

# Mazina'igan

A Chronicle of the Lake Superior Ojibwe

Published by the Great Lakes Indian Fish & Wildlife Commission

Fall 2013

## Gathering wiigwaas with a master

By **Charlie Otto Rasmussen**  
Staff Writer

**Marengo, Wis.**—It's one of the hottest days of summer. Marvin DeFoe sits on the tailgate of a pick-up truck sharpening a blade shaped like migizi's beak. A wild nest of twine—the kind farmers use to bind square hay bales—is tangled up next to him.

"Ninety-eight percent of the time when I get bark it's hotter than heck," he declares, pausing to sip coffee from a plastic cola glass. "Usually that's the best time, when it's hot. It'll start popping."

DeFoe, a garrulous Red Cliff elder, is using this simmering day-off away from teaching birch bark canoe construction at the St. Croix Reservation to gather extra wiigwaas. Jackson, a local high school sophomore, tags along with DeFoe to the Brunsweller River bottoms. It's mid-July.

"The season is late. Everything is late by about two-or-three weeks this year," says DeFoe. Most years, the second-half of June is primetime for gathering wiigwaas, a renewable resource central to water transportation, shelter, and food storage for old-time,

traditional Ojibwe. This day, DeFoe is after basket bark. He calls for his teenage helper to grab a long aluminum extension ladder stowed in the pick-up and follow him down a footpath.

"The young guy does all the hard work, you know that?" DeFoe proclaims. The boy grunts, alternately reaching for the ladder and waving at a cloud of mosquitoes. DeFoe pockets his hook-nosed blade, a few lengths of unfurled twine, and they're off. It's a bit nicer in the shaded woods but the humidity sets in like a blanket.

"Anyone ever call you Action Jackson?" DeFoe asks, inducing another affirmative grunt as the kid wrestles the ladder through a splintery deadfall. A mercifully short walk through mixed hardwoods, balsam and spruce leads to a stand of ash and basswood. The sun catches white columns of birch through the deep green of the river bottom.

"I like these woods. I like 'em. I've got a good feeling," DeFoe says, pulling a foil pouch of pipe tobacco from his blue jeans. He prays in a low voice, in Anishinaabemowin, sprinkling loose asemaa at the base of a birch tree.

He makes the first, shallow cut into the outer birch bark only three feet above



After placing asemaa at the base of the birch tree, Marvin DeFoe, Red Cliff, makes his initial cut into the outer wiigwaas. (Photo by Melissa Rasmussen)

the asemaa offering. The tree responds immediately.

"Ho-wah! Did you hear that pop?" He cranes his neck, eyeing Jackson. "Get that ladder over here."

Soon after that telltale crunch-pop of ripe wiigwaas, DeFoe is on the ladder to complete the cut—from around 12 feet

up, he draws the blade straight down until intersecting the original opening. The bark bursts away from the trunk, splitting cleanly along vertical wood grain at both ends to create one large sheet. It hangs up on a few sticky spots and is freed with a few flat-handed swipes. (See **Wiigwaas**, page 7)

## Tribes present case for night hunt in federal district court

By **Sue Erickson**, Staff Writer

**Madison, Wis.**—A five-day trial on tribal night hunting of deer in Wisconsin's ceded territory concluded on July 26, and the parties now wait for a decision from Federal Judge Barbara Crabb.

Six Wisconsin Ojibwe tribes are seeking relief from a 1991 judgment by the US District Court, Western District, prohibiting night hunting of deer under treaty in the ceded territories. The decision called LCO VII resulted from the "Deer Trial" which decided the scope of the off-reservation, treaty deer harvest.

Today, the tribes argue that circumstances have significantly changed, so the Court should be able to revisit the night hunting issue and alter the original judgment. In her pretrial brief to the Court, the tribes' lead attorney Colette Routel claims the State's implementation of night hunting in the chronic wasting disease (CWD) eradication program starting in 2002, the inclusion of night hunting in the 2012-2013 wolf hunt, and allowing nuisance deer to be shot at night all provided significant changes from the circumstances existing in 1991, when there was little or no night hunting allowed.

According to Routel, these changes indicate the State believes there are safe means of shooting deer or other animals with high power weapons at night.

Routel also points out that night hunting is allowed in many other states as well as Canada, so the practice has been accepted elsewhere and is not unique to Wisconsin.

A high priority for the tribes is the mitigation of safety risks. The tribes' proposed regulations for treaty night hunting exceed State requirements for both the CWD eradication effort (which entailed night hunting) and those for the 2012 wolf season.



Colette Routel. (Photo submitted)

The tribes' regulations require, among other things, a marksmanship rating, a two-day advanced hunter safety course, and the development and submission of a shooting plan.

### Hunter safety and marksmanship

The advanced hunter safety course would be required for all night hunters, even those with military or law enforcement experience or other certifications. It would entail 12 hours of training in the classroom and would require members to pass a marksmanship test at night.

### Shooting plans

The tribal requirement for a detailed shooting plan for tribal night hunting of deer off-reservation also mitigates risk. A shooting plan is required for all areas where shooting takes place. On the shooting plan, the hunter must indicate:

- The stationary position from which the hunter will fire.
- All potentially dangerous areas where the public may be present, like picnic areas, ski or hiking trails within a ¼ mile of the shooting site.

- A "safe zone of fire" that avoids potentially dangerous areas.
- The direction of the shot.
- An adequate backstop within 125 yards from the hunter's stationary position.

If the planned shot is less than 50 yards and the shooter is elevated (at least 10 feet), the plan must be submitted to get a permit, but not preapproved. All other plans must be preapproved. One daytime visit to the proposed shooting site from the day after Labor Day to close of the season is also required.

### Other Provisions

The regulations require hunters to use a light to illuminate their target and their backstop. The night hunting season dates have been designed to be culturally (See **Night hunt**, page 21)



# Patience may be the key to 2013 ricing season

## Harvest may be a little late

By Lisa David, GLIFWC Manoomin Biologist

**Odanah, Wis.**—Manoominike-giizis (August), the ricing moon, has arrived. At press time we still aren't certain how the 2013 ricing season will play out as we patiently wait for the plants to flower, hoping for a productive season for all.

Since the banner year in 2009, Wisconsin has experienced a series of below average ricing years which required more concerted scouting efforts to find pickable beds. That may be the case this year too, but the next few weeks will be telling.

We are finding rice at some locations but are also noting the lack of rice or very sparse beds too. This may be the result of the long winter and late ice-out, which possibly delayed seed germination.

Despite the late spring and accompanying high water, it seems like the rice crop out there is trying to catch up, meaning the development seems a little delayed from previous years.

So, the manoomin crop may be late this year. Be aware that people who try to harvest too early in the season before the plants have fully matured will undoubtedly do poorly and may potentially reduce the ricing opportunity for others later in the season.

If the hulls are still empty in your favorite rice bed, don't assume it is just "ghost rice"—the hulls may just need more time to fill in.

Patience is key this ricing season. Pickers will have to be certain the rice hulls are fully filled in before knocking.

Be sure to check GLIFWC's website (<http://data.glifwc.org/manoomin.harvest.info/>) for updates on the status of rice in the ceded territory. The site is designed to aid harvesters in their search for pickable manoomin beds. You will find a brief description of specific beds, whether dense or sparse, good or poor, as well as links to aerial photos of rice waters we flew over this year.

Remember, certain waters in the ceded territory are date-regulated, meaning that the rice chiefs working with the state DNR will determine the opening date



Manoomin. (Photo by Wesley Ballinger)

of that particular water. It is illegal to harvest rice on a date-regulated water body before it has been posted as open. Updates to the website will be made throughout the season to let you know the opening dates of the date-regulated waters as well.

This year the manoomin may follow the course of the ode'im (strawberry) and the miinan (blueberry) by offering us a crop, but a little later than we've become accustomed to. Happy harvesting.

# Michigan, Minnesota moose research details downward trend

## Limited harvest ahead in 1854 territory

By Charlie Otto Rasmussen, Staff Writer

**Odanah, Wis.**—As moose population growth in the northern ceded territory sputters—or outright bottoms out—wildlife managers are taking a conservative approach to future hunting seasons. While the proposed Michigan moose hunt remains on hold for 2013, tribal authorities in Minnesota plan to issue a limited number of harvest tags to help meet dietary needs of Ojibwe communities.

Last July the Fond du Lac Band announced a bulls-only treaty hunt that caps harvest at a maximum of 25 moose. The season runs September 21 to December 31.

The 1854 Treaty Authority—representing Bois Forte and Grand Portage bands—is reviewing comments submitted by community members before making a final decision on issuing moose harvest tags.

Minnesota officials suspended moose harvests by state-licensed hunters in 2012. After learning that Fond du Lac planned to issue ceded territory moose tags this fall, the Department of Natural Resources raised objections and called on tribal leaders to reverse course.



Moose numbers are near-flat or declining in the ceded territory. (Photo submitted)

### Winter survey results

Moose populations are largely clustered in two locations within the Ojibwe ceded territory. The 1854 ceded territory of northeast Minnesota contains the largest—and perhaps most problematic herd in the United States. Moose core range in Upper Michigan occupies a region spread across the west-central portion of the peninsula. Researchers in both states routinely conduct surveys in January when adequate snow cover is most promising—a key factor for spotting moose from the air.

In Michigan moose growth rates slowed to about two-percent between 2009-2013. Over the previous decade moose numbers clicked along at an eight-to-nine percent increase.

"It's flattened out quite a bit," said Dean Beyer, Michigan Department of Natural Resources research biologist. "We recommend no harvest at this time."

The 2011 survey resulted in an estimated core range population of around 430 moose, compared to approximately 450 this year. Michigan officials conduct comprehensive moose population assessments every two years. Beyer said that the lack of early January snow cover compelled state officials to scramble two aircraft from Lower Michigan to complete the survey work.

Despite modest survey returns, some observers have called for formalizing a hunting season soon, citing a record 16 moose/vehicle collisions in 2012. Michigan State legislators enacted *Public Act 366 of 2010* to move along establishment of the first moose season since the 1880s.

"Collisions occur for various reasons. We see a number of them in most years," said Beyer. "But versus a detailed study, it's a crude index of population trend."

Across western Gichigami into northeast Minnesota, interagency wildlife managers completed their own annual winter survey, reporting a one-year, 35% (See *Moose*, page 21)

### On the cover

Traditional Ojibwe pointed-toe makizinan by Lac du Flambeau artist Biskakone Johnson. A pattern for this style makizin appeared in the Spring 2008 edition of *Mazina'igan* and is available in the 2008 on-line edition. See GLIFWC's website at [www.glifwc.org](http://www.glifwc.org). A limited number of patterns are also available from the Public Information Office at [lynn@glifwc.org](mailto:lynn@glifwc.org).

# Isham takes oath as LCO's new chairman

By Sue Erickson, Staff Writer

**Lac Courte Oreilles Reservation, Wis.**—Bringing the Pipe back into the Tribal Council's meetings was the first order of business for the newly elected Lac Courte Oreilles Tribal Chairman Mic Isham during an inauguration ceremony July 2 at the LCO Convention Center. Also elected to offices were Rusty Barber as vice-chairman and Norma Ross as secretary-treasurer.

Isham also serves as the GLIFWC Board of Commissioners Chairman and has been a staunch and steady advocate for treaty rights and tribal sovereignty through the years. Crediting many elders who helped pave his path towards the LCO chairmanship, Isham also acknowledged LCO tribal members Mike and Fred Tribble whose actions sparked the Voigt litigation and resulted in the affirmation of off-reservation treaty rights in the 1837 and 1842 Treaty ceded territories.

In his remarks to a packed convention center, Isham announced that his first priority is "to protect sovereignty and our treaty rights for the next seven generations," while acknowledging the tribal leaders of 1983 who kept the tribes unified and formed GLIFWC.

Also serving on the LCO Tribal Council are Gordon Thayer, Don Carley, Gary Clause and Larry Kagigebi.



Lac Courte Oreilles new tribal chairman, Mic Isham, takes the oath of office during an inaugural event on July 2. (Photo by Sue Erickson)

## Bad River Tribal Chairman Wiggins Receives Binational Award for Protecting Water

**Odanah, Wis.**—Bad River Tribal Chair Mike Wiggins was recently awarded the Lake Superior Binational Forum's Environmental Stewardship Award in the category of U.S. Adult. Wiggins received his award at a special ceremony held July 13 at the Big Top Chautauqua, near Bayfield, Wisconsin.

"Mr. Wiggins represents the best in sustainable practices by an adult in stewarding the health of Lake Superior this past year," said Lissa Radke, coordinator of the Lake Superior Binational Forum, headquartered at the Sigurd Olson Environmental Institute at Northland College in Ashland, Wis.

Wiggins received high marks from judges in the category of U.S. adult for his collaborative relationships with tribal and nontribal individuals and groups across Wisconsin to try and protect the high quality of water on and off reservation, Radke said.

"Mike's role as champion for Lake Superior, the Kakagon and Bad River Sloughs and the rivers and streams of the Bad River Watershed inspired many people across Wisconsin to become active in water issues and actions," Radke said.

Wiggins has been a well-known voice and bridge-builder in his opposition to a proposed taconite mine in the Penokee Mountains, located off-reservation but upstream from the Bad River Band of the Lake Superior Tribe of Chippewa Indians reservation.

"Mike helped develop collaborative relationships with tribal and nontribal individuals and groups across Wisconsin to try to protect the high quality of water on and off reservation," Radke said of the judges' comments.

—Lake Superior Binational Forum press release

# Tribes recognize Jackson's years of service



Robert Jackson (center-left) enters retirement with the respect of GLIFWC member bands and many other tribes in the Midwest.

Jackson, a biologist and skilled organizer, received a joint resolution (reprinted below) from the GLIFWC Board of Commissioners and Voigt Intertribal Task Force (VITF) during the 21st Partners in Fishing event at Lac du Flambeau on June 5. In the resolution, GLIFWC officials expressed "sincere and lasting gratitude and appreciation to Bob Jackson for his years of service, and commend him for his leadership in and commitment to the protection and implementation of ceded territory, treaty-reserved hunting, fishing and gathering rights."

Since the late 1980s, he has been at the vanguard of successful tribal natural resources programs including Casting Light Upon the Waters and Circle of Flight.

Jackson's BIA career began during a period of turmoil, when Ojibwe people were harangued at spring boatlandings and in the media for exercising reserved treaty rights like walleye spearfishing. Through the Casting Light initiative biologists from federal agencies, GLIFWC, State of Wisconsin and several tribes annually work together to survey walleye populations, helping ensure sustainable populations for all users.

Pictured from left: Tom Maulson, VITF Chairman; Bob Jackson; Mic Isham, GLIFWC Board Chairman; and GLIFWC Executive Administrator Jim Zorn. (Photo by Charlie Otto Rasmussen)

## Joint resolution in recognition of Robert Jackson

**WHEREAS**, Robert "Bob" Jackson, a longtime employee of the Bureau of Indian Affairs, has demonstrated an enduring commitment to and understanding of tribal sovereignty and the United States' trust and treaty obligations to the Great Lakes Indian Fish and Wildlife Commission's member tribes; and

**WHEREAS**, Bob Jackson has worked tirelessly to honor and fulfill those obligations by protecting and furthering the sovereignty of the Commission's member tribes and helping them ensure that their treaty rights are fully implemented; and

**WHEREAS**, Bob Jackson has worked to build the Tribes' natural resource management capacity necessary to enable the exercise of treaty rights in the true spirit of self-determination and self-governance; and

**WHEREAS**, Bob Jackson has engendered cooperation, collaboration and partnerships among state, federal and tribal governments in furtherance of co-management activities and the protection of Aki; and

**WHEREAS**, Bob Jackson's commitment to the Commission, its member tribes, and their natural resource priorities has helped ensure that present and future generations will be able to meaningfully exercise their ceded territory rights and that treaty resources are abundant and healthy.

**NOW THEREFORE BE IT RESOLVED**, that the Great Lakes Indian Fish and Wildlife Commission's Board of Commissioners and Voigt Intertribal Task Force express their sincere and lasting gratitude and appreciation to Bob Jackson for his years of service, and commend him for his leadership in and commitment to the protection and implementation of ceded territory, treaty-reserved hunting, fishing and gathering rights.

**BE IT FURTHER RESOLVED**, that the Board of Commissioners and the Voigt Intertribal Task extend their congratulations to Bob Jackson on the occasion of his retirement from the Bureau of Indian Affairs and wish him fulfillment in his future endeavors.

# Mille Lacs Lake walleye numbers low; biologists seek solutions

By Mark Luehring, GLIFWC Inland Fisheries Biologist

**Odanah, Wis.**—When Minnesota Department of Natural Resources (MNDNR) and GLIFWC biologists ran their stock assessment models in order to determine the harvestable surplus level for the lake in 2013, the results were not very encouraging. The population models agree: the Mille Lacs Lake walleye population is at or near its lowest level since 1983. These results were consistent with those found in the MNDNR fall gillnetting survey, which caught the lowest number of walleyes per net lift in the last 40 years.

