R44 helicopter, darts, a dart gun, and a fuel truck with them. The Minnesota Zoo supplied the necessary tranquilizer drugs and a veterinarian to help with animal handling and care. The Minnesota DNR supplied a spotter plane and pilot. The 1854 Treaty Authority Biologist, Anthony Edwards, and Lance Overland from FDL's Natural Resource Program served as observers in the plane to help locate moose for darting.

The entire moose capture operation was completed in four days. Each day a refueling station was set up as a base of operations in a different part of central Lake County. The helicopter would land when it needed fuel, pick up more radio-collars and drop off samples from moose they had already handled. On the busiest day, 12 moose were darted and radio-collared. Thirty-four moose were darted and collared in the four days. One collar started to malfunction or we would have collared 35 animals.

Each morning the spotter plane would get out in front of the helicopter and locate a cow moose near enough to an opening where it could be darted. When the plane located a suitable candidate, they would call the location to the helicopter, and the helicopter would fly over and dart the moose. Then the helicopter backed off to give the moose time to relax and for the drug to take effect. Usually, only one dart was needed and the moose would be sleeping in seven to 10 minutes. The helicopter would land as close as it could, and the crew would work up the moose.

Each moose had a radio-collar and eartag attached to her. Body temperature and respiration was monitored to ensure the moose was relaxed and comfortable. Hair was collected for genetics work, and blood and fecal samples were taken to



Dr. Tiffany Wolf from the Minnesota Zoo and Mark Keech from Fairbanks, Alaska collecting samples and attaching a radio-collar to Moose 294. (Photo by Brian Peterson, Minneapolis Star Tribune.)

test for pregnancy and any exposure to disease or parasites. A small incisor tooth was collected from each animal so her age could be determined. Lastly each moose was checked for winter ticks and any associated hairloss, and her general overall body condition.

When everything was completed, each moose was given a reversal drug to get her going again. The reversal drug acted quickly and most moose were up and moving in just a few minutes. The entire process averaged 30 to 45 minutes per moose.

It will be some time before all the results from all the samples from captured moose are known. The teeth were sent to a lab in Wyoming for aging. Blood and fecal tests for pregnancy are conducted in the state of Virginia, and blood tests for disease and parasite exposure are done at a lab in Saskatchewan and at the University of Minnesota. The 34 moose were in generally good body condition, and although all 34 carried at least some winter ticks, none were suffering too badly from them yet.

The study will continue for three years and radio-collared moose will be monitored weekly by airplane. Any mortality signals from the collar will be followed up on the ground in an attempt to learn why the moose died. Collared cow moose will be visually located by helicopter each spring to determine how many newborn calves are with them. They will be checked again the following January and April to determine how many of those calves survived to adulthood. Pregnancy rates and adult cow and calf survival rates are all crucial to understanding the long term trends in the moose herd.

Understanding causes of mortality is important for figuring out what is happening to the moose and what might be done to change things. Additional study plans include monitoring temperatures in different forest cover types to determine if some cover types can provide important cooling off habitat for moose during the summer.

We have learned quite a bit about the moose herd so far. On average, each cow moose has a home range of 11 square miles and bulls average 17 square miles. With the exception of one bull that went 20 miles back and forth between a winter and summer range, most collared moose are homebodies and tend to stay in the same general area year round. A couple of cows have shifted to different areas to have their calves, and one bull moose packed his bags and permanently moved 50 miles north to Ontario. The oldest cow lived to 20 years of age and the oldest bull was 16 when he died. Most cows have a single calf each spring, but twins are fairly common and one litter of triplets was observed.

Part of what we have learned so far, however, is that the moose herd is facing a troubling future. Non-hunting mortality rates of adult moose have averaged 21% a year as compared to 8-12% from other locations in North America. Calf survival, while not too bad, has not been enough to make up for the high adult mortality rates. Over the long term, moose are likely facing a slow decline unless conditions change. The leading cause of mortality appears to be disease or parasite related, but we have struggled to learn the exact cause in most cases.

A number of FDL moose hunters submitted tissue samples from moose they harvested last fall as part of a comprehensive health screening process. Those samples are still being analyzed and samples collected from last month's captures will help add to that database. It's suspected that some of the diseases or parasites moose are exposed to probably come from deer and may ultimately be related to a warming climate.

The study will allow us to build a long term data set to better understand the relationships between deer numbers, climate change, moose health and moose survival. Then our challenge will be to determine what, if anything, can be done about it.

(Editor's note: For more information contact Mike Schrage, Wildlife Biologist, Fond du Lac Resource Management Division at (218) 878-8003 or email mikeschrage@fdlrez.com.)



Old time Ojibwe recipes

Fresh Wild Leek Soup

1 bunch wild leeks
1 tsp. salt
6 cubes salt pork
2 qts. water

Gather the leeks in early spring. Wash thoroughly and cook in large kettle with salt pork and salt and pepper to taste. Cook outdoors on a warm spring day. Serve with Indian fried bread.



Bear Fat Pastry

1 1/2 cups flour
1/2 tsp. salt
1/2 cup bear fat (from a little black bear that was eating berries)

Makes a rich white pastry.



Boiled Whitefish or Trout

3 lbs. fish
4 slices salt pork
1 diced onion
6 peppercorns
1 bayleaf
3 tsp. salt

Boil fish and other ingredients in a large kettle for about 5 minutes with the cover on, then turn off heat or remove kettle from fire. Let kettle remain covered for 15 minutes. Serve with lemon slices and browned butter.



Beaver Tail (Amik Ozo)

Traditionally, the beaver tail was reserved for the oldest member of the tribe to eat. It is a delicacy and is prepared in the following manner. Insert a stick through the tail lengthwise. Hold and turn over a low flame until outer covering puffs up. When it is all puffy scrape away. Cut the tail in pieces, wash meat, place in boiling salted water and boil until tender.

Beaver bones are never given to dogs to chew on. Instead, they are gathered up and placed back into the stream or lake that the beaver was taken from.

Beaver can also be baked or roasted. The meat has a sweet taste. Beaver broth makes an excellent base for soup.



Porcupine (Gog)

There is an art to getting gog to the point where it is ready to be put in the pot. His fatty succulent inside is worth it.

After making a fire outside, hold the porcupine by one leg and turn him gently till all sides have been singed. When this done, scrape until all residue is off, gut and clean, and cut into pieces. Put into a pot and salt to taste with water to cover and boil for an hour and a half.



Moose (Moze)

4 lbs. moose meat
3 cups boiled coffee
1 tsp. salt

Place meat in pressure cooker add coffee and salt, and cook for 30 minutes at 15 pounds of pressure. A deer roast may be cooked in the same manner.



Fry Bread

2 cups flour
1 tsp. salt
2 tsps. baking powder
1/2 cup dry milk
1 tbsp. sugar
1 cup warm water

Mix dry ingredients and gradually add water to make a soft dough. Pat out on floured surface and cut into wedges. Fry in hot oil in electric frypan at 375°. Drain on absorbent paper. While warm dust with powdered sugar.

Chippewa Sweet Meat

1 lb. ground beef
1 1/2 quarts blueberries
1/2 lb. maple sugar

Fry meat until done. Add sugar and berries. Simmer for 30 minutes. Bake slowly until dry looking.



Indian Pudding

1 1/2 cup seedless raisins	1 tsp. salt
3 cups milk—scalded	1/2 cup sugar
1 1/2 cup cold milk	1/2 tsp. ginger
1 cup corn meal	1/2 tsp. nutmeg
1/2 cup molasses	1/4 cup butter

Add raisins to hot milk, mix corn meal with cold milk. Heat slowly for 15 minutes until mixture thickens. Add remaining ingredients and pour into a buttered 2 quart casserole. Pour remaining 1/2 cup cold milk into center of pudding. Set pan in water and bake at 300° for 2 1/2 hours. Cool for 3 to 4 hours before serving.



Indian Hominy

In making Indian hominy, lye is of prime importance. Our Chippewa people secured lye by putting hardwood ashes into a vessel of water and letting the mixture boil. After the boiling, the mixture was allowed to stand until the ashes had settled at the bottom, the clear liquid, or lye, was drained off.