Biologists are seeking answers as to why the walleye population is in decline since recent harvests by the State and the Tribes have been well within the

harvestable surplus (set at 24% of the biomass of walleye over 14 inches). The complex lake ecosystem has undergone several changes in the past few years, and since each part of the system is interconnected, the cumulative impacts of these changes may be larger than each individual change would be on its own.

Several aquatic invasive species have colonized Mille Lacs Lake including zebra mussels, spiny water fleas, Eurasian watermilfoil, and Chinese mystery snail. Of these, zebra mussels and spiny water fleas appear to be most likely to have a major impact on the food chain that walleyes depend on for survival. Zebra mussels have reached a density of over 1,200 per square meter, and filter nutrients from the water column. Spiny water fleas are known predators of smaller zooplankton that also comprise the bulk of the diet for

many larval fish in the pelagic or open water zone of the lake.

Mille Lacs Lake also currently contains a large number of predator fish other than walleyes. Smallmouth bass, northern pike, and muskellunge numbers are at or near their all-time highs. As a result, the forage base has been low in recent years, and walleye of a given length are weighing less than in the past. Additionally, despite good natural reproduction and survival of walleye to their first fall, recruitment to the adult population has been low in recent years.

Biologists and managers are taking a multi-faceted approach to bring the walleye population back to more normal historic levels. First, for the 2013 fishing year the State and the Tribes agreed to set the harvestable surplus at 250,000, which is exactly half of the harvestable surplus for 2012. This includes a quota reduction for both fisheries. The Tribes did not take their full allocation in spring 2013, harvesting 15,138 lbs. out of the quota of 71,250 lbs. State harvest as of June 30 was 70,904 lbs. out of a quota of 178,750 lbs.

In addition to the reduced harvest levels, both fisheries changed regulations to protect some of the less abundant small walleyes. The state angling regulation for 2013 allows the harvest of two walleyes per day, but they must be between 18 and 20 inches. The Tribes removed their spearing size limit, initially in place to protect larger female walleyes (the previous spearing size limit was one fish per permit of any size and one between

20 and 24 inches). The State and Tribes also agreed to attempt to reduce the northern pike population by increasing the northern pike cap (shared equally between both fisheries) from 30,000 lbs. in 2012 to 50,000 lbs. in 2013. Northern pike may eat young walleye and compete with older walleye for available forage. Additionally, the State smallmouth bass regulations have been relaxed.

Biologists are also undertaking a variety of studies to increase understanding of the walleye population and evaluate future management options. In spring of 2013, MNDNR, Fond du Lac, USFWS, and GLIFWC field crews undertook mark-recapture population estimate studies to measure the abundance of walleye and northern pike in Mille Lacs Lake. These studies will be used to anchor the population models and improve understanding of the fall gill net assessment results (conducted yearly).

Additionally, biologists are conducting an analysis of long-term trade-offs between yield and spawner biomass under a variety of management options. Model projections are being run to examine outcomes of regulations options in the short and long-term. Studies are ongoing to evaluate angling, spearing, and netting harvest patterns and their combined impacts on the walleye population. Finally, a suspended gill net study is being conducted in conjunction with the regular fall assessments to test whether walleye are moving higher in the water column during the assessment in some years.



GLIFWC fisheries technician Noah Arbuckle marks a Lake Mille Lacs spawning northern pike with a fin-punch. (Photo by Ed White)

## Pike survey key element of Mille Lacs assessment

By Charlie Otto Rasmussen, Staff Writer

**Garrison, Minn.**—Fisheries biologists are analyzing data collected from spawning northern pike at Lake Mille Lacs. Along with an ongoing walleye study that runs into autumn, the pike mark-and-recapture survey is part of a broad effort to get a better handle on the overall fishery.

“Conducting the northern pike assessment in conjunction with the walleye assessment helps us understand more about the predator biomass in the lake,” said Mark Luehring, GLIFWC inland fisheries biologist. “It also provides an anchor in our model for determining overall northern pike population size and establishing future harvest levels.”

As open water emerged last spring, fisheries staff from the Fond du Lac Tribe, GLIFWC, and Department of Natural Resources installed fyke nets where Mille Lacs tributary streams meet the big lake, capturing northerns headed upriver to spawn.

Technicians determined the sex of each fish as well as recorded length before applying a “mark” to either the anal, dorsal or caudal fin in the form of hole-punch. GLIFWC fisheries staff primarily worked near the mouths of the Rum River, Seguchie Creek, Garrison Creek and Whitefish Creek along Mille Lacs’ west shore.

Beginning in late May and through June, interagency fishery staff briefly soaked gill nets from 22 survey zones around the lake in search of fish, including walleye, that had been punch-marked. Luehring said that suitable numbers of northerns were netted in the “recapture” phase of the assessment to help researchers estimate the lakewide population.

Northern pike are among the earliest spawners. Their adhesive eggs stick to submerged vegetation for around two weeks before hatching. Adult northerns are large, aggressive feeders and biologists are studying how much impact they have on walleye numbers.

## GLIFWC assessment crews survey 18 lakes in Wisconsin; Mille Lacs Lake in Minnesota

By Mark Luehring, GLIFWC Inland Fisheries Biologist

**Odanah, Wis.**—When winter finally released its icy grip on Wisconsin ceded territory lakes, walleyes raced up towards the prime spawning areas, and GLIFWC survey crews were not far behind. A late ice-out in 2013 created a condensed survey season for GLIFWC and partners from Mole Lake, St. Croix, USFWS, and WDNR. When the ice goes out late, the walleye spawning period is shorter, leaving less time for crews to complete population estimates. Mark-recapture surveys are conducted during the spawning period with fyke netting and electrofishing gear, and provide estimates of adult walleye abundance. In 2013, GLIFWC and partners were able to complete estimates on 18 lakes in the Wisconsin ceded territory including eight long-term study lakes.

As in most years, crews encountered a wide variety of weather conditions ranging from blinding snow squalls to warm spring thundershowers. Crews surveyed populations with wide ranging adult densities with some populations found to be quite healthy, while others were weak. Tribal and state biologists will meet in mid-August to evaluate the survey results.

Meanwhile in the 1837 ceded territory of Minnesota, GLIFWC, USFWS, Fond du Lac, and MNDNR were cooperating to complete walleye and northern pike population estimates on 132,500 acre Mille Lacs Lake. Northern pike netting started well before ice-out in connected tributaries, and crews combined to tag over 5,000 pike. When the ice finally started to loosen around the shorelines, crews immediately began to electrofish and fyke net for walleye. Nearly 7,000 walleye were tagged over the course of less than a week. Just as it was in Wisconsin, the spawning period was quite condensed on Mille Lacs Lake.

Shortly after the marking phase ended, and the walleye and northern pike had a chance to mix in the main lake basin, and then recapture efforts began. Crews set short-term gill nets over a four-week period and examined over 3,000 walleye and 1,000 northern pike for marks. Biologists met in early August to examine the results of the survey and evaluate the northern pike and walleye populations.

Essential Ojibwemowin  
ogaa—walleye



# Fishery managers review state of Lake Superior

## Find lake trout population down, but stable

By Bill Mattes, GLIFWC Great Lakes Biologist

**Onigamiinsing (Duluth, Minn.)**—Every five to six years fisheries agencies from around Gichigami (Lake Superior) gather to report on the State of Lake Superior. These gatherings, orchestrated by the Great Lakes Fishery Commission, give agencies the opportunity to gauge how the lake is doing compared to established “Fish Community Objectives.”

The Fish Community Objectives, formulated by these same fisheries agencies, are updated as needed. The current objectives, established in 2003 ([http://glfc.org/pubs/SpecialPubs/Sp03\\_1.pdf](http://glfc.org/pubs/SpecialPubs/Sp03_1.pdf)), set goals for namegos (lake trout), adikameg (whitefish), giigoohnzehns (prey species), and bimiizii (sea lamprey) as well as other species which are smaller players in the big lake such as oгаа (walleye), name' (lake sturgeon), namekos (brook trout), and maajaa namekos (non-native sport-fish like chinook, coho, steelhead, and brown trout). There is also a habitat objective which includes targets for physical habitat (e.g. spawning, nursery, and feeding areas) and levels of contaminants in fish.

If you sift through all the presentations on the State of Lake Superior,\* one thing is evident: Lake Superior is a lake trout lake. In the nearshore waters whitefish and cisco (a.k.a. herring) along with lake trout are important to commercial fisheries. Lake trout along with walleye and non-native sport-fish are the primary targets of the recreational fisheries. In offshore waters or 70% of the lake, where very little fishing occurs, siscowet lake trout (or fat trout to some) are the dominant fish along with their prey—sculpin, kiyi, and bloater chub.

Presentations compared changes in the lake during 2006-2011 to the state of the lake during the previous five years, 2001-2005. These comparisons show lake trout, whitefish, and cisco populations to be lower in some areas of the lake

but overall populations are stable. There is concern over lake-wide declines in prey-fish abundance (primarily cisco and rainbow smelt) and poor recruitment for lake trout, whitefish and cisco (recruitment is a measure of how many young fish there are that can grow and become a part of the fisheries). Sea lamprey numbers are lower but above target; and other species are stable or improving. In offshore waters—siscowet and their prey (kiyi, bloater, sculpins) are stable with high abundances of siscowet and low abundance of prey.

Lake Superior is dominated by native fish that are showing signs of density dependence—in other words the numbers of fish in the lake have peaked, and the future will likely see numbers of predators and prey that fluctuate due to prey availability and recruitment variability. The goal is to keep populations at sustainable levels through active and adaptive management by fishery agencies.

\*The entire Lake Superior session can be found at: [http://glfc.org/lakecom/video/2013\\_upper.html](http://glfc.org/lakecom/video/2013_upper.html).

### English and Ojibwe names:

lake trout	namegos (or chinamekos)
sea lamprey	bimiizii
whitefish	adikameg
rainbow smelt	bijimaagazehns
cisco (a.k.a. herring)	kewis
brook trout	namekos
lake sturgeon	name'
walleye	ogaa
Lake Superior	Gichigami
small fish	giigoohnzehns

# Lake Superior fish: fresh or smoked, fillets or whole

## Tribal family fish shops have it all

By Sue Erickson  
Staff Writer

**Red Cliff, Wis.**—Two family-owned and managed fish shops promise great eats to those traveling Wisconsin's Highway 13 through Bayfield and Red Cliff—Newago's Fish Market and Peterson's Fisheries. Both are run by Ojibwe fishing families who have fished Lake Superior for generations and offer gourmet options for fish lovers.

Newago's Fish Market greets folks coming north on Highway 13 to Bayfield. Set on a curve at the entrance to town, the small red and white shop is managed by Cathy Newago. She and her late husband Alan, a Bad River commercial fisherman, first opened the shop doors

ten years ago. Today, her son Joe, fishing on the tug JayJayCee, and grandson Joe Jr. and brother Jacob on the tug Jean Maur B supply the shop with fish on a daily basis, and grandchildren routinely help man the shop.

An array of smoked fish, in fillets or chunks—whitefish, lake trout or herring—make delectable snacks as do Cathy's smoked fish spreads, which are also available in a variety of specialty flavors.

Of course, fresh-from-the-lake whitefish, lake trout and herring or packages of flash frozen fish or delectable whitefish livers are for sale seven days a week through the season.

Newago's Fish Shop is open from Mother's Day weekend in May through the first or second week after Bayfield's



Recently opened, the Fish Shack features delectable fried fish baskets, steamy hot and super fresh. Manned by Tasha Hanson and Brittiany Hanson, the food stand is located adjacent to the fish shop and open from Wednesday-Sunday, 11:00 a.m. to 7:00 p.m. Pictured are, from the left: Tasha Hanson with daughter Iahanna and Brittiany Hanson with nephew Braedyn. (Photo by Sue Erickson)



Helping out at Newago's Fish Shop in Bayfield, granddaughter Karen Thomas waits on customers while manager Cathy Newago takes care of other business, like making her specialty fish spreads. (Sue Erickson)

Apple Festival weekend from 10:00 a.m. to 5:00 p.m. and will also take phone orders.

Going north from Bayfield a few miles, Peterson's Fisheries sits on a slight hill on the right-hand side of Highway 13 just before you enter the Red Cliff community. Peterson Fisheries goes back through many generations of Red Cliff fishermen. The shop, currently owned by Brenda and Shawn Hanson, was first opened by Shawn's grandfather, Wilfred Peterson. Carrying on the tradition, Shawn brings home the fish from his tug Two Guys.

Currently, managed by their daughter Tasha Hanson, Peterson's Fisheries offer a full selection of Lake Superior fish both fresh and smoked. Tasha points out

that Peterson's smoked fish is one of a kind, to be found nowhere else, because they continue to use an original family recipe passed down through generations.

Fresh, smoked, fresh, or frozen, Petersons have a steady supply of whitefish, lake trout, herring and chubs for sale at the shop or by order and are open from spring through mid-October.

Hungry? Don't want to cook? Peterson's Fisheries' latest addition, just opened in July, is a fish and chips stand adjacent to the shop. The Fish Shack is where you can get a taste of Superior's lake trout or whitefish, fresh, hot and ready for you. Open from 11:00 a.m. to 7:00 p.m., Wednesday through Sunday, you can either enjoy it picnic style on the premises or take it to go.



# Survivors from the stone age

Lake sturgeon recover from overharvest

By Bill Mattes, GLIFWC  
Great Lakes Section Leader

**Odanah, Wis.**—When the earth had only one landmass, dinosaurs roamed, and the only mammals were small rodents, namèwag (lake sturgeons) swam in the waters. Namèwag are ancient animals.

Today many namè populations have been decimated world-wide. In Gichigami they are recovering from years of abuse by humans during the 19th and 20th centuries. Overharvest, polluted water, and dams which blocked access to spawning grounds severely reduced their numbers in all of the Great Lakes.

The namè population in Gichigami, although reduced from historic times, is stable. Juvenile fish can be found feeding off river mouths, and adults can be found spawning in at least seven of twenty-two historic sites. They are considered juvenile fish until they mature and spawn for the first time. For males this is at about age 10 to 15 and for females age 15 to 20. The same fish do not spawn every year. For female fish it takes time to produce up to 40+ pounds of eggs. These eggs are part of the reason namè are sought the world over for caviar, many times to the detriment of the population because without eggs being laid there are no young fish.

Juvenile namè have sharp bony plates, or scutes, which cover most of their body and protect them from predators. As they age, the sharpness wears away but the hard bony plates remain. Namèwag can live to be over 100 years old and because fish grow their entire lives, old namèwag can be large—over seven feet long and over 150 pounds. They grow by feeding on the lake or river bottom using sensory barbels and a mouth with large thick lips. Namèwag feed mainly on bottom dwelling critters like mollusks, worms and aquatic insect larvae, although they will feed on small fish if the opportunity presents itself!



Namèwag have sensory barbels and large thick lips which they use to forage for food on the lake or river bottom. (Photo by H. Fiorio)



Namèwag look like one might imagine a fish from 100 million years ago to look. Bony plates cover most of their body—from a shovel like nose to a primitive 'hetocercal' tail fin. Sharks also have this type of tail fin. (Photo by A. Fox)

# Nahmay (sturgeon) The King of Fish

By Eddie Benton-Banai, excerpted from  
Anishinabe Almanac: Living through the seasons

*May wizhaw*, long ago, there was a time when the water was free flowing, without dams or disturbance on every lake, river and stream. During that time, the water was clean, beautiful and sweet to the taste. It was then that the beautiful *Nahmay*, or sturgeon, was considered the Chief of the Fish Clans for the *Ojibwe Anishinabe* people, particularly throughout Wisconsin, Minnesota and Ontario. The sturgeon was also called "Ogimah" ("the king of all freshwater fish"). This name helps to explain the relationship that *Anishinabe* people have for their ancient and sacred relatives.

Progress and the encroachment of civilization have brought many dams, which block and change the natural movement of the waters. This fact has also altered the migrations of many spawning fish, including that of the *Nahmay*.

Each year in the early spring, when booming sounds were made by the melting and cracking of thick ice on the lakes, the *Anishinabe* people knew that the water would soon "turn itself over." It was during this time, from the murky dark waters, that *Nahmay* would soon begin to move around, becoming visible in the shallow spring waters. During the migration upriver, *Nahmay* could be seen, swimming side by side, in numbers so great that the rivers looked like a solid purple, blue and black mass from bank to bank. Elders say that the sound of their movement was like a murmur, rippling across the water onto the land and through trees like a lullaby in the *Anishinabe* way.

When the ice began to break up, the sturgeon would ram their backs and bellies on the underside of the ice chunks as it began floating freely through the water. Some of the younger and braver *Anishinabe* would jump onto an ice chunk in order to get a ride as it was being pushed along on the back of a big *Nahmay*. In that time of long ago, etched in the memories of *Anishinabe* elders, the magnificent sturgeon *Nahmay* was playful with the human beings. My father, *Awke waynze jingo Gezhik*, also known as Joe Benton, and others of the Lac Courte Oreilles Reserve of Wisconsin recalled riding on the back of a sturgeon. "That's how big they were on the Namekagon and Flambeau Rivers, at one time ...," he would say sadly. Today, there are no longer many sturgeon in these rivers.

Historically, the lumber industry first took their freedom during huge log drives, when great pine logs were floated downstream to sawmills in order to be cut, sawn and dressed for lumber. The lumber industry brought many homes, factories, barns and schools, all in the name of civilization and progress.

Today many rivers and waterways have been blocked and dammed up for the sake of industry and development. In many ways we are much too "civilized," and for that, the land, the waters and our animal relatives pay the highest price. The sight, the sound, the murmur, and lullaby made by *Nahmay* may never be heard by us, or our grandchildren.

But hope is alive and well. When people show care for the water, through tobacco offerings and prayers, we help to strengthen the spirit of the water and the creatures that live there, including *Nahmay*, the beautiful sturgeon. Hope is alive!

*Miigwech (thanks) to Eddie Benton-Banai for allowing the use of this story. The above story is copyrighted, and the story, or segments of it, may not be reproduced without the author's permission. The orthography for Ojibwemowin is different from GLIFWC's preferred orthography that is based on the double-vowel system.*

# Tribal hatcheries release over 44 million fish into both on & off-reservation waters in 2012

Tribe Hatchery/Rearing Component	Walleye		Muskellunge		Yellow Perch	Lake Sturgeon	Whitefish	Brook/Brown Rainbow Trout*	Lake Trout	White Sucker	Lake Herring	Total
	Fry	Fgl.	Fry	Fgl.								
Bad River	2,400,000	391,255			58,800							2,850,055
Grand Portage							150,000	257,500			50,000	457,500
Keweenaw Bay	850,000	10,768						42,299	50,103			953,170
Lac Courte Oreilles	1,320,000	115,117	147,000							2,500,000		4,082,117
Lac du Flambeau	13,350,000	251,046	5,000					16,128		4,000,000		17,622,174
Lac Vieux Desert		1,600										1,600
Leech Lake	10,849,050	40,691					466,649					11,356,390
Menominee	100,000	2,200										102,200
Mole Lake	3,100,000											3,100,000
Red Cliff		3,000						15,398				18,398
Red Lake		10,000				13,500		8,000				31,500
Sault Ste. Marie	2,500,000	1,117,049										3,617,049
St. Croix		95,222										95,222
White Earth		182,642		565		18,731						201,938
<b>TOTALS</b>	<b>34,469,050</b>	<b>2,220,590</b>	<b>152,000</b>	<b>565</b>	<b>58,800</b>	<b>32,231</b>	<b>616,649</b>	<b>339,325</b>	<b>50,103</b>	<b>6,500,000</b>	<b>50,000</b>	<b>44,489,313</b>

\*Total number of one or combination of trout species



# Two powerful leaders in Indian Country walk on

By Sue Erickson  
Staff Writer

Thanks to the vision, insight and perseverance of leaders like Bill Houle, Fond du Lac, and Marge Anderson, Mille Lacs, who fought tenaciously for tribal treaty rights as well as for Indian gaming, Indian Country has moved forward in the last quarter century, but it took the commitment, wisdom and strength of these leaders.

Sadly, these two early warriors have walked on in recent months. We remember their leadership, their goals and accomplishments and say *chi miigwech* that their lives touched ours and their vision brought strength to their communities and Indian Country as a whole.

An acknowledged leader in the battle for the recognition of treaty rights and tribal sovereignty, former Mille Lacs Chief Executive Marge Anderson passed on June 29 from natural causes.

Following the 1991 passing of then Chief Executive Arthur Gahbow, Anderson was appointed to the position of Chief Executive, and then elected in



Marge Anderson.

1992. She served two more subsequent terms as Chief Executive beginning 1996 and 2008 and was the first woman to lead a tribe in Minnesota.

Fluent in the language, Anderson was considered an authority on Ojibwe traditions and culture. Her years of service to the Mille Lacs Band and to Indian Country saw vast changes with the successful establishment of Indian



Bill Houle.

gaming and the affirmation and implementation of the 1837 Treaty rights. She was present and participated in ceremonies prior to the 1998 hearing about the Mille Lacs Band's 1837 Treaty rights before the US Supreme Court of Appeals in Washington, DC.

A strong proponent of tribal self-governance, Anderson was a tireless advocate for tribal rights and social justice

and succeeded in building substantial social programs for the tribe.

Former Fond du Lac Chairman and one of GLIFWC's founders William (Bill) Houle, a veteran who was in the U.S. Navy for six years, serving during the Korean War, walked on Sunday, June 30 at the age of 81.

With a goal to alleviate poverty on the reservation, Houle served his tribe as chairman from 1974 to 1988, ushering in both the era of Indian gaming and the exercise of treaty rights for his tribe. He also served as the Brookston District representative for the band from 1968 to 1974. Deeply involved with the Johnson O'Malley Committee, he pursued improved education opportunities for tribal members.

He represented Fond du Lac on GLIFWC's Board of Commissioners from 1984 to 1987, so was a significant contributor during GLIFWC's formative years.

He also took a lead in the formation of the first off-reservation tribal casino, Fond-du-Luth Casino, Duluth, Minnesota and founded and chaired the National Indian Gaming Association.

## Ganawenim Gimaamaayinaan (Take care of our Mother)



GLIFWC's 2013 poster, entitled *Ganawenim Gimaamaayinaan (Take care of our Mother)*, represents our responsibility to care for the earth, the water and our co-inhabitants on the earth—all species. This responsibility relies on an acknowledgement of our dependence on the gifts of the natural world for life. *Miigwech* to artist Wesley Ballinger for sharing his vision.

Above represents a segment of the 18" x 24" poster, which can be ordered through GLIFWC's website: <http://www.glifwc.org/publications/index.html#Posters>; or write GLIFWC, PO Box 9, Odanah, WI 54861. One poster is available free of charge; additional posters are \$2.50 each plus \$1.25 postage.

## Wiigwaas

(Continued from page 1)

The bark's inner-side is the color of finished buckskin and slightly wet. DeFoe moves in close to examine the sheet.

"I like to look at the backside like this and see the designs it has on it. See this here?" he says running his finger along a myriad of threaded patterns. "A head, a tail. See, look at this. You know what it is? Thunderbird. It's a thunderbird."

The kid cracks a smile and nods as the image registers.

"Some bark like this has eyes. Eyeballs. Lenticels, scientists call them. I just call them eyes," DeFoe explains. "Then the bark grows back. You come back in seven or eight years, then it really has designs on it!"

Before moving on to the next tree, they have the wiigwass sheet flat on

the ground and roll it like a sleeping bag. DeFoe loops binder twine around the rolled bark, installing a pair of half-hitch knots that creates a "handle" for transportation out of woods.

The pair move farther into the woods. Mosquito swarms are fading. They stop for a drink of nibi when DeFoe spots a series of vertical scratches on a mid-size birch.

"There was a bear right here. See that? These bears like birch trees, I see this all the time. They'll come and they'll mark it to show off how tall they are. It's like saying, 'this is my area.'"

DeFoe is walking again, aiming for a cluster of white birch that angle to the forest canopy. Wide-eyed, his young helper already has the ladder and quickly catches up.

"Anybody ever call you Action Jackson?"



DeFoe points out features like "eyes" that appear on the inside of harvested wiigwaas. Botanists call these wiigwaas eyes lenticels; they act as an air-exchange port that allows for the movement of gases between the inner tissues of the tree and open air. Lenticels are more prevalent in wetter soils, or soils with low oxygen content. (Photo by Melissa Rasmussen)



# Native artist works with traditional art forms

## *Ojibwe quillwork and etching predate beads*

By Sue Erickson, Staff Writer

**Lac du Flambeau Reservation, Wis.**—Returning to the traditions, language and artwork that have always belonged to the Lac du Flambeau (LdF) people is a passion for Biskakone, also known as Greg Johnson, an LdF member. Known for his brilliant beadwork and traditional split-toe moccasins constructed from brain-tanned deer hides and velvet, Biskakone's talents have expanded to include birch bark etching and quillwork, an art form that predates European arrival.

"What I do, I don't own; it belongs to the Ojibwe people; it's not mine," he explains. Sitting at a work table cluttered with tools and materials, he deftly scratches a pattern of a bird onto a flattened piece of birch bark using a magoos (awl) in order to demonstrate quill work.

Biskakone only recently began working with quills, having tried it briefly some ten years ago. His interest was renewed by a visiting friend, Frank Young, Potawatomi, who shared with him quill wrapping techniques. While still new to quill work, Biskakone agreed to share some quill work basics, also acknowledging masters of the art like Fond du Lac's Jeff Savage and Cass Lake's Mel Losh whose talents with quills are well known.

So, to begin you must obtain quills, usually retrieved from a road-killed gaag (porcupine). Those quills need to be washed and cleaned. If colors are desired, the quills need to be boiled and dyed. Traditionally, dyes were taken from plants, such as blood root or spruce root, a long process, Biskakone explains, but he uses commercial dyes. Dyed quills can also be purchased. Once dyed and dried, the quills are sorted by size—long ones, short ones, fat ones, skinny ones. Bigger quills are used as space fillers, he says, with the smaller quills used to make finer designs.

To quill on birch bark, you also need bark—summer birch bark, generally harvested June through August, when it pops easily from the tree.

While many quill baskets are tiny, Biskakone chose to use a Flambeau-style berry basket for his quillwork, so needed a larger piece of bark. Next, the design must be etched into the bark using the magoos. Small holes are punctured, vertically



*Ojibwe artist Biskakone Johnson with a pair of his pointed toe moccasins. A man for all seasons, Biskakone follows the traditional Ojibwe harvest seasons, making use of the many gifts from nature throughout the year. His artwork stems from the life of a hunter-gatherer. (Photo submitted)*

## Off-reservation gathering

Through an agreement between participating GLIFWC member bands (Bad River, Bay Mills, Keweenaw Bay, Lac du Flambeau, Lac Vieux Desert, Mille Lacs, Red Cliff, and Sokaogon/Mole Lake) and the Eastern Region of the U.S. Forest Service, members of the participating Bands exercising their treaty rights may gather non-timber forest products from the Chequamegon-Nicolet, Ottawa, Hiawatha, and Huron-Manistee National Forests as well as the following state properties in Wisconsin:

- Big Bay State Park
- Brule River State Forest
- Copper Falls State Park
- Crex Meadow Wildlife Area
- Eddy Creek Fishery Area
- Flambeau River State Forest
- Governor Knowles State Forest
- Northern Highlands—American Legion State Forest
- Powell Marsh Wildlife Area
- Willow Flowage Scenic Waters

For off-reservation gathering you must:

1. Be a member of a band that has ratified the Tribal/USFS MOU Agreement
2. Obtain a tribal gathering permit through your tribal registration station or GLIFWC.

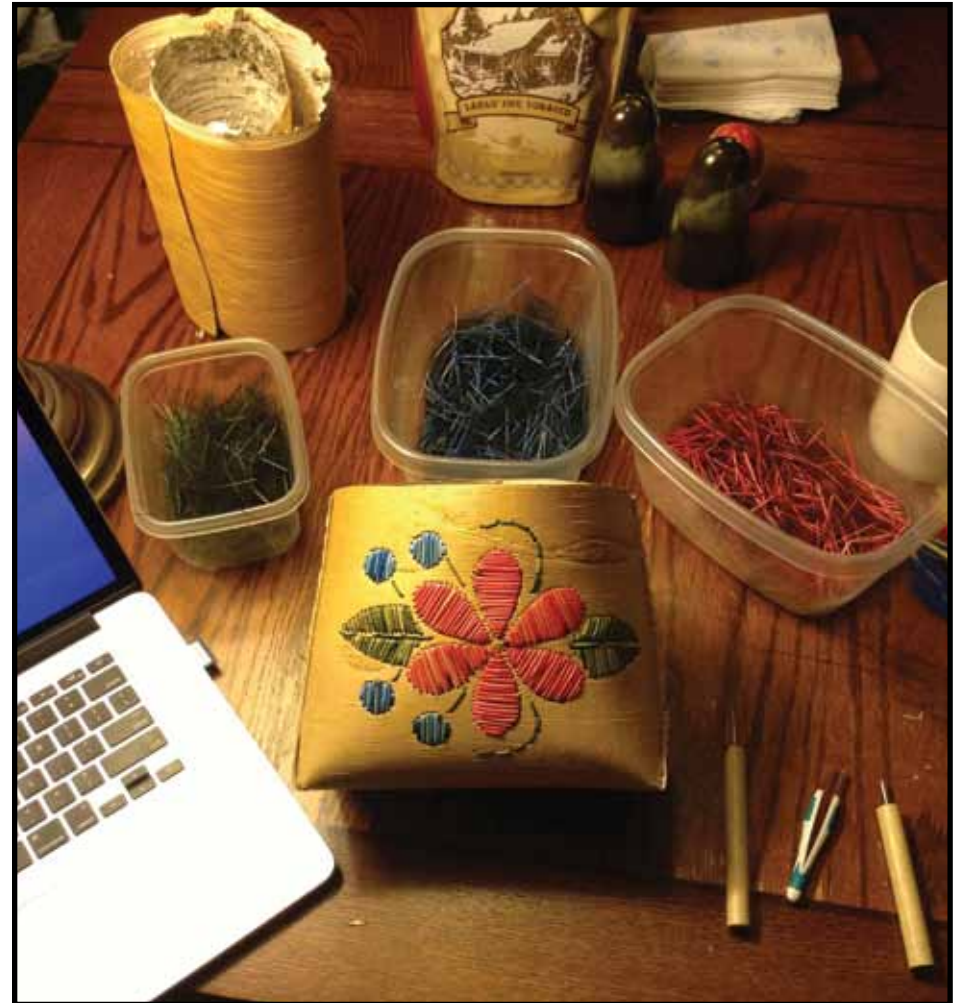
opposite each other on the etched design. The quills are flattened, then inserted into the holes and pulled flat until the entire design is filled.

The basket is then lined often with another piece of birch bark pressed firmly against the backside of the decorated front, holding the quills securely in place. For his part, Biskakone decided to line his baskets with a nice calico fabric.

Much of what Biskakone creates relies on traditional harvesting skills including hunting and gathering, knowledge of the plants and animals and when and how to use what they offer. It is with great respect and thanksgiving that he harvests what he needs, be it a deer for the hide and meat or gifts from the plants. Much of this knowledge he shares with youth as the Language and Cultural Arts Instructor at the Lac du Flambeau Public School.

Biskakone's next big project is constructing his own wiigwaasi-jiimaan (birch bark canoe). Finding a large enough tree was a challenge in itself. He already harvested a large piece of thicker winter bark for the project and has prepared a template on a working bench in his basement. Anxious to get started on the project, he envisions a finished jiimaan replete with beautiful vine-like etchings from bow to stern. "This is going to be my canoe. It won't be for sale. This one will be mine," he says.

Visit Biskakone Greg Johnson on Facebook or [www.biskakone.com](http://www.biskakone.com).