Then the process of making hominy began. In selecting corn for hominy care is taken to select the best ears, which are picked when ripe and hung up until the kernels are dry and hard. After shelling the corn, it is put into a kettle and boiled with they lye until the little black hearts and hulls are removed and the kernels become soft. The corn is washed in several waters, parboiled, and drained, after which it is ready for the stock. Venison, beef, or salt pork are about the only meats used for this preparation.

This food has been a favorite dish among the Chippewa from remote days and is still a real delicacy at their feasts.

Lye was used in several ways by different Indian tribes. For many it served as a substitute for salt.



Wild Rice (Manomin)

2 cups washed wild rice
4 strips bacon or cut up salt pork
1/2 tsp. salt

This is old fashioned wild rice. Fry bacon or salt pork bits and add, complete with drippings to wild rice and enough water to cover rice about 1 inch. Boil until tender, about 35 minutes, adding water as needed.



Wild Rice Meatloaf

4 cups boiled wild rice
1 lb. ground beef
1 cup bread crumbs
1 onion finely chopped
3 tbsp. fat
1 tbsp. sage
2 eggs
1/2 cup flour
salt and pepper to taste

Mix all ingredients together and shape into loaf or bake in loaf pan at 350° for 1 1/2 hours.



Deer Liver (Wawashkeshi Ckon)

The liver of moose or deer is delicious cooked in hot butter over a low flame. Salt, dip in flour and fry for about five minutes on each side. The low flame keeps the liver juices sealed in.



Namegoss Gonshkwesan (Trout Throats)

Namegoss gonshkwesan are a delicacy. Wash throats, place in salted water and boil for 25 minutes.

(Editor's note: The above recipes are reprinted from Ole Time Recipes by Chippewa Indians, Red Cliff Wisconsin. Recipes were contributed by A. LeGarde, B. Fredenberg, S. Anderson and D. Bainbridge. The recipes were sent to Mazina'igan by Mary Al Balber, Red Cliff. Miigwech Mary Al.)



Sokaogon Band holds the line on aquatic invaders

Education efforts up in 2008

By Charlie Otto Rasmussen
Staff Writer

Mole Lake, Wis.—With a handful of destructive exotic species already anchored in northeast Wisconsin waters, Sokaogon Band resource officials entered the 2008 open water fishing season determined to curb the further spread of aquatic invasive plants and animals to new lakes. The plan was simple: decontaminate anything invasives might use to hitch a ride.

Armed with spray jugs containing a solution of bleach and water, local Great Lakes Indian Fish & Wildlife Commission conservation officers and creel clerks did just that, disinfecting boats, trailers and motors from late April to early May after Sokaogon spearfishermen left the water.

GLIFWC Officer Jonas Moermond said most of the boats coming off the 40-odd Wisconsin lakes fished by Sokaogon spearers were disinfected once the trailered crafts were safely parked on a surface where the bleach solution could not trickle back into the lake.

“We tried to hit everything that had been in contact with the water,” Moermond said. “It was impressive on how well received the effort was by tribal members. In some cases people were asking for it.”

Band members first received news of the voluntary protocol at an April 5 preseason meeting for tribal spearers and creel crews at the Sokaogon Tribal Center. Tribal Aquatic Biologist Mike Preul displayed a series of images and an underwater video to help illustrate the high stakes in the battle to stop aquatic invasive species.

“Invasive species generally have no natural predators, and they reproduce like crazy. It’s important we prevent their movement to other lakes,” he said.

Preul rolled an underwater video from one of the Sokaogon Band’s most important fishing waters—Lake Metonga. The footage revealed dense concentrations of invasive zebra mussels carpeting boulders and fish cribs constructed of round logs. With a population estimated at six million, Preul said it takes only eleven days for the exotic mussels to siphon all the water in the lake.

“They take all the plankton and nutrients out of the water,” he explained. “It could have a significant negative impact on the walleye

population because young walleye won’t have access to those nutrients as they develop.”

Water clarity on 1,991-acre Metonga has increased dramatically since zebra mussels were discovered in July 2001. The lake’s characteristic green-hued water has become transparent as mussels consume microscopic plants and organisms. Native to Asia, zebra mussels look like small clams with a yellowish or brown “D” shaped shell that is marked with light and dark colored stripes.

Preul also warned of Eurasian water-milfoil, a highly prolific plant found on Lake Metonga and other walleye lakes in northern Wisconsin. A species of special concern for many years, Eurasian milfoil can disrupt aquatic ecosystems forming thick, tangled mats just below the surface. Left clinging to boats and trailers, Preul said milfoil stem fragments easily form new colonies when transported from one water body to another.

“Many of our good walleye lakes provide excellent habitat for these species. We want to do everything we can to keep them out,” Preul said.

Sokaogon member and Voigt Intertribal Task Force Representative Chris McGeshick told tribal members that the payout for participating in disinfection at the landings was well worth the effort. “By showing that we can do this, it sets an example for everyone else and other tribal officials will take notice. We’re talking about protecting these lakes for the future.”

Creel crews—who count and gather data from every fish speared in Wisconsin—and tribal members were also briefed on fish and human health issues. GLIFWC Officer Roger McGeshick distributed flyers on how to identify fish inflicted with the disease viral hemorrhagic septicemia, which first appeared in Wisconsin’s inland waters in 2007.

Updated mercury advisory maps were circulated as well. The GLIFWC-produced maps detail how many walleye meals tribal members can safely eat from any particular lake. For more information call (715) 682-6619 or www.glifwc.org.



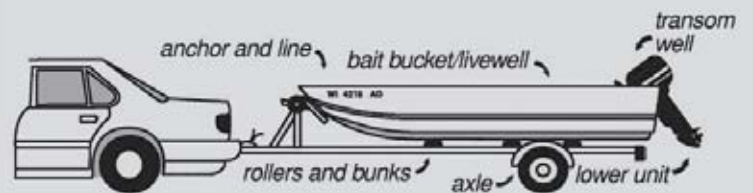
Limited term GLIFWC warden Kelly Moermond disinfects a Sokaogon member’s boat following an evening spearfishing. Wardens and creel clerks monitoring the Sokaogon spring walleye harvest sprayed boats, trailers and motors to help prevent the spread of aquatic invasive species to new waters. (GLIFWC staff photo.)

HELP . . .

Prevent the spread of Aquatic Exotic Plants and Animals

BEFORE launching. . . **BEFORE** leaving:

- **Remove** aquatic plants and animals.
- **Drain** water away from boat landing.
- **Dispose** of unwanted live bait on shore.



Wisconsin laws prohibit launching a boat or placing a trailer or boating equipment in navigable waters if it has aquatic plants or zebra mussels attached.

2008 GLIFWC enforcement safety class schedule

Class Name	Date	Tribe	Contact
Boating	June 14-15, 2008	Bad River	Mike Wiggins (715) 292-8325
Hunter Education	July 30–August 2, 2008	Bad River	Mike Wiggins (715) 292-8325
ATV	July 12-13, 2008	Lac Courte Oreilles	Tory DeBrot (715) 292-5320
Hunter Education	August 11 & 14-15 2008	Lac Courte Oreilles	Tory DeBrot (715) 292-5320
Hunter Education	August 18-20, 2008	Lac du Flambeau	Emily Miller (715) 892-6789
Hunter Education	June 2 & 9-10, 2008	Mole Lake	Roger McGeshick (715) 889-3200
Boating	June 8-9, 2008	Red Cliff	Jim Stone (715) 292-3234
Hunter Education	August 1-3, 2008	Red Cliff	Jim Stone (715) 292-3234
Snowmobile	December 6-7, 2008	Red Cliff	Jim Stone (715) 292-3234
ATV	June 14-15, 2008	St. Croix	Matt Martin (715) 416-2363
Hunter Education	July 14 & 17-28, 2008	St. Croix	Matt Martin (715) 416-2363

For more information on invasive species

If you would like more information about aquatic invasive species, the problems they cause, methods of control, or regulations to prevent their spread, contact:

Great Lakes Indian Fish & Wildlife Commission • 715-682-6619
General information on invasive species: www.glifwc.org/epicenter/
Regional distribution maps for invasive species: www.glifwc-maps.org/

GLIFWC has also published a *Mazina’igan* supplement on aquatic invasive species, which is available at no cost by contacting us at the above address or email pjo@glifwc.org.