*One of Biskakone's birch bark baskets with quillwork in process. Biskakone follows Lac du Flambeau traditions, using a berry basket pattern familiar to the tribe rather than a small round basket often seen decorated with quills. (Photo by Biskakone)*



*A favorite form of art for Biskakone is etching birch bark, an art he also shares at the Lac du Flambeau Public School where he teaches Ojibwe art and culture. (Photo by Biskakone)*



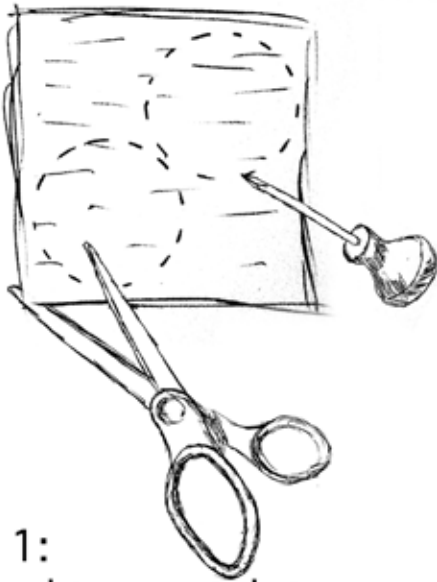


THE 10 STEP  
**WASWAAGANING GAAWAYAG**  
**NAABIKAWAAGAN**  
 (LAC DU FLAMBEAU QUILLED NECKLACE) BY BISKAKONE

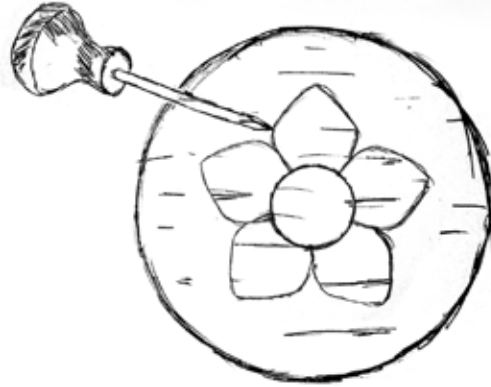
**Materials you will need:**



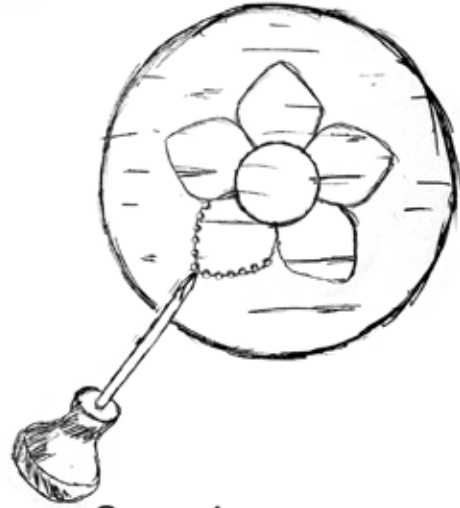
- Awl
- Scissors
- Birchbark
- Porcupine Quills
- Tweezers
- Darning Needle
- Sinew
- Beads
- Leather
- Bells



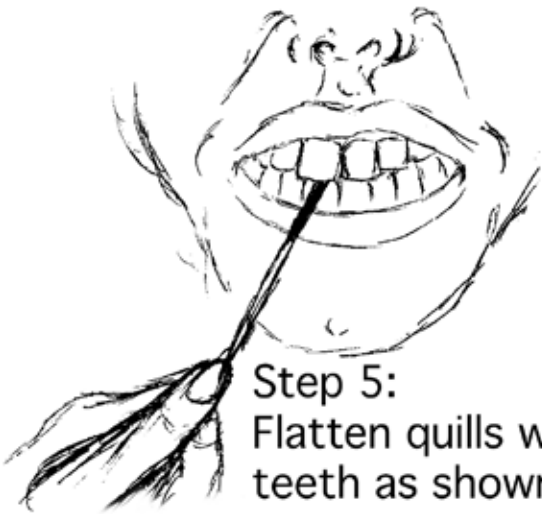
Step 1:  
Use awl to scratch two 5" circles. Cut them out.



Step 2:  
Take one piece brown side out and etch Ojibwe flower with awl.



Step 4:  
Use awl and pierce holes for quills.



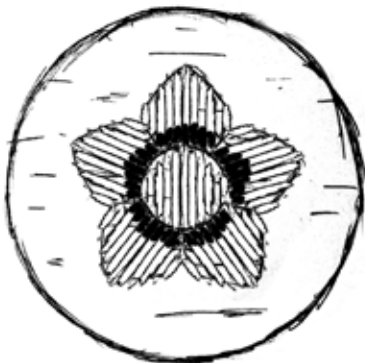
Step 5:  
Flatten quills with teeth as shown.



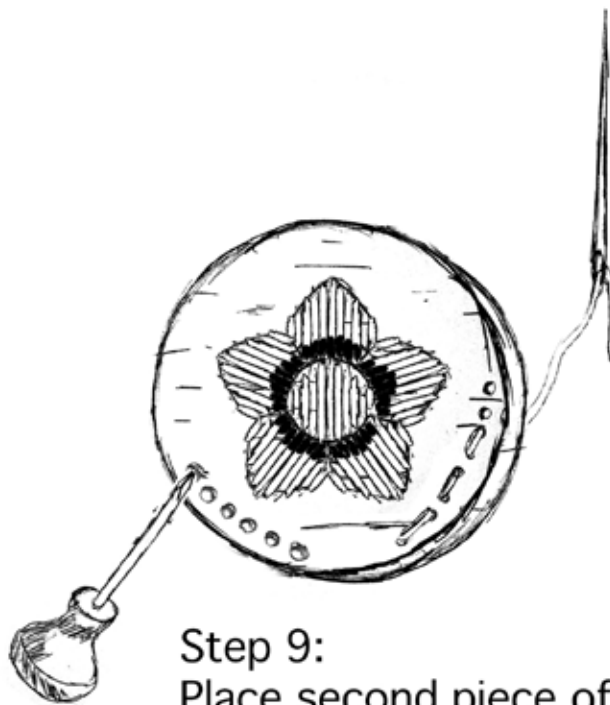
Step 6:  
Put quill through holes and use tweezers to pull.



Step 7:  
Make sure to use quills that are the same width to avoid spacing.



Step 8:  
Lay out each pedal Until it looks similar to above illustration.



Step 9:  
Place second piece of bark to the back of quilled piece. Use awl to make holes and sew with sinew as shown.

Step 10:  
Attach leather neck strap and beads to decorate your neck piece!



# Mining in the ceded territory: An update

By GLIFWC Staff

**Odanah, Wis.**—Outside the controversy in Iron County over the LCO Harvest Camp, few changes have actually taken place on the mining scene in the ceded territories since our spring edition. Nevertheless, *Mazina'igan* provides a brief update on the status of several key mining operations which GLIFWC continues to monitor due to their potential to impact Ojibwe treaty rights and harvest opportunities.

## Minnesota

**Polymet Mine:** The preliminary draft Supplemental Environmental Impact Statement (EIS) for the proposed Polymet project has been reviewed by the lead and cooperating agencies, including tribes and GLIFWC, involved in the project. This is the second draft EIS for this project—the first was rejected by the EPA using many of the critiques also made by tribal cooperators. The draft EIS is likely to be released for public comment in August or September.

GLIFWC and tribal staff spent a great deal of time reviewing the preliminary draft EIS and working with the lead agencies (Minnesota DNR, the Army Corps and the Forest Service) to ensure that when the draft EIS is released to the public, it appropriately includes tribal perspectives and conclusions where they differ from those of the lead agencies.

## Wisconsin

**Penokee Iron Mine:** Gogebic Taconite (GTac) submitted an application for an exploration license on May 16, and it was issued on May 30 by the Wisconsin Department of Natural Resources (DNR). The company had applied to drill 13 exploratory boreholes but withdrew and resubmitted its application, revising its proposal to eight holes after a site visit showed that one of the access roads was exceedingly wet and would require significant work (and permits) to upgrade. On June 18, GTac applied for bulk sampling permits and filed its notice of intent to file an application for a mining permit. The DNR and Army Corps of Engineers (ACoE) have responded to the company's bulk sampling application with letters describing information they need to determine what additional permits may be required.

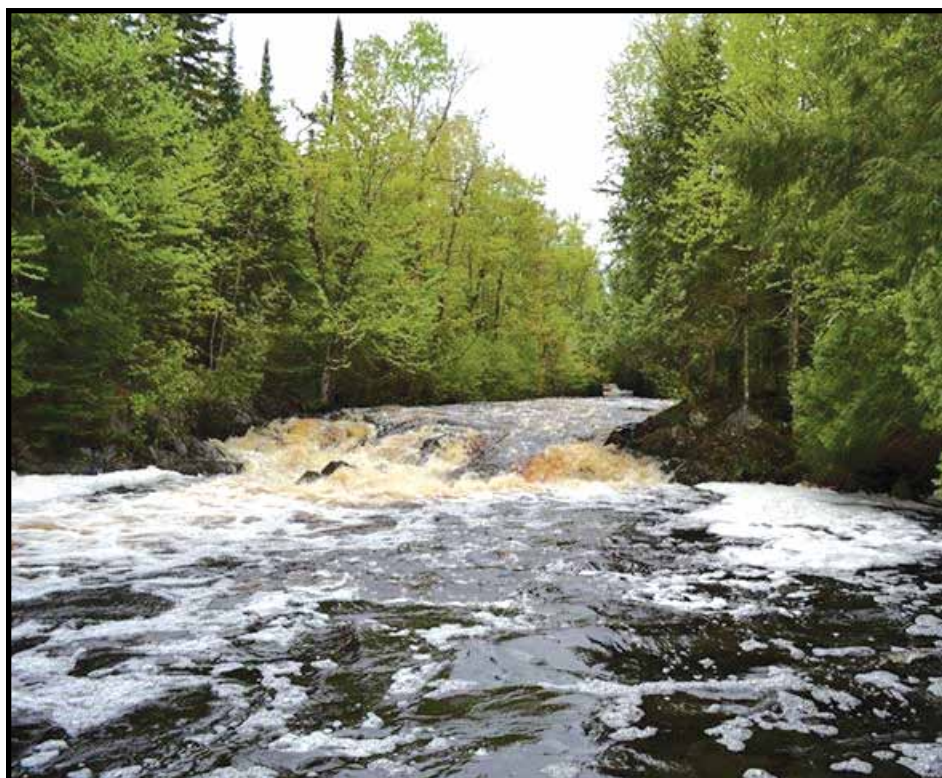
GLIFWC staff have been actively communicating issues and concerns to the Wisconsin DNR and the (ACoE) about the exploration and bulk sampling proposals.

## Michigan

**Eagle Mine:** Kennecott Minerals has finalized the sale of the Eagle Mine and Humboldt Mill to Lundin Mining, a Toronto based company. Construction of surface facilities continues, but production was delayed in May due to falling mineral prices. GLIFWC continues to conduct water quantity and water quality monitoring near the mine site.

**Orvana/Copperwood:** Orvana Minerals Copperwood project near Wakefield has received state permits related to the filling of streams and wetlands on the site in addition to a state mining permit and a water discharge permit. According to the company's website "[b]ased on current assumptions, the Company targets production start up around 2014." The main outstanding issues appear to be related to finding a source of mine process water and obtaining a dam permit for the tailings basin.

GLIFWC staff have submitted extensive comments on various permit applications and coordinated with Lac Vieux Desert and other interested tribes.



Historically, the Ojibwe used walking trails along the Tyler Forks River in the Penokee Hills. Typically, these trails would connect various traditional harvesting camps in the area. During her stay at the Lac Courte Oreilles Harvest Camp, Felina LaPointe, LCO, has taken up the project of re-establishing some of those historic trails. This is in addition to noting the presence of various natural resources in the area. (Photo by Jennifer Burnett)

# LCO Harvest Camp documents resources in Penokee Hills

By Jennifer Burnett, Outreach Specialist

**Penokee Hills, Wis.**—The Lac Courte Oreilles (LCO) Tribe has established a harvesting camp on Iron County lands near Gogebic Taconite's proposed iron mine site to inventory natural resources, conduct archeological work, and harvest as a way to document alternative uses of the area.

Tucked into the thick Penokee forest, alongside the fast flowing, bubbling Tyler Forks River, the camp is also at an historic Ojibwe village, and the land was a part of the allotments for the Bad River reservation. Camp organizers Mel Gasper and Felina LaPointe, both LCO tribal members, have set out to document all the resources available in the area to demonstrate how important this land is to tribal members who are guaranteed by treaty to have the right to hunt, fish and gather in the ceded territory. Resource documentation may also be useful in establishing baseline conditions of the area, which is important to do before any mining work begins.

Part of the LCO harvest camp is also dedicated to cultivating native food and medicinal plant species found in the area. According to Gasper, one of the squash plants growing is from seeds that are over a hundred years old. The seeds were found in a clay pot that was buried near the camp. Early archeological work has turned up other clay pottery shards. There are indications that there may be burial grounds in the area as well.

LaPointe is also working to re-establish historic walking trails along the Tyler Forks River and others near the camp that were used by the Ojibwe. These trails would have been used to travel between different harvesting areas. One trail leads to a large stand of cedar trees, useful for medicinal purposes, while another may have been used when hunting deer. These trails would have connected other seasonal harvest camps in the area like a sugarbush camp in the spring to a nearby berry patch used in the summer.



*Mishiikenh (wood turtle) is a threatened species in Wisconsin.*

While walking these trails, LaPointe said she encountered species significant to the Ojibwe culture, including a population of mishiikenyag (wood turtles) found nesting near the camp. Mishiikenyag are a threatened species in Wisconsin. They prefer clean rivers and streams with a moderate to fast flow that are close to wetlands and deciduous forests, making the Bad River watershed an ideal habitat. However, mining impacts such as water drawdown and filling in of wetlands with tailings would likely have a negative impact on this species' environment.

While the right of the camp to exist as it has on Iron County lands has been a source of contention for some, issues relating to proper permits are being worked out between the County and Tribe at this time.

While summer months are great for camping, fall and winter conditions may present more challenging conditions. Asked if they intend to stay the winter, LaPointe says, "Yes. We plan to do some trapping here this winter." The camp is open to the public and anyone is free to visit. Directions and additional information can be found at <http://www.lco-nsn.gov/mining.php> or contact Paul DeMain at (715) 634-5226 ext. 1. Donations of non-perishable items can be made at the LCO Trading Post and the Penokee Hills Education Project Office in Ashland.

## Bad River setting up camp in Penokees

The Bad River Tribe is preparing a campsite in the Penokee Hills at a location south of the LCO Harvest Camp and closer to Lake Caroline. Set on Nature Conservancy land, the camp will serve multiple purposes for tribal members.

"It will provide a place for elders and tribal members to be closer to the land and water, and a place to hold ceremonies if they want," says Bad River Tribal Chairman Mike Wiggins, who is mindful of the sanctity of the water and the land and the need to protect them both. Similar to LCO's camp, Bad River's camp will offer opportunities for harvest along with use for spiritual purposes.

Organizers anticipate having the camp up and running around mid-August and are arranging for construction of teepees as well as for sanitary facilities at the site.



*Felina LaPointe. (Photo by SE)*

# Elders share Anishinaabe stories in new book/CD set

## New language resource now available at GLIFWC

By Jim St. Arnold, GLIFWC Program Specialist

Odanah, Wis.—Hot off the GLIFWC press, the bilingual *Dibaajimowinan: Anishinaabe Stories of Culture and Respect*, provides another valuable language resource for Ojibwemowin learners as well as interesting stories from Ojibwe elders translated into English.

Appropriately, the first copies were presented to elder advisory group, whose involvement was at the heart of this publication, as well as to the GLIFWC Board of Commissioners at their concurrent July meetings.

Funded through a grant from the Administration for Native Americans, ACF, US Dept. of Health and Human Services, the book and CD set, *Dibaajimowinan: Anishinaabe Stories of Culture and Respect*, is a collection of 14 recorded speakers and includes teachings and stories from eastern, western, northern, and southern Anishinaabe territory.

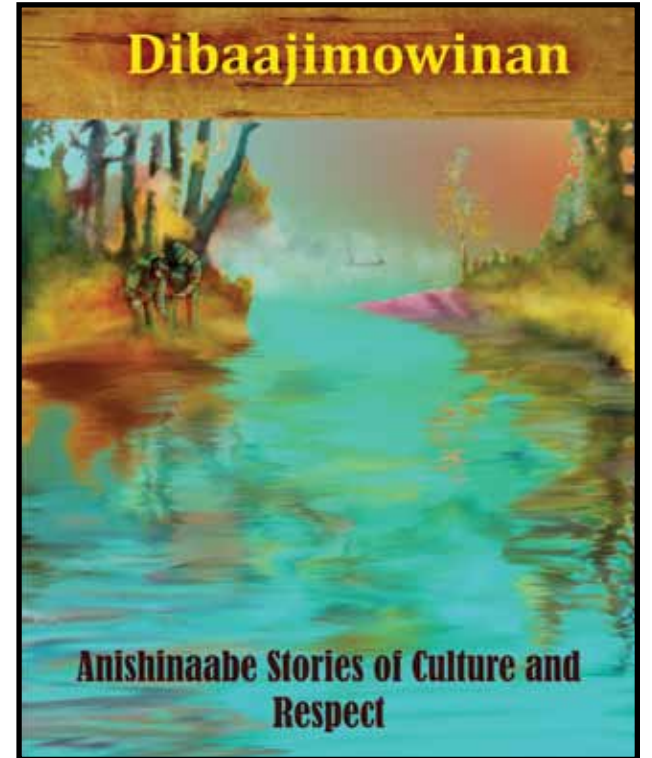
Project staff spent two and a half years recording speakers and working with them to transcribe and translate the stories. The final product is a collection of 34 stories in a book and an accompanying MP3 for-

matted CD with over six hours of the stories recorded in Anishinaabe.

The *Dibaajimowinan* book is bilingual. The stories are in Anishinaabe and have an English translation. However, for the language student, each paragraph in the story is numbered to match the corresponding paragraph in the translation. The book also includes a word glossary and content questions in Anishnaabemowin (Anishinaabe language) for each story that can be used in the classroom.

“It is a good comparison of different teachings the elders have,” said Amik (Larry Smallwood) from Mille Lacs. “With the stories from the parents and grandparents of some of the speakers, there must be about 150 years of teachings in the book.”