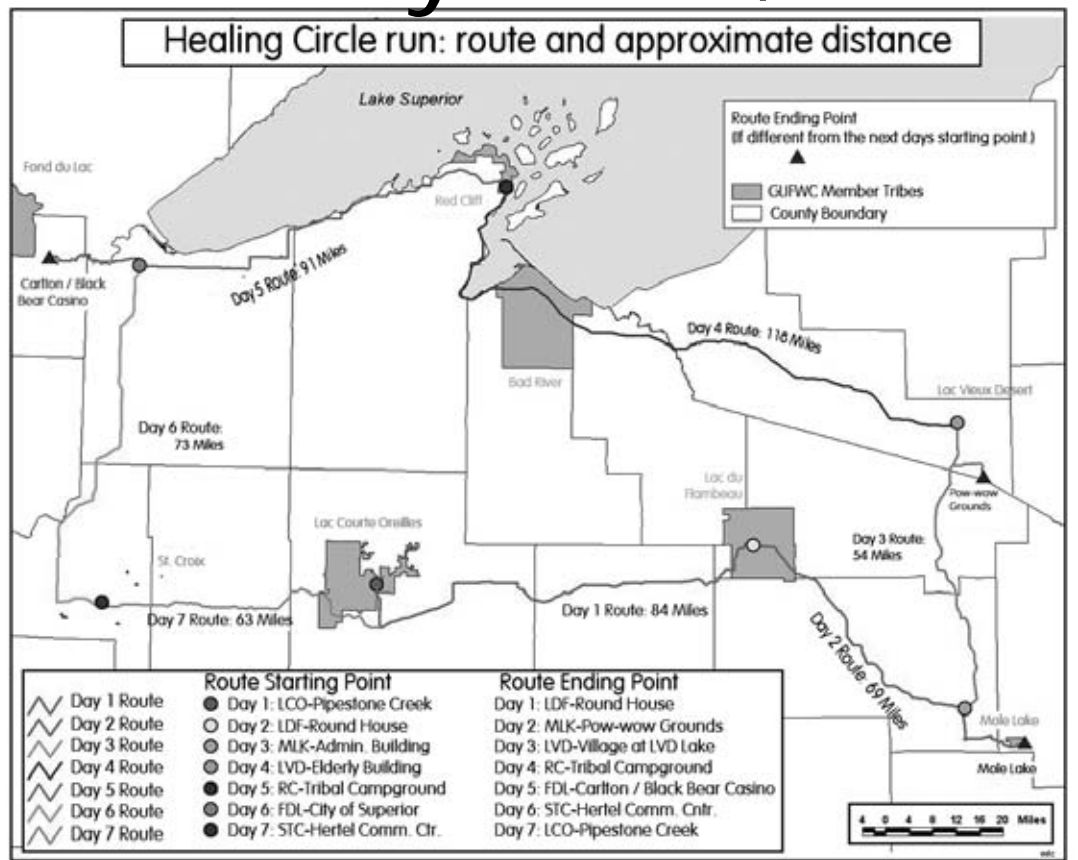
Healing Circle Run—July 12-18, 2008

The 2008 “Healing Circle” run/walk is intended to be a prayer for healing. During the 2001 Healing Journey Run, participants thought of a teaching on healing—“for a nation to heal, it must begin with the individual. As a person heals, then that person can help heal his/her family. As a family begins to heal, they can help heal their community. As communities heal, they can help the nation heal. As nations heal, they can help Akii (the earth), our plant and animal relatives to heal.”

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 2008 “Healing Circle” run/walk will occur from July 12-18, 2008. The run/walk will connect eight Ojibwe reservations in northern Wisconsin, Michigan, and Minnesota (see map). The run/walk starts at the Lac Courte Oreilles Reservation and on Day 1 ends at Lac du Flambeau on July 12. Day 2 ends at Mole Lake on July 13; Day 3 at Lac Vieux Desert on July 14; Day 4 at Bad River/Red Cliff on July 15; Day 5 at Fond du Lac/Black Bear Casino on July 16; Day 6 at St. Croix on July 17; and Day 7 at Lac Courte Oreilles on July 18.

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 Rose Wilmer, Sue Nichols, or Neil Kmiecik at GLIFWC at (715) 682-6619. All participants must assume personal liability, as well as responsibility for their own transportation and expenses.



Ceded territory news briefs

Compiled by Sue Erickson, Staff Writer

Great Lakes waterwalkers complete Lake Michigan tour

“Water is precious and sacred...it is one of the basic elements needed for all life to exist.”

Manistee, Mich.—Following a tradition begun in 2003 when waterwalkers circled Lake Superior, the Lake Michigan Waterwalk 2008 started April 26 at Manistee, Michigan and concluded on schedule at Hannahville, Michigan on May 12. The 2008 walk completed the second half of a Lake Michigan Waterwalk. The first half had been completed in 2004.

Josephine Mandamin, Mother Earth Water Walk coordinator, initiated the Waterwalk as an effort to raise public awareness about the need to protect and preserve our water. Mandamin has been successful in her mission of raising public awareness both through the Waterwalk and through a series of presentations en route. Mandamin recognizes the sacredness of water, problems which jeopardize our water in the modern day, and the role of Anishinaabekwe (Anishinaabe women) as protectors and advocates for the water.

The 1st Annual Women’s Water Walk took place April 2003. At that time several women from different clans came together to raise awareness about the level of water pollution and the threats posed by chemicals, vehicle emissions, motor boats, sewage disposal, agricultural spill-off, leaking landfill sites, and residential usage.

Along with a group of Anishinaabekwe and supporters including men, waterwalkers made their way around Lake Superior in Spring 2003, around one-half of Lake Michigan in 2004, Lake Huron in 2005, Lake Ontario in 2006, and Lake Erie in 2007.

The Annual Women’s Water Walk was chosen to take place in Spring because of the natural re-growth of the natural habitat, as it is a in time for renewal, re-growth, and re-birth. For more information log on to the Mother Earth Water Walkers website at motherearthwaterwalk.com.

(Information extracted from the Mother Earth Water Walkers website and News From Indian Country.)

Lac du Flambeau gets TAS for water quality EPA approves tribe’s application for water quality program

Chicago, Ill.—U.S. Environmental Protection Agency (EPA) Region 5 has granted authority to the Lac du Flambeau Band of Lake Superior Chippewa Indians to run its own water quality standards program on its Wisconsin reservation. This authority is for the standards programs only. The tribe will have to submit the actual water quality standards developed to EPA for another round of review and approval.

The Clean Water Act allows tribes to run their own water programs in a manner similar to states. Currently, EPA is responsible for carrying out provisions of the Clean Water Act on the reservation.

In 2005, the Lac du Flambeau tribe applied to EPA for authority to establish its own water quality standards for surface water within its reservation. The reservation contains many lakes and water resources that support a variety of uses, including drinking water, fishing, boating and rice growing. Forty tribes across the country have been authorized to run their own water programs including three

other tribes in the Great Lakes region—the Mole Lake Band of Sokaogon Chippewa in Wisconsin, and the Fond du Lac Band of Chippewa and Grand Portage Band of Chippewa in Minnesota.

More information about this decision and EPA’s responses to comments received from the Wisconsin Department of Natural Resources and the public are available at www.epa.gov/region5/water/wqs5/wqstribes.htm.

(EPA press release)

Tribal women recognized for participation in government

Madison, Wis.—Women from Wisconsin tribes were recognized April 10 at Madison’s Monona Terrace Convention Center for their achievements in government. Wisconsin Women in Government (WWIG) awarded their first-ever Tribal Women of Distinction awards to eight tribal women, including Sokaogon’s Tina Van Zile, Bad River’s Donna Lynk and Red Cliff’s Grandma Genevieve Goslin, all from GLIFWC member tribes.