Copies of the *Dibaajimowinan: Anishinaabe Stories of Culture and Respect* book and CD are being given to each of the 11 member GLIFWC tribes for their language programs, schools, and tribal colleges. The book and CD set will also be available through the GLIFWC Public Information Office in early September. The cost of the book and CD set, \$12.00 (plus \$2.25 postage), will help pay for future printings. For online purchase of GLIFWC’s resources go to [www.glifwc.org/publications/index.html](http://www.glifwc.org/publications/index.html).



# Mino Wiisinidaa! begins cooking demonstrations with tribes

## Teaching tribal members about the health benefits of traditional foods

By LaTisha Coffin, ANA SEDS Project Coordinator

Odanah, Wis.—The “Mino Wiisinidaa! (Let’s Eat Good)—Traditional Foods for Healthy Living” project staff harvested food and cooked with six member tribes all spring long. The tribes included Bad River, Red Cliff, Fond du Lac, Mille Lacs, St. Croix, and Lac Courte Oreilles. The project staff hosted 12 cooking demonstrations with these tribes and also hosted five additional cooking demonstrations with project partners.

The cooking demonstrations were presented to a wide variety of tribal programs. For example, one cooking demonstration was hosted at the Red Cliff Early Childhood Center where the Project Coordinator, LaTisha Coffin, and Community Dietitian, Owen Holly Maroney, were able to work with young tribal members to make some project recipes. One recipe, the wild rice and berry salad, allowed the kids to add their choice of fresh fruit to their salad, making it their own special variety. The favorite combination was bananas, green apples, and raisins. In addition to cooking demonstrations, the project staff has been out harvesting wild greens, such as wild onions (ramps), bracken fiddlehead ferns, ostrich fiddlehead

ferns, wintergreen leaves, cowslips, milkweed, and watercress. After harvesting, the project staff preserved the spring greens for future cooking demonstrations and are looking forward to the rest of the summer harvest of sumac berries, juneberries, and wintergreen berries as well as to the fall harvest.

Wondering about the cookbook? The “Mino Wiisinidaa!” cookbook will be released in the fall of 2014, which will include 86 collected recipes with an instructional DVD. 3,000 copies will be distributed to member tribes and project partners and then will be available for purchase through GLIFWC’s Public Information Office.

Starting in October 2013, the project staff will begin cooking demonstrations with Sokaogon/Mole Lake, Lac du Flambeau, Lac Vieux Desert, Keweenaw Bay, and Bay Mills. Each community will host at least three cooking demonstrations throughout the winter. Look for upcoming “Mino Wiisinidaa!” cooking demonstrations in your community!

For information about cooking demonstrations in your area, contact LaTisha Coffin, ANA SEDS Project Coordinator, at [lmcroy@glifwc.org](mailto:lmcroy@glifwc.org) or at (715) 682-6619 ext. 2127. To donate a traditional food recipe or for questions about nutritional information, contact Owen Maroney, Community Dietitian, at [ohmaroney@glifwc.org](mailto:ohmaroney@glifwc.org) or at (715) 682-6619 ext. 2147.

The “Mino Wiisinidaa! (Let’s Eat Good!)—Traditional Foods for Healthy Living” project is funded by the Administration for Native Americans (ANA), ACF, and HHS.



The “Mino Wiisinidaa! (Let’s Eat Good!)—Traditional Foods for Healthy Living” project staff completed cooking sessions with six GLIFWC member tribes. Above, LaTisha Coffin, ANA SEDS project coordinator is pictured with Ayrianna Gokee, Red Cliff, during a demonstration held at the Red Cliff Early Childhood Center. ANA staff worked with young tribal members to make project recipes, including the wild rice and berry salad where kids were able to add their favorite fruit. Ayrianna attended the event with her grandmother, Carol Gokee. (Photo by Owen Maroney)



GLIFWC Anishinaabemowin language staff delivered a progress report to Megan Kauffmann (center), Administration for Native Americans, during a June 18 meeting in Odanah. Kauffmann, an ANA impact evaluator, reviewed the growth of GLIFWC’s ANA language project, which preserves stories in Ojibwemowin about traditional Ojibwe practices. Pictured from left: Language interns Michelle DeFoe and Leora Lancaster, Kauffmann, along with GLIFWC project leaders Jim St. Arnold and Wesley Ballinger. (Photo By Charlie Otto Rasmussen)

# Tribes battle invasives on land & water

## GLIFWC targets education, control and cooperation to manage invasive species

By Sue Erickson, Staff Writer

**Odanah, Wis.**—The degradation of native plant communities and wildlife habitat by invasive species is a growing problem. GLIFWC has developed an effective invasive species program that incorporates education, inventory, control, and cooperation to manage invasive species. Educational efforts inform the public about the threats posed by invasive species and the simple steps needed to limit their spread and prevent new introductions. GLIFWC provides information on life histories, identification, impacts, and control options for several species of special concern via its website at: <http://invasives.glifwc.org/>.

Regular inventories for both aquatic and terrestrial invasive species provide data for planning and prioritizing management activities. Integrated pest management stresses invasive plants using multiple methods to increase the likelihood of successful control. GLIFWC crews use chemical and biological controls alone and in combination to achieve effective control of purple loosestrife, an invasive plant that threatens wetland habitats throughout the ceded territories.

Because invasive species do not recognize land ownership boundaries and the challenges of invasive species management are too great for any one agency to manage alone, coordination with cooperating state, federal and tribal land managers as well as non-governmental organizations and private landowners is essential to achieve successful management. GLIFWC participates in several cooperative efforts to reduce the impacts of invasive species. The Northwoods Cooperative Weed Management Area (NCWMA) was established to help facilitate cooperation and coordination of regional management activities. Participants in the NCWMA include GLIFWC and several state, federal, tribal, and private landowners in the region.

Pooling resources and working together across jurisdictional boundaries is more efficient and effective for controlling invasive species. GLIFWC helps facilitate inter-agency coordination by compiling and sharing regional invasive species data via its website at: <http://maps.glifwc.org/>.



GLIFWC performs annual surveys of ceded territory lakes, checking for the presence of aquatic invasive species, such as zebra mussels, spiny waterfleas, and Eurasian water milfoil. When sampling, the location is marked by GPS and noted. Later samples are shipped to a laboratory for identification of invasive species in the sample. Above Sam Quagon, a member of GLIFWC's aquatic invasive species crew, prepares to drop a veliger net, checking for the presence of zebra mussel veligers. (Photo by Dara Olson)



After ice-out a fyke net was set in the Little Carp River near Baraga, Michigan with the opening facing upstream to capture larval and transformed sea lampreys as they drifted down the river to Lake Superior. About 1,200 sea lampreys were captured in 2012. (Photo M. Mattes)

## GLIFWC partners on sea lamprey control

By Bill Mattes, GLIFWC Great Lakes Section Leader

The battle against the invasive sea lamprey in Lake Superior takes place annually in streams from Skanee, Michigan to Amnicon Falls, Wisconsin. GLIFWC's Great Lakes Section in partnership with the US Fish and Wildlife Service, Bad River Natural Resources Department and the Keweenaw Bay Natural Resources Department assesses seven streams in an effort to control the evasive sea lampreys.

Sea lampreys begin their life cycle in a clear, clean stream, each as one of thousands of eggs laid into gravel nests on the stream bottom. Here little lampreys- or larvae-hatch, drift to backwater areas in the stream and burrow into the stream bottom. Larvae harmlessly filter water for food and grow. Once the larvae grow to half a foot long or so they 'transform' from a harmless filter feeder into a parasite with a rasping tongue surrounded by rows of sharp teeth (see photo to the right). The parasitic sea lampreys can only feed on fish—and that is a problem!

Parasitic sea lampreys grow from six inches to nearly two feet long, or four times their original size, in eighteen months. In this time they kill nearly forty pounds of fish by attaching to them and sucking out their body fluids—a true vampire of the fish world. In the productive Atlantic Ocean, their original home, their effect is minimal, but in the less productive waters of Lake Superior their effect can be devastating if they are left uncontrolled.

That is where the partnership, coordinated through the Great Lakes Fishery Commission (GLFC), comes into play. The most effective control comes in the form of a chemical lampricide which is applied to streams by the GLFC control agents to kill larval sea lampreys. However, lampricide is not 100% effective, so additional control strategies are being examined. These include downstream trapping where sea lampreys are captured as they transform and drift down the stream to Lake Superior (see upper photo); nest destruction where sea lampreys are physically removed from their nests, and the nests are destroyed; and adult removal where sea lampreys are removed as they migrate back up the streams to spawn.

In addition to removing adult sea lampreys, some are marked and released for a mark-recapture population estimate. This estimate is used as a measure of the effectiveness of the control program and the damage to the fishery that can be attributed to sea lampreys. If the control program is effective, the numbers of adult sea lamprey should remain below 56,000; during the past five years the average number of adult spawning sea lampreys was 43,400.



The mouth of a parasitic sea lamprey has a rasping tongue surrounded by rows of teeth which are used to attach to a fish and gouge a hole through its flesh so that the parasite can feed on the fish's body fluids. (Photo B. Mattes)

Additional information on invasive species can be found at <http://invasives.glifwc.org/>.

## Kakagon Sloughs undergoing makeover for manoomin

By Charlie Otto Rasmussen, Staff Writer

The back-and-forth, mechanical roar rumbling deep within the Kakagon Sloughs this past summer may be a harbinger of better manoomin seasons to come. Putting out reverberations worthy of an air show, a pair of Fond du Lac Band airboats made three trips to the Sloughs, mowing aquatic vegetation that has commandeered once-productive wild rice sites.

"After hearing concerns from community members about wild rice being out competed by other plants, we decided to try to control these competitor species in areas where wild rice stem density is low and these other species are abundant," said Jessica Soine, Bad River Natural Resource Department (NRD).

With assistance from Fond du Lac (FdL) natural resources technicians, Bad River NRD is experimenting with both hand-treating aquatic plants and utilizing airboats equipped with cutting blades to make room for manoomin. For narrow leaf cattails, Bad River crews either manually sheared off the stems or pulled entire plants from the muck bottom. In larger areas—about 25 acres in all—airboat mowers buzzed pickerel weed (also called moose ear) and arrowhead just below the waterline. The management techniques are designed to prevent the nuisance, perennial plants from producing seed and to promote winter die-off.

While the results won't be visible until next June, Reggie DeFoe expects good things from the work—particularly the short term effectiveness of airboat mowing.

"If you don't do anything in these areas, moose ear will end up replacing all the wild rice," said DeFoe, FdL Director of Natural Resources. "Airboat cutting gives you two-to-seven years; the rice recovers, and then you consider making another cut."

With FdL's own manoomin waters being choked-out by moose ear in the early 2000s, tribal staff tinkered with aquatic mowing devices and developed a multi-shear cutting bar. DeFoe said the pairing of airboats and blades has helped the tribe maintain 800-1000 acres of good manoomin habitat on the eastern Minnesota reservation. In a cooperative project in the Superior National Forest, FdL boats have also been deployed to the ancient manoomin grounds of Big Rice Lake.

### Tribal waters in flux

DeFoe said tribal biologists suspect that moose ear, although native to the watershed, is a newcomer to the three Fond du Lac reservation lakes that experienced the stark manoomin decline around the turn of the century. In the Kakagon Sloughs—part of the largest undeveloped coastal wetland in the upper Great Lakes—water level change is emerging as the leading culprit for waning wild rice densities. (See Tribal waters in flux, page 19)

## Once here, invasive plants tend to stay

By Charlie Otto Rasmussen, Staff Writer

With fifteen years invested into a seemingly infinite fight to repel the northwoods exotic plant invasion, Miles Falck has one thing to say: prevention.

The GLIFWC wildlife biologist is a prime mover in tribal efforts to locate, map and destroy invasive plant species that harm important natural resources in the ceded territory. Once invasive plants gain a foothold and begin to successfully broadcast seed, the campaign shifts to the sobering work of containment.



Northwoods Cooperative Weed Management Area Intern Sarah Moodie works through a garlic mustard patch near the upper Bad River. (COR)

"You have to set priorities. We're at a point where everything can't be treated," said Falck, who coordinates data sharing with state, federal and local natural resources organizations to manage invasive plants.

Near Copper Falls State Park along the upper Bad River, interagency staff and volunteers recently returned to a priority area for garlic mustard control. In the lush green floodplain forest, small white flowers betrayed the location of the European invader. Armed with gloves and trash bags, the group scattered up and down the river, hand-pulling garlic mustard plants, roots and all.

While still conspicuous, fewer plants were visible in 2013 following years of physical removal and select herbicide applications. The work makes room for na-



Hand-pulling is a very effective means of dealing with garlic mustard as long as the root is pulled out. The plant is capable of resprouting if the stem breaks off and the root remains in the ground. (COR)

Wild rice seed that falls from the stalk and into the substrate can remain viable for many years. Following aquatic mowing operations to remove nuisance vegetation, some areas receive supplemental doses of green rice, but oftentimes the existing seedbed is rich enough to reestablish a manoomin stand.



A Fond du Lac Natural Resources airboat makes a pass through aquatic vegetation in Bad River's Kakagon Sloughs. This section of extensive Gichigami coastal marsh is dominated by moose ear, arrowhead and scattered manoomin plants. Funding for the cooperative program to restore wild rice stands comes from the Great Lakes Restoration Initiative and an appropriation from the Bad River Tribal Council. Inset: A series of blades mounted to the back of an airboat mows aquatic plants just under the waterline. (Photo by COR) (Inset photo by Fond du Lac Natural Resource Department)

tive species important to tribes like ostrich fern (gichi-aniibiish), the best source for fiddleheads used in soups and other dishes. Black ash (wiisgaak) saplings also benefit, and their expansive root systems help reduce flooding; tribal members draw-out long splints of wood from mature ash trees for basketmaking. Left unchecked, Falck said that garlic mustard and other aggressive plants from Europe and Asia can choke out all other plants on the forest floor.

In some cases, GLIFWC and other resource managers in the upper Midwest enlist help from the natural world to control exotic plants. Known as biological controls, natural enemies approved by the US Department of Agriculture are introduced into the environment to reduce the abundance of nuisance vegetation. For the European wetland plant purple loosestrife—once a popular addition to flower gardens—a leaf-eating beetle has served biologists well.

"GLIFWC has an integrated approach to controlling purple loosestrife," said Falck. "In small, low density areas we dig up plants or use a herbicide. Beetles are released into larger loosestrife colonies and do a nice job."

Falck said invasive species management requires a tremendous amount of work and can be a drain on financial resources as more-and-more exotic plants appear on the landscape each year.

"Preventing new introductions is so important in the long run. It's about education. Go into the outdoors with clean gear and equipment; don't move mud that might contain invasive seeds, Falck said. "The more people learn about invasive species, the better chance we'll have minimizing negative environmental impacts." Contact Falck @ 715.685.2124 for more information.



# Tiny insect causes huge problems for fir trees

By Steve Garske, ANA Forest Pest Env. Grant Coordinator

Sometime in the late 1800s tiny insects arrived on the east coast of North America. The bugs almost certainly hitched a ride on nursery stock from Europe. No one seemed to notice them until 1908, when specimens in Brunswick, Maine were identified by a scientist as the balsam woolly adelgid. In 1931 scientists in Nova Scotia started investigating an abnormality on balsam fir branches call "gout disease." They quickly realized this insect was the cause, and that it was becoming a big problem for the area's balsam fir. By then the balsam woolly adelgid had already spread across most of New Hampshire, Vermont, Maine, Nova Scotia and Prince Edward Island, and into parts of Massachusetts, New York and New Brunswick as well.



**Mature balsam woolly adelgids.** The adults excrete a white cottony wax that protects their bodies and their eggs. (Photo by Robert L. Anderson, USDA Forest Service, Bugwood.org)

Around 1955 the balsam woolly adelgid (BWA) reached the isolated, high-elevation Fraser fir stands of the Appalachian Mountains. Along with red spruce, Fraser fir (a close relative of balsam fir) was a dominant tree on these mountaintops. Fraser fir has little resistance to the BWA. The insect spread rapidly, carried by the wind as well as by people moving firewood, logs, boughs, nursery plants and Christmas trees. Over 90% of the mature Fraser fir trees in these stands have now been wiped out. The BWA has also hitched a ride on nursery stock shipped to the Pacific Northwest. Some western fir species like noble fir are fairly resistant to BWA infestation, but others such as sub-alpine fir are highly susceptible.



**BWA distribution in the US.** The BWA is also established in southeastern Canada. (Produced with the USFS Alien Pest Explorer: <http://foresthealth.fs.usda.gov/portal/Flex/APE>)



**Dead stand of mature Fraser fir in North Carolina.** Seedlings and saplings are more resistant to the BWA and continue to grow for the time being. (Photo by G.L. Lenhard, Louisiana State University, Bugwood.org)

Adelgids are similar to the familiar aphids, or "plant lice." Both adelgids and aphids have piercing mouthparts that are sort of shaped like a straw, which they use to siphon plant juice. There are only about 50 species of adelgids in the world, all found in the northern hemisphere. Adelgids have complicated life cycles, and change forms as they mature. While aphids feed on sugars in the plant's sap, adelgids feed on starch stored in the plant's cells. Aphids secrete excess sugar as "honeydew," while adelgids secrete a waxy substance that covers their bodies and makes them look like specks of white fuzz.