Recognized as “trailblazers in their communities,” by Katie Walby, President of the WWIG Board of Directors, Walby went on to note that the women selected have been leaders and role models in their communities and were nominated by current tribal leaders in each Wisconsin tribe.

Also honored were Kathy Hughes, Oneida Nation; Ada Deer, Menominee Indian Tribe; Lorna Shawano, Forest County Potawatomi; Terrie Terrio, Stockbridge-Munsee, and Helene Lincoln, Ho-Chunk.

WWIG was founded in 1987 to encourage and support talented women who elect careers in government service.

Anishinaabe Akii Protocol reaffirmed

(Continued from page 1)
and resource management. Somebody must speak for the trees and the fish.” One aspect of their planning involves making their worldview more effectively known through a process of education, he says.

“We are guided by traditional laws, spiritual laws as well as laws that have been affirmed in courts. We need to plan on how to use available laws that have been affirmed in court,” he states.

Fred Kelly, Ojibways of Onigaming First Nation, facilitated the planning sessions in Ojibwemowin, stressing the need to develop a proactive plan, with the emphasis on action. The plan, he said, must reflect the cultural and spiritual connection between the people and the resources, stress a holistic approach to resource management, and present mandates for engagement of the plan as well as the process of engagement.

Typical of previous visits from these northern relatives, GLIFWC was left feeling gifted with much more than was given.



AKRC Director George Kakeway (left) and GLIFWC Executive Administrator James Zorn. (Photo by Sue Erickson.)

Manoomin: past, present & future

An old friend faces new threats

By GLIFWC Staff

Odanah, Wis.—Manoomin, or wild rice, has sustained the Ojibwe and other Great Lakes tribes for centuries. (The Menominee took their name from this plant.) The Ojibwe named manoomin after both Manitou, the Great Spirit, and meenum, meaning “delicacy.”

Long ago the Ojibwe people would suffer and nearly starve during the winter months. Waynaboozhoo wanted to help his people, so he went into the woods and fasted for four days in a wigwam. He then went on a long walk, finally coming to a river. By this time he was very tired, and soon fell asleep.

It was late at night when Waynaboozhoo finally awoke. He looked across the river, and in the moonlight saw the tops of a grass, waving back and forth in the wind like dancers. He waded out to the waving grasses, gathered the long seeds that hung from them, carried them in his hand back to his wigwam, and once again fell asleep. As he slept, a vision came to him, instructing him that this was manoomin and that it was to be eaten.

When Waynaboozhoo awoke the next morning, he thought it had all been a dream. But then he saw the wild rice, tasted it and found that it was good. He returned to his village and told them about the manoomin he had found. After that, his people always had enough food for the winter.

We now know that there are four species of wild rice in the world. Three of these—northern wild rice (*Zizania palustris*), southern wild rice (*Zizania aquatica*), and the rare Texas wild rice (*Zizania texana*)—are native to North America. The fourth, Asian wild rice (*Zizania latifolia*), is native to eastern Asia and Japan. (This wild rice is not to be confused with the familiar Asian white rice (*Oryza sativa*), which is found in the Great Lakes region only in grocery stores.) Northern and southern wild rice are annuals, meaning they grow from seed every year. Texas and Asian wild rice are both perennial.

Environmental & cultural importance

Manoomin was, and for some still is, a staple food. Most of the manoomin in the upper Great Lakes region is northern wild rice (*Zizania palustris*), but there is some southern wild rice (*Zizania aquatica*) here too. Northern wild rice originally grew from New England, across the Great Lakes states and provinces, and west into the Dakotas and Manitoba. Southern wild rice is primarily found in the Great Lakes states, and along the Atlantic Coast from Maine all the way south to Florida and Louisiana. These two closely-related wild rice species typically grow in marshes, along lakeshores and in slow-moving rivers. Both prefer mucky bottoms, in shallow water up to about 2 feet deep.

Manoomin provides food and shelter for zhiishiibag (ducks), nikag (geese), wazhashkwag (muskrats), and various other wetland wildlife. Six species of songbirds and both our species of rails are known to use manoomin extensively for food and shelter. Manoomin is especially important to waterfowl during fall migration. Manoomin also stabilizes soft underwater soils, absorbs nutrients, and calms winds crossing open wetlands.

As an edible grain, manoomin is as versatile as any in the world. It can be boiled, baked, fried or even popped to make puffed rice. It is cooked with just about anything, including bacon, corn, onions, butter and salt, or just eaten plain. It can be added to anything from soup to pancakes to chili. It has even been used to make tea.

Threats to wild rice

Unfortunately, like many of the world's plants and animals, manoomin is not as widely respected as it once was. Water level changes resulting from dam construction have devastated some wild rice beds and eliminated others entirely. Motorboats harm rice beds directly and indirectly by creating wave wakes that pull the rice plants from the soft substrate.

Unaware or uncaring riparian landowners sometimes remove manoomin and other “weeds” from “their” stretch of lakeshore. Other threats include flooding and draining of wetlands, herbicide use and pollution. Genetic engineering of cultivated wild rice for commercial production poses a significant long-term threat to the health of the wild rice populations.



Manoomin was, and for some still is, a staple food. (Photo by Peter David.)

Overharvest can also be a problem. According to Ojibwe elders, traditional harvest methods included making sure the manoomin was fully ripe before harvest, alternating several days of ricing with resting the manoomin beds for several days, and making sure some of the seeds fall outside the canoe into the water when ricing.

Aaboojigan, or common reed (*Phragmites australis*), is temperate North America's largest and tallest grass. Its stalks were traditionally used to weave frames for drying berries. Broadly defined, this grass is also native to Europe, Asia, South America, and Australia, giving it the largest native range of any plant in the world! The types of common reed found across this huge range differ significantly in size, appearance, and habitat preference, though. Unlike our native inland type, the European type that is now spreading into the Lake Superior region from the south and east is able to grow in constant standing water. This introduced type is highly aggressive and is able to outcompete and push out other emergent plants, including manoomin and even cattails!



A dense patch of the introduced type of common reed dominates a disturbed wetland in western Upper Michigan (GLIFWC photo.)

Apakweshkwag (*cattails*) are often common along wetlands bordering rice lakes. The introduced narrow-leaved cattail (*Typha angustifolia*) grows in deeper water than the native common cattail (*Typha latifolia*), making it more likely to compete with wild rice. It also hybridizes with common cattail, producing hybrid cattail (*Typha x glauca*), which is more aggressive than either parent. The potential long-term effects of narrow-leaved and hybrid cattail on wild rice populations remains to be seen.

Several introduced animals may also harm manoomin beds. Rusty crayfish (*Orconectes rusticus*) first began showing up in Wisconsin Lakes in the 1960's, and now are found in many lakes across the Upper Midwest. Once introduced to a lake or river, these large, aggressive crayfish (*ashaageshiinhyag*) quickly drive out the native crayfish. And because they are larger and have a higher metabolism than native crayfish, they eat more vegetation and other food than these crayfish, potentially including young wild rice plants. Zebra mussels (*Dreissena polymorpha*) also harm aquatic plants by attaching to the shoots and causing them to sink. Fortunately manoomin and other emergent plants normally have only their lower shoots underwater, so they may be less susceptible to this problem than plants that grow entirely underwater. The indirect effects of these and other invasive animals on wild rice are for the most part still unknown but may turn out to be substantial.

Potentially the greatest threat to wild rice may not be a plant or an animal but a fungus! Remember the Asian wild rice mentioned above? In its native range the rhizomes and basal shoots of Asian wild rice are commonly infected with the smut fungus *Ustilago esculenta*, which causes these plant parts to swell and prevents the plants from flowering and fruiting. Were this fungus to become established in North America, it could devastate our native wild rice species. For this reason many states require examination of Asian wild rice by a state-approved plant pathology laboratory before it is imported from another state. A number of researchers have recommended that the import of this plant to North America be banned altogether.

(See Manoomin, page 19)



Rusty crayfish graze much more heavily on aquatic plants than the native crayfish they displace, potentially damaging wild rice beds. (Photo by Jeff Gunderson, Minnesota Sea Grant.)



Spring brings busy schedules to enforcement staff



GLIFWC Warden Vern Stone demonstrates the use of an ice-fishing tip-up during a one-day youth ice-fishing workshop on the Bad River reservation. Assisting with the workshop was Warden Mike Wiggins. (Photo by Mike Wiggins.)



Hands-on training in the operation of a sugarbush was provided by GLIFWC Warden Mike Wiggins this spring. Above, Bad River Headstart youth insert a tap into a large maple tree. Wiggins explained the use of both sumac and metal taps as part of his sugarbush demonstration. Youth from the headstart along with students from Our Lady of the Lake School, Ashland, got firsthand sugarbush training from Wiggins this spring. Pictured with Officer Wiggins are: Vincent Bender, Preston Pospychalla, and Hunter Lemeiux—all from Bad River Headstart. (Photo by Jim Stone.)



GLIFWC Enforcement staff participated in a winter training session held on the Bad River reservation. Wardens Jim Stone and Mike Popovich are shown above during firearms training. (Photo by Fred Maulson.)

Pollution prevention

(Continued from page 8)

releases of these chemicals, particularly pharmaceuticals. So what can an individual do when it comes time to dispose of unused or expired pharmaceuticals? In the past (and still today for a very small number of controlled substances), many doctors and health departments were recommending that patients flush unused medicines down the toilet in order to prevent potential misuse or abuse if the medicines got into the wrong hands.

The problem with flushing pharmaceuticals down the toilet is that they are sent directly to the sewage treatment facility that is not designed to remove them and they stand a good chance of being released to the environment where they could cause harm. Over the past few years, an increasing number of options are becoming available to individuals who want to properly dispose of pharmaceuticals without flushing them. Here are a few based on U.S. Office of National Drug Control Policy federal guidelines:

1. Pharmaceutical "Take-Back" events are becoming more common. Check with your community to see if a pharmaceutical collection event is occurring in your area. For events occurring in northwest Wisconsin, check the website of the Northwest Regional Planning Commission (www.nwrpc.com/wp-content/uploads/2008/04/schedule-2008-10-county.doc), which is offering pharmaceutical collection at several of its annual clean sweep events. The University of Wisconsin-Extension also has a website with information about pharmaceutical collection events throughout Wisconsin (www4.uwm.edu/shwec/pharmaceuticalCollection/viewRecords.cfm?PageNum_viewRecords=4). I did not see events advertised in Minnesota and Michigan, so individuals in those states should check with their local community. Funding for pharmaceutical collections is just starting to become available, so look for more of these events in the future.
2. Check with your local pharmacy to see if they have a drug take back program. These are also becoming more common.
3. If no other disposal options are available, in most cases it is preferable to conceal or mix the drugs with an undesirable substance such as coffee grounds or kitty litter and throw them in the trash.
4. Flush prescription drugs down the toilet only if the label or accompanying patient information specifically instructs to do so.

For more information contact mHUDSON@glifwc.org or 715-682-6619 ext. 109.

Manoomin: An old friend faces new threats

(Continued from page 18)

You can help!

As *Mazina'igan* readers probably already know, the key to limiting or stopping the damage that invasive plants and animals cause to wild rice and to other native plants, animals and habitats, is to keep them from spreading in the first place! Once an invasive plant, animal, or other organism becomes established in a lake, eradicating them is usually impossible.

In the unfortunate absence of an effective national policy to stop the influx of invasives into the US (and Canada), the responsibility to avoid spreading the invasives that do arrive here rests on our shoulders. Everyone who takes a boat out in summer can do their part by:

- Removing aquatic plants, animals, and mud from your boat, trailer and equipment. Clothing, dogs, children or anything else that came in contact with water in one lake can spread seeds, fish diseases, and other invasives to the next lake if they are still wet.
- Draining all water from your motor, livewell, bilge, and transom wells. Cleaning should be done in a location that prevents the water from running into a storm water drainage or waterbody, including the one you are leaving.
- Washing your boat, trailer and all equipment that came into contact with water. The outside and inside of the boat, trailer, live wells, bilges, pumps and all gear should be sprayed with the disinfectant solution (¾ cup of bleach to one gallon of water) and left wet for five minutes.
- After washing, thoroughly rinse your boat, equipment and motor.
- And finally, never release plants, fish or animals into a body of water unless they came out of that body of water.

Following these simple precautions can help protect our lakes, rivers, streams and wetlands from aquatic invasives. It can also give something back to manoomin, a plant that has given so much to us!

For more information

"Non-medicinal uses of plants by the Great Lakes Ojibwe" has a wealth of information on cultural background, uses, habitats and threats to manoomin and many other plants of cultural significance, as related to GLIFWC staff by elders from Ojibwe bands across the Lake Superior region. The CD is available from GLIFWC for \$12.00. See www.glifwc.org/publications/publications.html#cdrom or contact the GLIFWC Public Information Office for more information.

The 2007 *Mazina'igan* supplement, "Ricing with Tommy Sky: a sequel to growing up Ojibwe," is a great read on wild rice and the history and culture surrounding it. Copies are still available through the GLIFWC Public Information Office. Call 715-685-2510 or write pio@glifwc.org for more information.

For those interested in technical information on Asian wild rice and the potential threat posed by the *Ustilago* fungus, see: Terrell, E.E. and L.R. Barta. 1982. *Zizania latifolia* and *Ustilago esculenta*, a grass-fungus association. *Economic Botany* 36: 274-285.

Updated aquatic invasive species (AIS) distributions can be found at www.glifwc-maps.org.

Finally, we thank Heather Cardinal and Becki Maki for the story of how Waynaboohoo first found wild rice.

Giganawaydamin Nibi (We will all take of the water)

Water Policy & Indigenous Women's Leadership Training

By *Waubanokwe, GLIFWC Secretary/Receptionist*

Lake Itasca, Minn.—About twenty-five people gathered at the headwaters of the Mississippi River at Lake Itasca, Minnesota during the earliest stages of spring last March. They gathered in response to an invitation calling on all women to gather for a weekend to share their knowledge, insight and education on "Preserving our Waters for the Future."

Both the location at the headwaters of a great river system and the time, when the waters first begin to break, were appropriate for the topic at hand during the three-day retreat focusing on water preservation in our communities.

While the summons was directed to women, traditional Anishinaabe keepers of the water, a few men and children also joined in the retreat sponsored through the University of Minnesota's Hubert H. Humphrey Institute of Public Affairs. Topics included "Cultural roles in water management," "Cultivating civic engagement in water policy," and "Critical current water issue and creating water action plans."

An offering of Asemaa (tobacco), a prayer and a song for the gift and blessing of our waters began the retreat. A vessel filled with water from the Mississippi was lifted, and a prayer of thanksgiving was offered to the Spirit by the women, children and men gathered for the ceremony. Ice still covered much of Lake Itasca's surface, but at the gathering point

an opening in the ice cover revealed a clear, cold area of open water where the dazzling reflection of the sun made the open water sparkle. Not far from there, the soft fluttering of the flowage could be heard and seen—more signs of renewal.

Everyone sensed the excitement, for the spirit of spring was near, even though goon (snow) still covered the grounds, and the wind blew softly. He did not detour the group's intentions. The ceremony was completed, and everyone left with a lighter heart and encouraging thoughts of the water for the future.

The day continued in a classroom atmosphere. Presenters came with various educational backgrounds. Their

intent was to inspire the group to find ways each individual could impact the current and future status of the waters and to become activists in their local communities. It would depend on the individual's character and ability to act and communicate within his or her own comfort zone, whether it would be public presentations or proactivity within the home.

The emphasis was on the individual role and each individual's unique capacity to help educate and care for the water.

There is no need to be a scholar to have an appreciation for the life nibi (water) offers. For without it, there would be no life. It's been said, "How you take care of the water is how it will take care of you."