Like most other aphid relatives, the life cycle of the BWA is complicated. To start with, only female BWAs occur in North America. These females are parthenogenic, meaning they can lay fertile eggs without mating. A stage called a crawler hatches from the eggs. These crawlers are the size of pepper dots. Most crawlers stay close to home, but a relative handful may hitch a ride on a bird's foot or a squirrel's fir, or are passively blown on the wind. The crawlers soon begin feeding and transform into a flat resting stage, where they will remain the rest of their lives. The BWA usually has two generations in the north, and up to four in the southern part of its range.

The BWA often attacks the canopy of the tree. As it feeds, it injects a hormone that causes the twigs to become swollen at the branch nodes and below the buds, and the ends of the branches to become stunted. If the tree survives for several years the terminal stem begins to grow at an angle instead of straight up, giving the tree a "fiddlehead" appearance. The top dies back, allowing fungi to invade the tree. The tree's needles start to turn yellow and fall off. Cone and seed production is greatly reduced. The tree declines and eventually dies. Young fir trees make a chemical called juvabione that gives them some resistance to the BWA, but as they mature they make less of this chemical, leaving them open to attack.



**A BWA crawler before accumulation of white waxy material.** This insect is less than 1/32 inch long. (Ashville Archive, USDA Forest Service, Bugwood.org)



**Damage to Fraser fir needles.** (Photo by Great Smoky Mountains National Park Archive, NPS, Bugwood.org)



**Swelling ("gouting") and needle loss caused by the BWA.** (Photo by David McComb, USDA Forest Service, Bugwood.org)

Fir trees are also susceptible to "stem attack," where the trunk becomes heavily infested with BWA. Populations of BWA can reach 100-200 per square inch of bark. Stem feeding causes the tree to produce dense, brittle wood. This wood is not as good at transporting water to the canopy of the tree. It is also much less valuable for lumber and pulp. In the southern Appalachians, trees that are heavily stem-attacked often die within a few years. In the northeast, stem-attacked trees usually die more slowly, with some persisting for 10 years or more.

The BWA's spread and impact is limited by cold in the north. A study in Nova Scotia found that in areas with average January temperatures of 12° F and below, damage to balsam fir was relatively minor. Another study found that temperatures of -30° F or lower for 24 hours killed all the BWAs above the snow line. These conditions roughly correspond to USDA Zone 4a, which includes the western and central Upper Peninsula of Michigan, the northern third of Wisconsin, and the northern half of Minnesota. The warming climate will likely move all these regions except perhaps northeast Minnesota into zone 4b within a decade or two, though. The rest of the Great Lakes region is classified as zone 4b or warmer, and would already be susceptible to BWA damage if the insect arrives.

Three beetle and three fly species from the BWA's native range have so far been introduced to combat the BWA. Unfortunately these biocontrol insects (See Valued balsam boughs, page 19)



**Stem attack on Fraser fir.** Heavy stem infestations often kill the tree. (William M. Ciesla, Forest Health Mgmt. Intl., Bugwood.org)



# Spring spearing & netting round-up

By Sue Erickson, Staff writer

**Odanah, Wis.**—The will was there, but the way was rugged this spring for treaty spearkers and netters seeking to replenish the family's stock of walleye. Plagued largely by a late ice-out and a cold, soggy spring, tribal fishermen made the best of what Mother Nature handed them in the ceded territory lakes of Minnesota, Wisconsin and Michigan.

## Mille Lacs harvest

The harvest from Mille Lacs Lake was well below the tribal declaration of 71,250 pounds of walleye, capping off at 15,171 pounds, taken both by spear and net. In fact the spearing harvest proved most productive, taking 11,422 pounds of walleye versus the 3,749 pounds harvested by net. GLIFWC Inland Fisheries Section Leader Joe Dan Rose says that according to preliminary results, the new regulation allowing all sizes of walleye to be speared appears to have shifted some of the harvest away from smaller, younger walleye.

In addition to walleye, the tribes harvested 3,269 pounds of northern pike from Mille Lacs Lake. No members of the Fond du Lac Band or the Mole Lake Band participated in the Mille Lacs spring season which began on April 24.

## Wisconsin spring harvest

While harvest totals were way down in Mille Lacs Lake, tribal spearkers enjoyed a more successful season in Wisconsin, landing a total of 28,395 walleye, slightly less than half of the 59,441 declaration, and 270 muskellunge from ceded territory lakes. While the walleye harvest was below the 2010 record of 34,156 walleye and the 2012 harvest of 32,311 walleye, it still represented a successful, although late, season for tribal members. Spearing did not begin until May 1, about two weeks later than average.

## Michigan spring harvest

In Michigan, beginning on May 5, the Lac Vieux Desert (LVD) members brought 2,471 walleye into their boats with 1,655 of those being Lake Gogebic fish. This fell well below their overall harvest guideline of 10,293 walleye from 54 declared lakes.

According to Roger LaBine, LVD Voigt Intertribal Task Force representative, the extraordinarily late ice-out impacted both the spearing harvest and LVD hatchery's egg collection this spring. Both fell far short of average expectations. LaBine speculates that fish had either begun absorbing their eggs or perhaps dropped them under the ice. Hatchery nets also captured fewer fish and those were largely male. Windy weather conditions also contributed to a difficult season, which due to its lateness merged into the state sport season as well.

# Treaty harvest totals 2012-2013

## Tribal deer harvest in Wisconsin

Tribe	Male (buck)	Female (doe)	Total
Bad River	51	56	107
Fond du Lac	23	29	52
LCO	161	246	407
LDF	115	241	356
LVD	0	0	0
MLS	19	25	44
Mole Lake	79	117	196
Red Cliff	67	71	138
St. Croix	144	145	289

## Tribal bear harvest in Wisconsin

Tribe	Male	Female	Total
Bad River	2	2	4
Fond du Lac	4	1	5
LCO	0	1	1
LDF	3	2	5
LVD	0	0	0
MLS	0	0	0
Mole Lake	1	0	1
Red Cliff	6	11	17
St. Croix	6	6	12

## Tribal deer harvest in 1837 of Minnesota

Tribe	Male	Female	Total
Bad River	0	0	0
Fond du Lac	5	19	24
LCO	0	0	0
LDF	0	0	0
LVD	0	0	0
MLS	38	37	75
Mole Lake	0	0	0
Red Cliff	0	0	0
St. Croix	2	0	2

◆ Tribal bear harvest in 1837 of Minnesota 0

## Michigan tribal harvest (off-reservation)

Species	Total
Elk	3
Deer	269
Bear	3
Turkey	3
Fisher	20
Marten	76
Bobcat	1
Otter	3

## Tribal bobcat harvest in Wisconsin (off-reservation)

Tribe	Male	Female	Total
Bad River	2	2	4
Fond du Lac	0	0	0
LCO	16	16	32
LDF	2	1	3
LVD	0	0	0
MLS	0	0	0
Mole Lake	1	1	2
Red Cliff	27	20	47
St. Croix	0	0	0

◆ Tribal bobcat harvest in 1837 of Minnesota 0

## Tribal otter harvest in Wisconsin (off-reservation)

Tribe	Male	Female	Total
Bad River	24	15	39
Fond du Lac	0	0	0
LCO	20	23	43
LDF	3	2	5
LVD	0	0	0
MLS	0	1	1
Mole Lake	0	1	1
Red Cliff	14	5	19
St. Croix	0	0	0

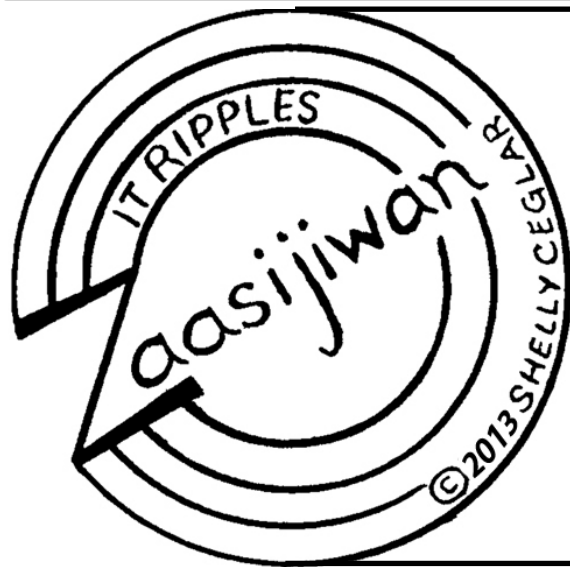
◆ Tribal otter harvest in 1837 of Minnesota 0

## Tribal fisher harvest in Wisconsin

Tribe	Male	Female	Total
Bad River	0	0	0
Fond du Lac	4	3	7
LCO	18	16	34
LDF	2	1	3
LVD	0	0	0
MLS	1	0	1
Mole Lake	2	0	2
Red Cliff	0	0	0
St. Croix	35	34	69

◆ Tribal fisher harvest in 1837 of Minnesota 0





# Dagwaagig—When it is Autumn

Dagwaagig, Manoominike-Giizis gemaa Waatebagaa-Giizis idash Binaakwe-Giizis idash Gashkadino-Giizis ongow giizisoon izhinikaazowag. Dagwaagig, Niwiikiiyosemin. Ninooji'aanaanig, waawaashkeshiwag, binewag, mayagi-binewag, ininishibag, idash nikag. Makwag gaawiin ninooji'aasiinaanig. Makwa indoodem. Niin, nindinawemaag. Ma'iinganag, gaawiin jaaginaasiinaanig. Ganabaj ma'iingan gidoodem. Gidinawemaag. Awesiiyag minwaabamewiziwag. Miigwech!

When it is autumn, Wild Rice-Moon or Bright Leaves-Moon (Sept.) and Combing/Falling Leaves-Moon (Oct.) and Freezing Over-Moon (Nov.) these moons/months they are called. When it is autumn, we will go hunting. We seek out them, deer, partridge, pheasants, mallards and geese. Bear, we do not hunt them. Bear is my clan. Me, I am related to them. Wolves, we do not kill off. Perhaps wolf is your clan. You are related to them. Wild animals, they are admired/respected. Thank you!

**Bezbig—1** OJIBWEMOWIN (Ojibwe Language)

Double vowel system of writing Ojibwemowin.  
 —Long vowels: AA, E, II, OO  
 Waabooz—as in father  
 Miigwech—as in jay  
 Aanjin—as in seen  
 Mooz—as in moon

—Short Vowels: A, I, O  
 Dash—as in about  
 Ingiw—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**  
 Verbs-Animate-Transitive. Action of person(s) transfers to an Living Being(s).  
 Root is a command, then add inflections.

**Zaagi'!**—Love/Treasure him/her!  
**Gizaagi'in.**—I love you.  
**Gizaagi'ininim.**—I love you all.  
**Ninzaagi'aa.**—I love him/her.  
**Ninzaagi'aag.**—I love them.  
**Gizaagi'.**—You love me.  
**Gizaagi'aa.**—You love him/her.  
**Gizaagi'iminaam.**—You love us.  
**Gizaagi'ag.**—You love them.  
**Ninzaagi'ig.**—S/he loves me.

**Niizh—2** Circle the 10 underlined Ojibwe words in the letter maze. (Translations below)

A. VTA Root Verbs: Gaganoozh!—Talk to h/her!—gaganoon—  
 B. Gigaganoonigo dash ningaganoonaanaan endaso-giizhik.  
 C. Gigaganoonigom idash ningaganoonaanaanig wewayiiba.  
 D. Gigaganoonaanaan idash giganooonaanaanig zaaga'iganing.  
 E. Wiiw!—Go/come with him/her!  
Giwiijiwim. Giwiijiwaawaa. Giwiijiwinaam. Giwiijiwaawaag noongom.  
 F. Niwiijiwigog gaye. Giwiijiwigog. Owijiwaawaan. Niwiijiwigonaanig.  
 G. Giwiijiwigonaanig omaa. Giwiijiwigowaag. Owijiwaawaa'. Mii'iw! VTAs!

J G I O  
 Z A D W E O  
 ' G A Y E N X  
 O A S Z A W D I  
 B N H O J N A A I  
 I O M N N A I Y S W  
 N O O N G O M G I O G  
 W Z S O E B I ' O I N A  
 Z H E K B A I A S A B E  
 W I I J I I W O W H O A  
 O M A A M G I I Z H I K

**Niswi—3** IKIDOWIN ODAMINOWIN (word play)

**Down:**  
 1. bear  
 2. geese  
 3. Talk to him/her!  
 4. no  
 7. every

**Across:**  
 5. wolves  
 6. There are bright leaves.  
 8. now  
 9. these (animate)

**Niiwin—4** VTA Inflections cont.-

VTA Root: Waabam!—See him/her!  
**Giwaabamig.**—S/he sees you.  
**Giwaabamigowaa.**—S/he sees you all.  
**Owaabamaan.**—S/he sees him/her.  
**Niwaabamigonaan.**—S/he sees us.  
**Giwaabamigonaan.**—S/he sees us all.  
**Owaabamaa'.**—S/he sees them.  
 Above are more inflections:  
**We->You, You all, S/he & They.**  
**You all->Me, S/he, Us, & Them**  
**They->Me, You, S/he, We,**  
**We all, You all & They.**  
 Grammer-Howah!

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

1. Bimibizoyan ziibing \_\_\_\_\_ waabam \_\_\_\_\_.  
 2. Zaaga'iganing gii-aabitoose \_\_\_\_\_ gii-waabam \_\_\_\_\_.  
 3. \_\_\_\_\_ zaagi' \_\_\_\_\_ idash ozaagi'aa' awesiiyan gaye.  
 4. Megwaayaak gii-andawawinzoyaang \_\_\_\_\_ giiwaabam \_\_\_\_\_ imaa. Gii-mawinzo.  
 5. Dagwaagig Anishinaabe-akiing, \_\_\_\_\_ waabam \_\_\_\_\_, manoominikewaad idash bawishkamowaad.

Nin- ig  
 Nin- -aa  
 Gi- -ag  
 Gi- -iminaam  
 nin- -igonaan

**Translations:**  
**Niizh—2** A. VTA inflection patterns continue. Some VTA root commands end in “zh”. Drop zh when inflecting. I include all VTA possible inflection patterns in this page. B. We talk to you and we talk to him/her every-day. C. We talk to you all (plural) and we talk to them every little while. D. We all (including you) talk to him/her and we all talk to them at the lake. E. You all go with me. You all go with him/her. You all go with us. You all go with them now. F. They go with me also. They go with you. They go with him/her. They go with just us. G. They go with all of us here. They go with you all. They go with them. That's it! VTAs!  
**Niswi—3** Down: 1. Makwa 2. Nikag 3. Gaganoozh 4. Gaawiin 7. Endaso Across: 5. Ma'iinganag 6. Waatebagaa 8. Noongom 9. Ongow  
**Niiwin-4** 1. You see us (gi- -iminaam) when you drive to the river. 2. At the lake when it was Wednesday/halfway I did see him/her (Nin- -aa). 3. S/he loves me (nin- -ig) and she loves them animals also. 4. In the woods when we were looking for berries s/he did-see us (nin- -igonaan) there. S/he was picking berries. 5. In the fall in Indian country, you see them (gi- -ag) when they harvest wild rice and when they thresh rice.  
 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](mailto:pio@glifwc.org).

# GLIFWC summer interns value field experience

By Sue Erickson, Staff Writer

## Great Lakes interns apply work in college capstone projects

**Odanah, Wis.**—GLIFWC's Great Lakes Section brought three summer interns aboard to assist with a variety of spring and summer projects from April 22 through August 9. Under the supervision of Great Lakes Section Leader Bill Mattes and Great Lakes Fisheries Technician Mike Plucinski, the three received a healthy dose of fish biology through the last couple months.

The 2013 Great Lakes interns included Hanna Fiorio, Mason, Wisconsin; Dalton Lebeda, Palo, Iowa, and Clint Soulier, a Lac du Flambeau member from Rhinelander, Wisconsin.

In early to mid June, the interns helped with the sea lamprey control program, setting and checking traps in the Bad River and tagging released lamprey, although the catch was limited this spring due to the lateness of the season and high water levels. Later in the summer, the crew was out on Gichigami (Lake Superior) for two weeks setting assessment nets for GLIFWC's annual siscowet trout surveys near Houghton, Michigan. The threesome also were involved in juvenile lake sturgeon assessments at the mouth of the Bad River, catching and tagging namè (sturgeon) in order to monitor population.

While much of the time is out in the field, some down time brought them back to the GLIFWC garage to sew damaged nets or to the main office to age fish by examining otolith (fish ear bone) samples or examine stomach samples.