Participants in the Water Policy and Indigenous Women's Leadership Training began a three-day retreat in March at Lake Itasca, Minnesota with a traditional Water Ceremony honoring the spirits of the water at the headwaters of the Mississippi River. (Photo by Waubanokwe.)

Bad River unites for a clean and green Earth Day

By *Charlie Otto Rasmussen, Staff Writer*

Odanah, Wis.—When word that a budget shortfall would eliminate the annual Earth Day roadside clean-up on the Bad River Reservation, a handful of tribal employees rallied to pull off the event with sparkling results. "Once people heard what we were doing, it really snowballed nicely," said event co-organizer Mary Jo Wolf from the tribal program Honor Our Children. "Other programs were interested in contributing right away."

They didn't have long. Organizers had only one week to pool enough human and financial resources before Earth Day, April 22. Wolf said the garbage bags, waste stickers and work gloves for dozens of volunteers working litter detail cost \$600 alone.

Despite the short time frame, the logistics and cash nevertheless came together. Around 65 tribal employees and Bad River residents combed the ditches along reservation roadways bagging garbage and discarded bottles and cans. Staff at the tribe's recycling and waste transfer station ultimately took in more than 100 bags of rubbish along with crumpled bicycles, old tires and scrap metal.

Following the morning clean up, participants met at the Bad River Community Center where a half-dozen event planners served a hearty hot lunch featuring chili, chicken noodle soup, burritos and an Anishinaabe gathering staple: funeral sandwiches made with ground bologna, salad dressing and pickles.

Wolf and co-organizer Heidi-Beth Burns said the event provided a good opportunity to promote everyday use of environmentally friendly household goods. A Domestic Abuse Program manager, Burns said she was able to direct money from her budget to purchase food along with door prizes that evoked the spirit of Earth Day. "We're trying to encourage people to 'go green.' It costs a little bit more to buy these products but it's not unreasonable," Wolf said. Gifts and door prizes for Earth Day clean-up participants included recycled paper plates, compact fluorescent light bulbs, solar yard lights, garden tools and reusable shopping bags.

"With the door prizes and collaboration between programs, it was far more extravagant this year," said Rae Ann Maday, tribal watershed coordinator who promoted the first Earth Day reservation clean up in 2000. Until this past spring's

budget crunch, the Natural Resources Department (NRD) took primary responsibility for sponsoring the annual event with Maday as the lead organizer. "This was probably a record for participation. I think it's a very humbling experience for our employees to go around and pick up other people's garbage," she said.

Sponsors for the 2008 Bad River community clean-up include: NRD, Honor Our Children Program, Bad River Health Programs, Domestic Abuse Program, Facilities Management, and Journey to Wellness Program.

One of 70 participants in the Bad River community clean-up, Tribal Background Investigator Tammy Schwiesow collected a rusting tire rim and garbage in Old Odanah on Earth Day. The Bad River and its flooded backwaters are visible in the background. (COR)



Everyone welcome to GLIFWC's annual Sandy Lake Ceremonies

July 23rd

US Army Corps of Engineers
Sandy Lake Recreational Site north of
Mac Gregor, Minnesota on Highway 65



Join us in commemorating the 1850 Sandy Lake Tragedy and honoring the Ojibwe ancestors who perished at Sandy Lake or en route home.

The occasion begins in the morning with a canoe paddle across Sandy Lake to the memorial site. Everyone is welcome to join the paddle in either canoe or kayak. Ceremonies are held around the Mikwendaagoziwag (They are remembered) Monument at noon and are followed by a feast.

For more information on the Sandy Lake Ceremony, please contact Gerry DePerry or Rose Wilmer at GLIFWC's main office 715-682-6619.

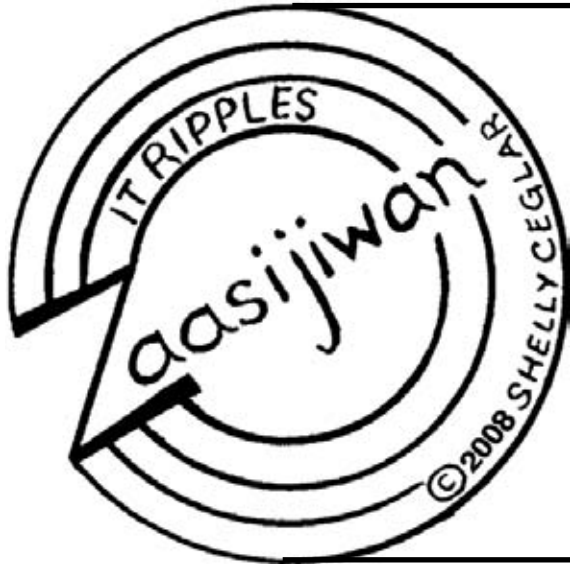
GLIFWC's Mikwendaagoziwag/
Sandy Lake Tragedy video will be aired on
Channel 8, (Duluth, Minnesota public TV)

on the following dates:

May 29 at 7:30 PM

June 9 at 9:30 PM

June 12 (13) late night at 12:30 a.m.



Niibin—It is Summer

“Aandi dash waa-izhaayan? Niwii-izhaa zaaga’iganing. Niwii-giigooyike. Niwii-mawinz megwaayaak. Niwii-mitose. Niwii-wiijiwaa na? Gaye, niwii-jiime ziibing. Niwii-pagiz imaa. Baanima, Giziibiigiisaginige-giizhigak niwii-izhaa niimi’idiming. Niwii-miziweshkaa niwii-onji-niibinish.”

(Where thusly do you want to go? I want to go to the lake. I want to go fishing. I want to go berry picking in the woods. I will go on foot. Do you want to go with me? Also, I want to go canoeing in the river. We will go swimming there. Later, when it is Saturday I want to go to the dance. I want to go everywhere because I want to spend Summer somewhere.)

Bezbig—1

OJIBWEMOWIN (Ojibwe Language)

Double vowel system of writing Ojibwemowin.

—Long vowels: AA, E, II, OO

Aaniin—as in father

Miigwech—as in jay

Niibin—as in seen

Noongom—as in moon

—Short Vowels: A, I, O

Idash—as in about

Imaa—as in tin

Niizho—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's

The to him/her verbs. Verbs, Transitive, Animate

Root VTAs are in command form. Prefix and suffixes added to the <root> give meaning.

- Banenim! Care for him/her!
- Gi- <root> -in. I care for you.
- Ni- <root> -aa. I care for him/her.
- Gi- <root> -ininim. I care for you all.
- Ni- <root> -aag. I care for them.
- Gi- <root> . You care for me.
- Gi- <root> -aa. You care for him/her.
- Gi- <root> -iminaam. You care for us.
- Gi- <root> -ag. You care for them.
- Ni- <root> -ig. S/he cares for me.
- Gi- <root> -ig. S/he cares for you.

Niizh—2

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

- A. Animoshag idash animoonsag, ninzaagi’ aag.
- B. Inday izhinikaazo Nijii. Ozaawizi. Apane migi.
- C. Nijii, ozhaashaagwandaanan nimakizinan imaa.
- D. Eko-niizhing, gaazhigensag idash bebezhiigooganzhiig ninzaagi’ aag.
- E. Giganawenimaanaanig Migizi dash ma’iingan.
- F. Noongom Aki-giizhigad. Ambe!
- G. Miigwech GLIFWC ikwewag idash ininiwag!