Hanna Fiorio attends Northland College, a senior majoring in natural resources, fisheries and wildlife management. She made contact with GLIFWC through Northland's Job Fair. The experience sounded interesting, so she applied, was accepted, and has enjoyed the opportunity for the hands-on experience with the fisheries. She especially enjoyed the work with name' in the Bad River, learning how to insert pith and floy tags in fish. At one time



Hanna Fiorio. (Photo by Mike Plucinski)

## Manoomin interns check rice status on 40 lakes

One of GLIFWC's two manoomin (wild rice) interns, Devon Brock-Montgomery, is a sophomore at Northland College, majoring in natural resources, fisheries, and wildlife management. While she is a Madison native, she attended Conserve School and became attracted to the area, hence applied for acceptance at Northland College.

Prior knowledge of GLIFWC through the Lake Superior Connection Program as well as Northland's Job Fair, led her to apply for the manoomin internship, which has suited her interests well. She enjoys the wilderness atmosphere and being close to wildlife, in particular the numerous species of birds the team encounters while paddling through ceded territory rice lakes.

The other half of the team is made up by Felecia Bressette, Red Cliff, who recently graduated from the University of Minnesota with a major in Native American studies and a focus on Ojibwemowin. After graduation she was looking for a position with GLIFWC, and the manoomin internship had an opening.

She has enjoyed being on the water and also observing an array of wildlife—muskrats, beaver, birds—in their natural habitats. They have all kept the interns company on their daily journeys through about 40 manoomin lakes, following a map as they seek out rice beds.

Once they locate a bed, they measure density by using a ½ meter trisect, counting the number of stems and tillers within the trisect. They also check for height, pulling one plant from each bed to measure. Notes are also made on the nature of the ecosystem where the rice is growing, including the type of vegetation in the area and general appearance of the manoomin. Felecia has recorded some of the information in Ojibwemowin, a good way to keep up the practice with the language while doing the job.

Both interns have enjoyed the summer on the lakes. Their season began June 20 and will extend until August 29th. Then its back to the books for Devon, but Felecia is hoping to land a position in Minneapolis

So far, the manoomin seems to be doing well they report!

she witnessed an awesome lake sturgeon breaching in the river—Bad River's Free Willy! Hanna hopes to apply data from the siscowet and lake trout assessment to her capstone project in college.

Dalton Lebeda will be a junior at Northland College and is also majoring in natural resources, fisheries and wildlife management. Hailing from Palo, Iowa, Dalton was attracted to the program at Northland as well as the area. He was referred to the GLIFWC internship by a college professor. While appreciating the variety of experiences the summer brought him, Dalton especially liked working with namè, "a very neat fish" and least liked the monotony of aging otoliths. Once he completes his bachelor of science degree at Northland, he will be pursuing employment in fisheries as well as an opportunity to earn a masters degree at some point.

Clint Soulier is a senior at UW-Stevens Point in fisheries management, due to graduate in December 2013. With four years of summer intern work with the Mole Lake Tribal Natural Resources Department, his interest in working on Lake Superior spurred him to apply with GLIFWC.

The internship has given him a much deeper understanding of the Lake Superior fish community and its management as well as of GLIFWC's role in protecting the natural resources. He especially liked the gill net assessment work and "just being on Lake Superior." While in the area, he also had the opportunity to visit Madeline Island, the place where his great grandfather was born. Being there and imagining the community 200 years ago was awesome, and it also made him appreciate how much of the culture has been retained. Following graduation, Clint will be looking for a job in fisheries inland or on Gichigami, but also hopes to pursue graduate studies in fisheries management. Ultimately, his goal is to work for tribes.



Dalton Lebeda. (Photo by Mike Plucinski)



Clint Soulier. (Photo by Ben Michaels)

Chi-miigwech (a big thank you) to all interns for your help throughout the summer!



Plying the waters of ceded territory lakes, GLIFWC's manoomin interns survey manoomin beds, recording data on abundance and the status of the wild rice. In the bow of the canoe is Felecia Bressette, from Red Cliff, granddaughter of GLIFWC's first Public Information Officer and founder of Mazina'igan, Walter Bressette. Paddling is Devon Brock-Montgomery, a Northland College sophomore. (Photo by Micah Cain)





# GLIFWC assists in drug raid

## Targets synthetic marijuana/prescription drugs

GLIFWC Enforcement officers were among about 40 county and tribal officers who assisted the Lac du Flambeau Tribal Police Department carry out a drug raid on the Lac du Flambeau reservation on June 26.

In an operation entitled "Operation Pandora," the officers served seven search warrants and investigated residential sites during an early morning sweep. The result was 25 arrests related to the trafficking of synthetic and prescription drugs. The district attorney has charged those arrested, and their cases will be heard in state court, according to LdF Police Chief Bob Brandenburg.

Assistance also came from Red Cliff, Ho-Chunk, Lac Courte Oreilles, Oneida, and Bad River Tribal Police as well as the Native American Drug and Gang Initiative and the Vilas, Oneida, and Price Counties Sheriff's Departments.

The LdF Tribe declared a state of emergency in April, determined to rid the reservation of drug dealers and users, according to Chairman Tom Maulson, who is hopeful this action sent a powerful message that the tribe will not tolerate drug abuse on their lands.

"We have made a dent but have a ways to go," Brandenburg states, "but we have had a lot of positive feedback from the community."

Operation Pandora continues as a multi-agency effort. —Sue Erickson

# Wardens participate in 911 camp



Ontonagon, Mich.—Be safe on the water was one message of the day on Tuesday, May 28 when GLIFWC Conservation Wardens Steven Amsler and Tom Kroeplin took part in Camp 911 in Ontonagon, Michigan. Camp 911 was organized and sponsored by the Ontonagon Sheriff's Department. Sheriff Dale Rantala invited GLIFWC wardens to speak to 5th graders from Ontonagon and Ewen-Trout Creek schools about marine safety and GLIFWC law enforcement's newest piece of rescue equipment, the airboat.

Forty students accompanied by teachers and student chaperones participated. Wardens Amsler and Kroeplin spoke with students about the importance of wearing life jackets while boating and recreating on frozen and open bodies of water, different types of life jackets, and how the GLIFWC airboat is being incorporated into the GLIFWC Enforcement Division's rescue equipment. Students had the opportunity to see the airboat, its multiple features and ask questions.

Other organizations that gave talks, instruction, and demonstrations were: Ontonagon Fire Department, Upper Peninsula Power Company, Michigan State Police, Greenland Fire Department, and SONCO Ambulance.

# Forest safety advisory

Ceded territory forests contain a bounty of hunting and wild plant gathering opportunities every waatebagaa-giiziz—September's "leaves changing color moon." In recent years it's also become time for large-scale marijuana growers to reap the illegal crop they've tended all summer.

If you encounter a site containing isolated tents, large amounts of garbage, irrigation tubing, and/or an area cleared for cultivation—leave quickly and quietly. Identify landmarks if possible and contact authorities.

The GLIFWC Enforcement Division is part of an interagency force that has eradicated a handful of marijuana grow sites on National Forest land over the past three years. For more information or to report suspicious activity call GLIFWC Enforcement @ 715.682.6619. —Charlie Otto Rasmussen

# WDNR recruits visit GLIFWC



The Wisconsin Department of Natural Resources warden class of 2012 visited GLIFWC Odanah offices in June to better understand treaty rights and the shared resources in the ceded territory. The state officers spent time with GLIFWC biologists, legal experts and other Commission staff. (COR)

## Clip & Save ✂

# 2013 GLIFWC enforcement youth activities/education

Class	Date	Place	Contact
Hunter Education	Aug. 18, 24-25,	Mole Lake	Roger McGeshick 715.889.3200 Adam McGeshick 715.209.7217
Take a kid fishing	Aug. 19	Mille Lacs	Robin Arunagiri 715.889.0734
Hunter Safety	Aug. 17-18	Lac Courte Oreilles	Mike Popovich 715.292.7535 Lauren Tuori 715.292.8343
Hunter Safety	Aug. 24-25	St. Croix	Brad Kacizak 715.562.0030
Hunter Safety	Aug. 27, 30-31	Red Cliff	Mike Soulier 715.209.0093 Jim Stone 715.292.3234
Hunter Safety	September 6-7	Mille Lacs	Robin Arunagiri 715.889.0734
Hunter Safety	Sept. 12-15	Keweenaw Bay	Steven Amsler 715.562.0034 Matt Kniskern 715.292.5320
Hunter Safety	Sept. 24-28	Bad River	Vern Stone 715.292.8862
Trapper Ed.	October 19-20	Mole Lake	Roger McGeshick 715.889.3200 Adam McGeshick 715.209.7217
ATV Safety	October 25-26	Mille Lacs	Robin Arunagiri 715.889.0734
ATV/Snowmobile	December 7-8	St. Croix	Brad Kacizak 715.562.0030
Snowmobile	Dec. 19-20	Mille Lacs	Robin Arunagiri 715.889.0734

For updated information on these events and others please be sure to check our website at [www.glifwc.org](http://www.glifwc.org) or visit us on Facebook.

## Watch for information on winter camp!

Ishpaagoonikaa (Deep Snow Camp) focuses on traditional winter and survival skills. Indigenous knowledge, combined with science and fun in the snow, make the camp a unique and valuable experience.

Sponsored by GLIFWC, details on Ishpaagoonikaa 2014 will be posted on the GLIFWC website at: [www.glifwc.org](http://www.glifwc.org).



# LdF hosts 21st Partners in Fishing



Drum group Tomahawk Circle played during the 21st Partners in Fishing gathering June 5 and 6 at Lac du Flambeau. The informal hook-and-line event brings together tribal, state and federal representatives that conduct joint walleye fisheries assessments in the Wisconsin ceded territory. Active and retired Green Bay Packer players have participated in the 2-day event since 1998. (Inset) Gene Hatzenbeler, Wisconsin Department of Natural Resources fisheries biologist, with a Flambeau Chain crappie—one of many he landed with a small jig. Hatzenberger helps administer angler creel surveys in the ceded territory. (Photos by Charlie Otto Rasmussen)



# Fee exempt camping on National Forest campgrounds while exercising treaty rights

Through an agreement between participating GLIFWC member bands (Bad River, Bay Mills, Keweenaw Bay, Lac du Flambeau, Lac Vieux Desert, Mille Lacs, Red Cliff, and Sokaogon/Mole Lake) and the Eastern Region of the U.S. Forest Service, members of the participating Bands exercising their 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.

Some fee-exempt campgrounds (especially those that are busy) still maintain a 14-day length of stay restriction between June 15 and August 15. This provision is periodically reviewed to ensure that these restrictions are not interfering with the exercise of treaty rights. There is generally no limit on the number of camping permits a person may obtain.

## For free camping on National Forest Campgrounds you must:

1. Be a member of a Band that has ratified the Tribal/USFS Campground Agreement.
2. Obtain a tribal camping permit through your tribal registration station or GLIFWC.
  - Your registration station or GLIFWC will use the online permitting system (NAGFA).
  - You will be issued a permit (similar to previous years)
    - The permit will include a permit number that you will use to fill out the fee envelope.
3. Follow the camping registration procedures at the campground. Generally, this involves providing information requested on a registration form or envelope. See illustration on how to fill out the fee envelope at the campsite.
4. Follow all campground rules and regulations found in the tribal rules.

**Reminder: Fee exempt camping is for National Forest campgrounds only!**

# Valued balsam boughs may be under threat

(Continued from page 14)

appear to feed primarily on the BWA life stages that have little to do with BWA reproduction in North America, and so have proven ineffective.

If the BWA gets established here, balsam fir will become less and less common. The benefits to the environment from balsam fir, such as shade for streams and thermal cover for deer, grouse and other animals in winter, will be greatly reduced. The BWA will also mean the eventual end of balsam bough gathering. Christmas tree growers will face the added expense of pesticide treatments to keep their trees reasonably healthy until harvest.

The BWA is one pest we do not want to see in the northwoods. The best way to keep the BWA out is to not ship fir seedlings, nursery trees or logs from infested parts of the country. Another is to report anything on balsam fir (or hemlock, for that matter) that looks like the BWA. The third thing we can do is avoid moving firewood. Buy or harvest wood locally (within 25 miles or less) whenever possible. Hauling wood long distances to the next campground or powwow may save a little money in the short term, but could have devastating consequences down the road. Don't let your mistake become a problem for generations to come!



Balsam boughs provide welcome income in the fall. The balsam woolly adelgid could devastate balsam fir stands and greatly diminish or end this fall tradition. (Photo by Charlie Otto Rasmussen)

# Tribal waters in flux

(Continued from page 13)

Annual water levels on Gichigami are on a 15-year skid, affecting everything from fish distribution to plant communities to recreational access. In parched 2007, Bad River officials closed the manoomin season for the first time in memory—seemingly a once-in-a-lifetime event. It happened again five years later.

Bad River NRD Water Resources Specialist Naomi Tillison points to analysis published by Kakagon researcher Jim Meeker, a Northland College Professor from nearby Ashland. In a nutshell, manoomin does best after natural disturbances like dramatic flooding or high-water seasons drowns out other vegetation. Said Meeker: “flooding events, although damaging to wild rice in a given season, act to set back perennial competition and offer a more open habitat for wild rice re-colonization during the subsequent drawdown years.”

While airboat mowing in the Sloughs helps mimic some of the benefits of high-water, wild rice and a long list of natural resources would benefit by a return to a normal Lake Superior water level cycle.



Arrowhead and pickerel weed dominate some of the 25-acres mowed by Fond du Lac's airboats in Bad River's Kakagon Sloughs. Both native and non-native species are competing with manoomin. While the native competitors have always been in Wisconsin, the non-natives have been introduced to the area and threaten our native species. Four common native competitors are: pickerelweed, bur-weed, arrowhead, and white and yellow water lilies. (Photo by Charlie Otto Rasmussen) (Inset: arrowhead photo by GLIFWC)





# KBIC kids fishing derby reels in record numbers

## Warner recognized

By Charlie Otto Rasmussen, Staff Writer

**Baraga, Mich.**—A first-ever fish. A thousand smiles. Record attendance. The numbers frame an exceptional day of learning and fun at Keweenaw Bay Indian Community's (KBIC) 11th Kids Fishing Derby. Young people from as far away as Nova Scotia helped eclipse the previous high mark of 370, reaching 425 registered kids on June 29 at Ojibwa Campground.

"We have an amazing diversity of kids attending," said Gene Mensch, event organizer and KBIC biologist. "Families contacted us in advance so they could schedule their vacations around this event."

From the five-acre Derby Pond, kids landed bluegill, largemouth bass, bullhead and rock bass for a variety of prizes. Nearby stations manned by volunteers featured fishing-related games and activities like minnow racing. A handful of GLIFWC staff took part in the festivities, including conservation officers who taught canoeing fundamentals in the chilly waters of Lake Superior's Keweenaw Bay.

"Many people had never been in a canoe before," said GLIFWC Officer Heather Naigus. "Just going over canoeing safety and introducing some basic strokes provided a good experience on the water for kids and their family members."

Derby goers looking for a more leisurely experience on the water hopped a hay wagon to nearby Buck's Marina where KBIC Officer Tim Tilson offered tours of the bay aboard a tribal patrol boat. Clouds and light rain early on gave way to sunny skies and easy waves on the bay that forms the centerpiece of KBIC's L'Anse Reservation.



Under the anxious gaze of KBIC Fish Derby participants, Bill Mattes measures a panfish at the event registration station. Mattes, a GLIFWC fisheries biologist, and KBIC Natural Resources Technician Shawn Seppanen (left) recorded data from the 125 fish landed by youth fishers. (Photo by COR)



Terri Denomie celebrates as her grandson Peyton lands his very first fish at the KBIC Kids Fishing Derby June 29. (Photo by Charlie Otto Rasmussen)

Unsuccessful Derby Pond anglers got a second crack to hook a fish in a portable tank loaded with hefty trout from the KBIC Fish Hatchery. The kids had mixed success as some of the brook trout were more cooperative than others.

"Every year we dedicate some of our surplus brood stock to fishing events," said Mensch, who splits fisheries management activity between hatchery and fieldwork. Mensch said the Genoa National Fish Hatchery kicks-in additional fish to help meet the growing demand that includes the Baraga County Fair this year.

Since 1997 the KBIC Fish Hatchery has stocked more than 1.2 million trout into local waters. Millions more lake trout, walleye, and a small number of largemouth bass have been produced at the facility in Pequaming over the past 20 years, improving the fishery resource on inland lakes along with Lake Superior and its tributaries.

The 2013 event was dedicated to the memory of Todd Warner—KBIC Natural Resources Director who walked on last year. At the close of the Derby, Members of Warner's family and KBIC officials presented the new "Todd Warner Legacy Award" to University of Michigan student Sierra Ayers. Established by the Warner family, the \$500 scholarship is open to college freshman and sophomores pursuing a degree in natural resources or a related environmental field.