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

Niswi—3

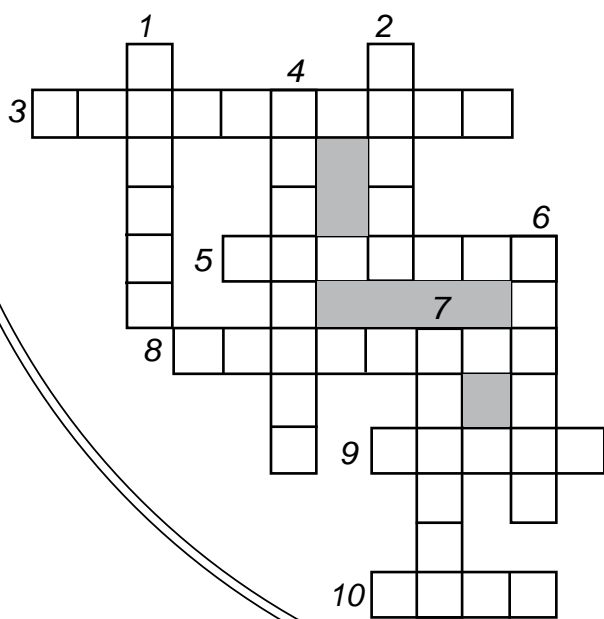
IKIDOWIN ODAMINOWIN (word play)

Down:

1. friend
2. S/he canoes.
4. S/he is yellow or brown.
6. eagle
7. See him/her!

Across:

3. S/he goes fishing.
5. Care for him/her!
8. Men
9. Go get him/her!
10. Come!



Niwin—4

VTA Conjugation Practice

- Gibanenimin.—I care for you.
- Ganawaabam!—Look at him/her!
- Ninganawaabamaa.—I look at him/her.
- Waabam!—See him/her!
- Giwaabaminim.—I see you all.
- Mikwenim!—Remember him/her!
- Nimikwenimaag.—I remember them.
- Bizindam!—Listen to him/her!
- Gibizindamaa.—You listen to h/h.
- Naazh! <naan>—Go get h/h!
- Ginaanag.—You go get them.

Goojitoon! Try it!
Translation below.

1. _____naan_____.
2. _____bizindam_____gaagiigidoyan, giday.
3. Endaso giizhig, _____banenim_____.
4. Gi-pi-izhaad omaa, Nindede gii-ikid, “_____mikwenim_____.”
5. Inashke! _____waabam_____ ina? ingiw moozoog?

Gi...-in

Gi...- ag

Ni...-aa

Ni...-aag

Gi...-ig

Translations:

Niizh—2 A. Dogs and puppies, I love them. B. My dog she is named Nijii (friend). She is golden. Always, she barks. C. Nijii (my Freind), she chews on my shoes there. D. Second, cats and horses, I love them. E. We need to take care of them, eagle and wolf. F. Today it is Earth-day. Attention! G. Thank you Great Lakes Indian Fish and Wildlife Commission women and men!

Niswi—3 Down: 1. Nijii 2. Jiime 4. Ozaawizi 6. Migizi 7. Waabam Across: 3. Giigooyike 5. Banenim 8. Ininiwag 9. Naazh! 10. Ambe!

Niwin-4 1. I am getting them. Come here. Eat! 2. She listens to you, when you speak, your dog 3. Every day, I care for him. 4. When he came here, my Father said, “I remember you.” 5. Look! Do you see them, those moose?

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. Some spellings and translations from *The Concise Dictionary of Minnesota Ojibwe* by John D. Nichols and Earl Nyholm. All inquiries can be made to **MAZINA’IGAN**, P.O. Box 9, Odanah, WI 54861 pio@glifwc.org.



Educational Resources

Indinawemaaganidog (All My Relations) CD

This interactive Anishinaabe language CD identifies the names of animals, birds, fish, reptiles, insects, and plants. The CD utilizes voice links to allow the user to hear the name while viewing photographs of the species. In addition, traditional knowledge is passed along through stories in the Anishinaabe language with partial translation. This is a resource that both beginning and advanced language students can use to increase their knowledge of Anishinaabemowin—\$12.00.

Gidakiiminaan (Our Earth) atlas

The Gidakiiminaan atlas is an 80-page atlas that identifies the Anishinaabe (Ojibwe) names of lakes, rivers, islands, bays, and other locations in northern Wisconsin, the Upper Peninsula of Michigan, and east central Minnesota. Some of these are the pre-European names. Included in the atlas is a translation of the original name and a table that identifies the modern location name with the Anishinaabe name—\$12.00.

Gidakiiminaan (Our Earth) CD

The Gidakiiminaan CD is an interactive CD that identifies the Anishinaabe (Ojibwe) name of lakes, river, islands, bays, and other locations within northern Wisconsin, the Upper Peninsula of Michigan, and east central Minnesota, some of these are the pre-European names. The CD incorporates voice links to the names so the user will be able to hear how they are pronounced and provides a translation of the Anishinaabe names—\$12.00.

Special purchase: Gidakiiminaan atlas & CD \$18.00

Native America, Discovered and Conquered: Thomas Jefferson, Lewis & Clark, and Manifest Destiny

By Robert J. Miller
 ISBN 0-275-99011-7; 230 Pages
 University of Nebraska Press

Miller analyzes the Doctrine of Discovery and shows how Thomas Jefferson and the Lewis & Clark expedition used that international legal doctrine to create Manifest Destiny—the idea that the United States would sweep across North America.

This book came out of Miller's three year involvement with the Lewis & Clark anniversary as the representative of the Eastern Shawnee Tribe and as an advisor to the National Council of the Lewis & Clark Bicentennial.

Miller proves three new ideas that have not been fully addressed elsewhere:

1. The English colonies, American states, and the federal government adopted the international law Doctrine of Discovery and applied it to the Indian Nations from 1606-2008.
2. Thomas Jefferson and Lewis & Clark used the Doctrine of Discovery to exercise governmental and commercial authority in the Louisiana Territory and to claim the Pacific Northwest.
3. Manifest Destiny arose from the legal elements and policies of the Doctrine of Discovery. As a result, the ethnocentric principles of Discovery were adopted into American law and expansion.

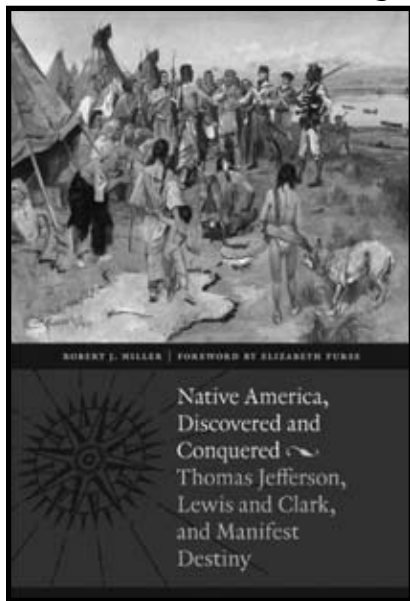
"[T]his is revisionist history in the very best sense of that tradition. Miller reviews historic documents and oft-told stories in a new and original light. This important study gives Native Americans and their role in United States history a richer and deeper meaning through Miller's thoughtful interpretation of the Doctrine of Discovery in the context of its historical, law-related, political principles."

—Professor Rennard Strickland, Oregon Law School

"Miller's book offers fascinating new insights into Jefferson's Indian policy, the significance of the Lewis & Clark expedition, and the origins of Manifest Destiny ideology in 19th-century America. Miller forces readers to confront the raw assertion of colonial power embodied in the Doctrine of Discovery, and its consistent deployment by the United States in the guise of law."

—Professor Carole Goldberg, UCLA Law School

Miller is a Professor at Lewis & Clark Law School and the Chief Justice of the Court of Appeals of the Grand Ronde Tribe. He is a citizen of the Eastern Shawnee Tribe.



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Can you ID this photo?



Author Tom Vennum is looking for someone to identify the children in this photo taken at Lac Courte Oreilles. If you can identify these children, please email tomvennum@hotmail.com. (Photo submitted.)

This is the good life

(Continued from page 10)
 main guy line cable out using a ratchet to make it tight.

He then lays his main PVC pipelines along the guy wires, using 1" pipe to make a "T" from the main line and runs these laterally to the hill. He places 2-3 taps in a big tree and one in a small tree. Hoses from 6-8 taps in the trees join into the larger line that connects into the main downhill line.

The main lines are hooked into a pump that he acquired from a dairy farmer. The pump creates a vacuum, pulling the sap along the PVC lines into the holding tank. This creates a continuous feed system that sends sap to the evaporators where the moisture is boiled out as steam, leaving the thickened syrup to be filtered and then bottled. Meanwhile, Jim must constantly feed the wood fire to keep the sap boiling in the evaporator, requiring a lot of wood and manpower.

In an average year, Jim makes between 200-300 gallons of syrup, and he cannot keep up with the demand. He makes maple syrup, sugar, and cakes primarily because he loves to be in the

woods this time of year, and because it is a way to keep his heritage alive. He sells the syrup that he doesn't give away. The finished syrup sells for about \$46-50.00 a gallon depending upon the year. Since Jim sells some of the syrup, his equipment, process, and product are tested by the State Department of Public Health. He uses scientific methods for cleanliness and reduction of bacteria in his plastic pipes, equipment, and bottles and in the syrup itself.

Jim didn't start making quantities of maple syrup until 1952. At that time he used coffee cans on the trees and boiled sap in washtubs, so times and methods have changed.

Mostly he works alone. Though the process is a lot of work, Jim thinks the sweet natural syrup is definitely worth the effort. He laments that young people are more eager to watch television and play on computers than be in the woods. He hopes gathering the maple sap and making syrup doesn't become a thing of the past. Jim says, "There's nothing better than being in the woods and smelling that maple sap boiling. This is the good life."



Ziigwan abinoojinyenag Spring babies

Spring is a special time when Mother Earth sheds her blanket of snow, and all kinds of new life appears with the warmth of the sun. Green tufts of grass and early flowers, like purple crocuses, yellow daffodils and tulips, pop up in our yards and gardens. In the forest, some of the first early flowers seen are marsh marigold, beautiful lavender hepatica and the white flowers of bloodroot, and it is also a time to watch for the early sprouts of fiddlehead fern for soups and salads and wild asparagus—yum. Have you ever found wild asparagus?

This is also when many of our animal neighbors give birth, and their babies (abinoojinyenag) start to ramble and play. The warm earth now can give more green plants, grasses and berries to feed the animals.

Let's think about some of our animal neighbors who may have new families. Can you name a few? What are their babies called?

Babies born to deer are called fawns. Let's look at the words for other animal babies and also the Ojibwe names for some of our animal neighbors:

- Makwa or bear babies are called cubs.
- Amik or beaver babies are called pups or kittens.
- Ma'iingan or coyote babies are called pups or whelps.
- Waawaashkeshi or deer babies are called fawns.

- Zhiishiib or duck babies are called ducklings.
- Migizi or eagle babies are called eaglets or fledglings.
- Giigoonh or fish babies are called fry.
- Waagosh or fox babies are called kits.
- Omakakii or frog babies are called tadpoles or polliwogs.
- Omashkooz or elk babies are called calves.
- Nika or goose babies are called goslings.
- Gekek or hawk babies are called eyas.
- Miskwaades or turtle babies are called hatchlings.
- Mizise or turkey babies are called poults.
- Ma'iingan or wolf babies are called pups.

In Ojibwemowin (Ojibwe language) the words for an animal's babies often are the word for the adult, such as makwa (bear), with an "ans" or "oons" ending on the word—makoons, meaning little or young bear or amikoons, little beaver.

A great resource for Ojibwe names of plants and animals is the CD *Indinawemaaganidog (All My Relations)*, an interactive Anishinaabe language CD identifying the names of animals, birds, fish, reptiles, insects, and plants. The CD uses voice links so you can hear the name while viewing photographs of each species! The CD is available through GLIFWC for \$12.00.

Baby names

The name of the baby animal is scrambled. Can you unscramble the word and write it in the blank below?



1. aflc _____
(Hint: Baby elk)



4. upp _____



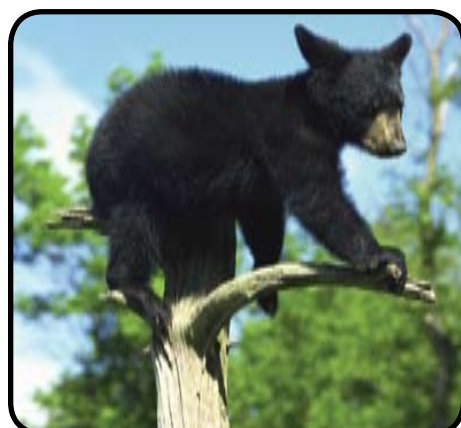
5. ouptl _____



2. wafn _____



6. tleapdo _____



3. buc _____

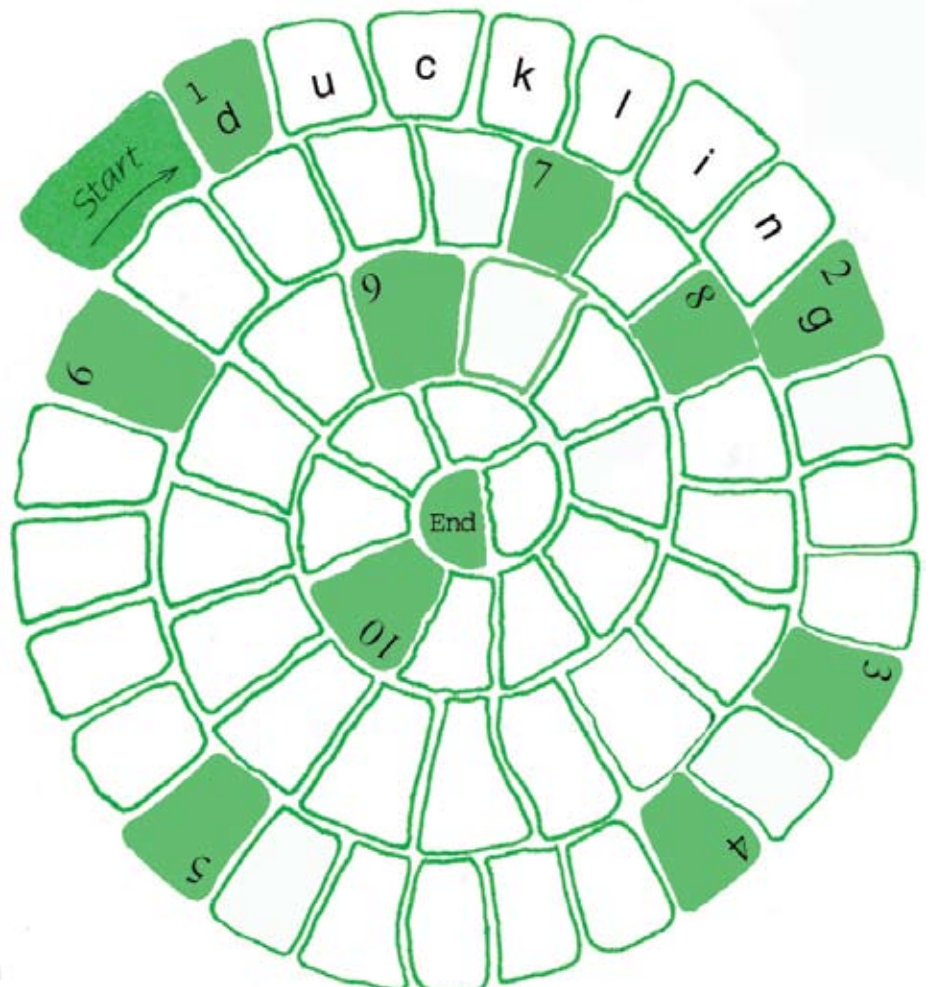


7. lnisggo _____

Baby talk

Let's talk baby talk. Read the clues below then write each baby word in the spaces. Each green space will have the last letter from a word and the first letter from the next word. The first answer is done for you. As you can see, the second word will begin with the letter g.

1. A baby duck.
2. The Ojibwe word for hawk.
3. A baby fox.
4. A baby frog.
5. A baby eagle.
6. The Ojibwe call this mammal miskwaades.
7. A hawk baby.
8. The Ojibwe word for babies.
9. The Ojibwe word for fish.
10. Break out of an egg.



Answers: Baby names—1. calf 2. fawn 3. cub 4. pup 5. poult 6. tadpole 7. gosling 8. eya 9. abinoojinyenag 10. hatch



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