# Children of the Seventh Fire

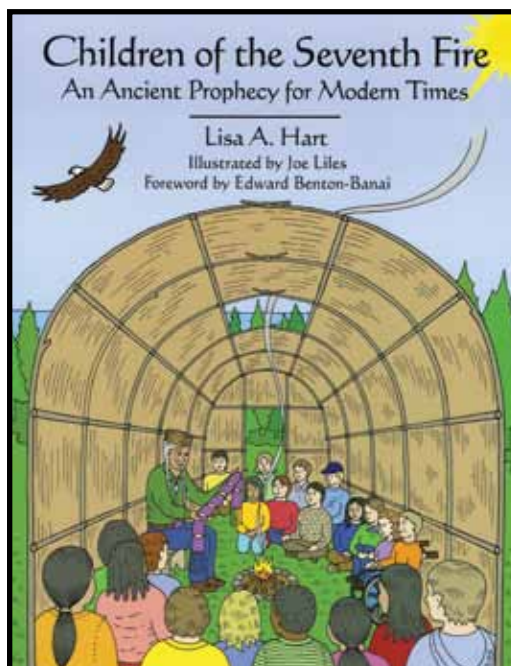
## An ancient prophecy for modern times

"The time to empower our children with indigenous wisdom is now."

—Gabriel Horn, A.K.A. *White Deer of Autumn*

Using oral traditions from the indigenous people of eastern North America, author Lisa A. Hart has woven the Anishinabe Prophecy of the Seventh Fire into a children's story titled *Children of the Seventh Fire—An Ancient Story for Modern Times*. Children reading the story learn about each of the seven prophecies (or fires) as Native and non-Native children in the story listen to an Ojibwe elder's retelling of this ancient wisdom.

This children's book, explains the Prophecy of the Seventh Fire to the children as they visit a Native American reservation. Kinoo, an Ojibwe elder, teaches that we are living in the time of the seventh fire and in order to move into the time of the eighth (and final) fire, we need to live in balance and harmony in a world where Earth and all beings are treated with respect. Universal themes can be found throughout. Children in the story learn ways to live an environmentally friendly lifestyle through recycling, energy creation, organic gardening and legislative involvement. These lessons



make environmental awareness and action accessible for children of all ages reading the story. They will also learn about the importance of living in peace, love and respecting indigenous perspectives and lifeways.

*Children of the Seventh Fire* is 40 pages (softcover) and has 35 full-color illustrations by Joe Liles. Forward by Edward Benton-Banai. This book is available for purchase through [www.childrenoftheseventhfire.com](http://www.childrenoftheseventhfire.com) or your local bookstore. ISBN # 1-935778-17-X.

The *Teacher's Activity and Skills Guidebook* has been developed to be used along with *Children of the Seventh Fire* in educational settings for grades 3-6 (ages 8-12). The guidebook uses the humanities to teach environmental education, social studies, and North American Indian Studies, based upon a traditional Anishinabe teaching.

Educators will find thought provoking discussions and writing prompts that address important issues in these times of social, economic and environmental change. The exercises will challenge students to be creative, solution-oriented, cooperative, and to think with both their heads and their hearts.

The guidebook is also softcover, has 36 pages and is available at [www.childrenoftheseventhfire.com](http://www.childrenoftheseventhfire.com).

# Study links iron mining to fatal cancer in Minnesota's Iron Range

By Sara Moses, GLIFWC Environmental Biologist

**Odanah, Wis.**—The University of Minnesota recently released the results of a five year study looking at mesothelioma, a fatal cancer of the lining of the lung, in taconite workers in Minnesota's Iron Range. Mesothelioma is most commonly caused by breathing asbestos or other particles, such as those which may be found in the dust from mining operations.

Previous studies established the link between working in the iron mining industry and an increased risk for mesothelioma, finding that these workers were three time more likely to be diagnosed with mesothelioma than Minnesotans not working in the industry.

The newly released study found that for every year worked in the taconite industry, the risk for mesothelioma went up by three percent. Researchers also found that the causes of death among taconite workers were higher than expected for mesothelioma, lung cancer and heart

disease, when compared to Minnesotans as a whole. Although working in the taconite industry increased the risk of mesothelioma, researchers noted that the risk is small and the disease is still very rare.

One positive result of the study was that taconite dust does not appear to pose a threat to the general public in the region. The dust containing the dangerous particles appears to be largely confined to the taconite mines and does not filter into the surrounding communities. Spouses of taconite industry workers were not at greater risk of contracting mesothelioma than the general public in Minnesota.

Researchers were hesitant to conclude that the mesothelioma was definitely caused by the elongated mineral particles, or EMP's, found in mining dust. They are continuing to analyze the data to rule out any exposures to asbestos these workers may have had outside of the mining industry.

The University intends to hold public meetings throughout the year as more results from the study become available.

# Moose research details downward trend

(Continued from page 2)

moose herd decline from an estimated 4,230 to 2,760 animals. Longtime Minnesota moose researcher Fond du Lac Wildlife Biologist Mike Schrage said adult moose are clearly hurting from a number of health issues.

"Some of it is certainly brain worm, some from winter ticks, and there are other possible diseases and parasites at work that we don't fully understand yet," said Schrage, who is part of a cooperative research team including Minnesota Department of Natural Resources, 1854 Treaty Authority and university scientists that has studied the region's moose herd since 2002.

New technologies in use this year—including satellite collars—might help researchers get to dead animals more quickly and help pinpoint the cause of mortality. Schrage said some early results reveal definitive predation on moose calves from wolves and bears, plus additional wolf predation on adults. The new collars further reveal health issues with adult bulls and cows.

"From all the research completed to date, hunting is not the cause driving this population down," Schrage said.

## Moose/vehicle collisions in Upper Michigan

Year	# moose killed	# of vehicle strikes
2008	4	4
2009	7	7
2010	8	8
2011	13	14
2012	13	16

Michigan DNR data.

# Night hunt case in federal district court

(Continued from page 1)

appropriate and to protect public safety. The season would begin November 1 following the show of fall colors and heavier recreational use of the ceded territory, and would conclude at the end of the first week of January. Bait or call techniques are not required but are allowed.

After hearing arguments from both the tribes and the state, Judge Crabb set a schedule requiring the parties to submit their post-trial briefs in August and September.

Six members of GLIFWC's staff, among others, testified in the case. GLIFWC Policy Analyst Kekek Jason Stark assisted Routel with the case as did eleven law students from William Mitchell College of Law, St. Paul, Minnesota. The students are as follows: Brianna Hoban, Kelly McGinty, Nels Paulson, Veronica Newcome, Ellen Frick, Bonnie Claxton, Nicholas Leversen, Peter Rademacher, Melissa Lorentz, James Ryan, and John Donovan.

Miigwech to the whole team!

## Mazina'igan digital flipbook

Do you receive *Mazina'igan* in the mail? Would you rather read it online? You now have this option. The online edition is a full-color flipbook that can be read or downloaded to a PDF. Flipbooks are environmentally friendly, and they save postage and printing costs. If you choose the online edition, you will be notified via email—approximately a week before the *Mazina'igan* is mailed—that it is available for viewing. The email will contain a link to GLIFWC's website where you can view the flipbook. To sign up to receive the *Mazina'igan*, either electronically or a mailed subscription go to: [www.glifwc.org/publications/mazinaigan/Mazinaigan.html](http://www.glifwc.org/publications/mazinaigan/Mazinaigan.html) and choose either new subscription or E-edition notification.

# Teachers study impact of climate change on culture

By Cathy Techtmann, For Mazina'igan

**Ashland, Wis.**—Do cultural and science agree that climate change is affecting traditional Ojibwe practices, such as wild ricing? Nineteen teachers discovered how climate change is impacting the Lake Superior region and people of all cultures at the recent four-day Apostle Islands National Lakeshore's "Changing Climate, Changing Culture" Teacher Institute. The Institute was held at the Northern Great Lakes Visitor Center and the GLIFWC, with field experiences in the Apostle Islands and neighboring tribal communities.

Participating teachers discovered how climate change is affecting cultural traditions of the Lake Superior Ojibwe people through Native perspectives. Bad River Tribal Chairman Mike Wiggins kicked off the Institute with comments on climate change as one of the issues threatening the sustainability of tribal resources. With assistance from the Bad River Natural Resources Department and the GLIFWC, the teachers toured the Kakagon Sloughs and tribal forests to investigate these impacts.

The educators also learned how to apply the climate research from tribal scientists and sources like the Wisconsin Initiative on Climate Change Impacts. Presentations by Peter David, GLIFWC wildlife biologist; Dr. John Magnuson-professor emeritus from the University of Wisconsin, and Bob Krumenacker-superintendent of the Apostle Islands National Lakeshore reinforced the integration of science and culture to evaluate climate change.

As a result of this training, the teachers committed to developing service projects with their students to address climate change. Teachers will lead their students on field trips to deepen their understanding of climate change and their connection to the national parks. Projects and lesson plans developed by the Institute participants will be shared through the Parks Climate website [www.parksclimatechallenge.org](http://www.parksclimatechallenge.org) so teachers everywhere can use the learning strategies.

The Apostle Islands National Lakeshore's "Changing Climate, Changing Culture" Teacher Institute was based on the G-WOW climate change literacy model



Naomi Tillison, water resource specialist with the Bad River Natural Resource Department, explains climate change trends and impacts on wild rice during a tour of the Kakagon Sloughs. (Photo by Cathy Techtmann)

that integrates place-based evidence of climate change with scientific research. It was only one of three training opportunities in the United States funded through the National Park Foundation. Project partners include the GLIFWC, Apostle Islands National Lakeshore, US Forest Service, and University of Wisconsin-Extension.

For more information about the Apostle Islands National Lakeshore "Changing Climate, Changing Culture" Teacher Institute and the G-WOW climate change initiative visit <http://fyi.uwex.edu/nglvc/climate-change-institute/>.



# Ricing Camp

By Sue Erickson, Staff Writer

It is time to go ricing. We call it manoomike in Ojibwe. In late summer or early fall, the manoomin (wild rice) is ready, and we all hope for a good harvest. Harvesting and processing manoomin is hard work. There are many steps to get to the finished rice that we love to eat. But the first thing we do is put down our asemaa (tobacco) in respect to the rice before we start the work.

Knocking rice gently off the stalks into the bottom of your jiimaan (canoe) with bawa'giganaak (rice knockers) is only the first step. One person knocks the rice while another person stands in back of the canoe and poles the jiimaan through the rice beds using a gaandakii'iganaak (long forked pole). Next the rice has to dry. To dry rice we spread it on a large tarp in the sun, turning it every once and while, so it dries on all sides. If totally dried, it can be bagged and stored as unfinished rice.

To finish it, you next must parch it in a large akik (kettle) over a slow ishkode (fire). Parching takes patience as the rice must be stirred all the while or it may burn. You can smell the nutty aroma of the parching rice, and it smells good. Parching makes the outer hull of the rice very dry and brittle so it will crack easily.

Next the brittle rice is jigged or danced upon. Someone puts on special makizinan (moccasins) and lightly dances on the rice, splitting the brittle husks.

After that, the manoomin is winnowed, tossed lightly into the air, from a large nooshkaachinaagan (winnowing tray). The wind blows the brittle husks away, leaving the finished rice kernel. Then the rice must be picked clean of any husks remaining.

Finally, it is time to eat the manoomin, enjoy this healthy food, and share our good harvest at feast times!

## Ricing camp words

Match the words from the word bank to the numbers on the picture. Write the word in Ojibwemowin (Ojibwe language) and then the word in English. Color the picture when you are finished.

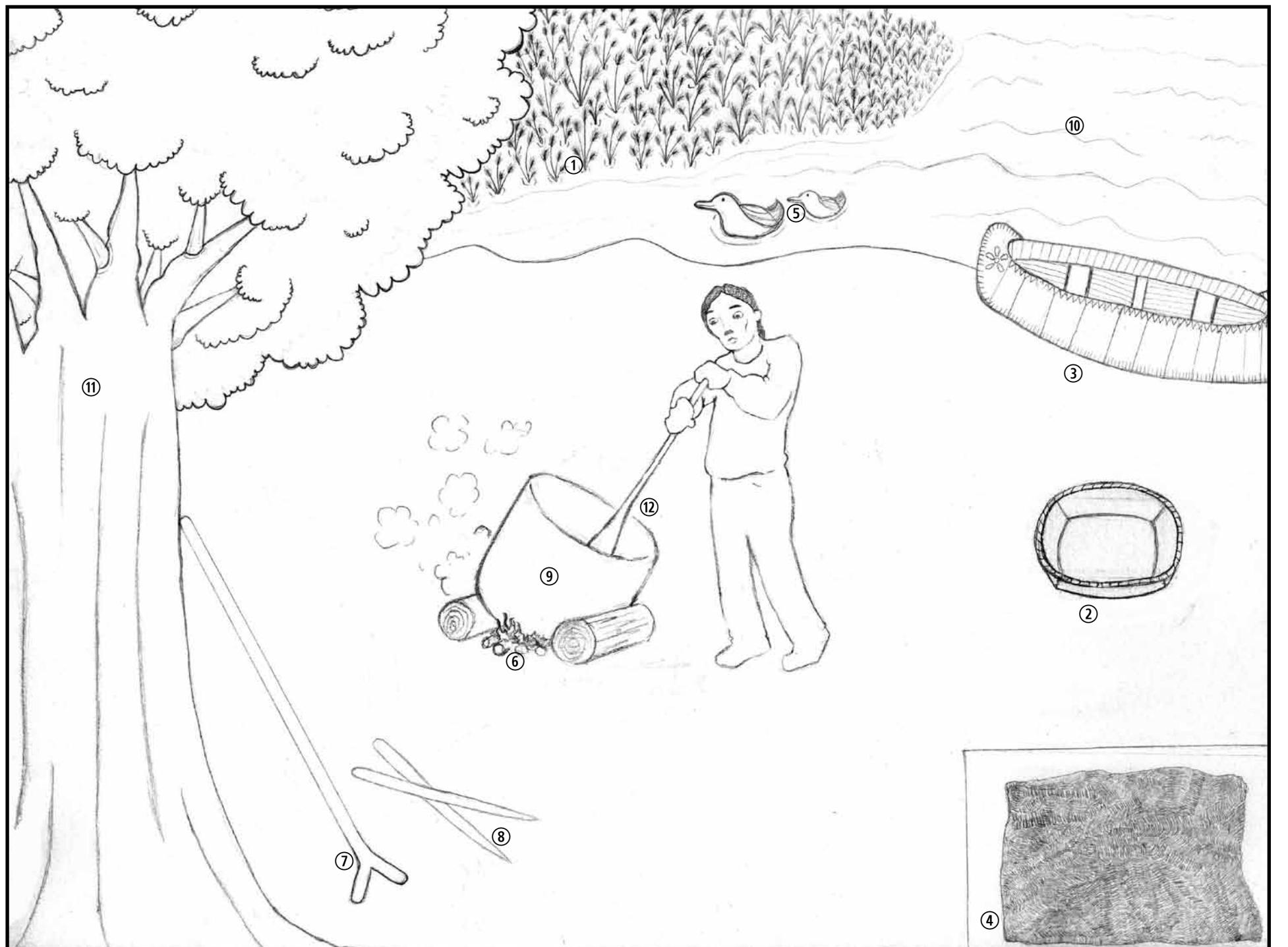
### Ojibwemowin

### English

- |         |         |
|---------|---------|
| ① _____ | ① _____ |
| ② _____ | ② _____ |
| ③ _____ | ③ _____ |
| ④ _____ | ④ _____ |
| ⑤ _____ | ⑤ _____ |
| ⑥ _____ | ⑥ _____ |
| ⑦ _____ | ⑦ _____ |
| ⑧ _____ | ⑧ _____ |
| ⑨ _____ | ⑨ _____ |
| ⑩ _____ | ⑩ _____ |
| ⑪ _____ | ⑪ _____ |
| ⑫ _____ | ⑫ _____ |

## Word Bank

- |                                  |                                   |
|----------------------------------|-----------------------------------|
| Winnowing tray—nooshkaachinaagan | Fire—ishkode                      |
| Lake—zaaga'igan                  | Ducks—zhiishiibag                 |
| Tree—mitig                       | Wild Rice—manoomin                |
| Kettle—akik                      | Ricing knockers—bawa'giganaak     |
| Parch—gidasige                   | Canoe—jiimaan                     |
| Push pole—gaandakii'iganaak      | The rice is drying—baate manoomin |



Drawing by Cheyenne White and Wesley Ballinger.



# 2013 Healing Circle Run draws record number of youth *Includes Penokee Hills in the healing circle*



Before setting out on the Healing Circle Run, participants and supporters shared a morning talking circle and ceremony at Pipestone Falls deep in the Lac Courte Oreilles (LCO) Reservation on July 13. Hand drum singer and veteran Gary Quarderer of LCO (lower right) participated in the ceremony, helping runners and walkers start in a good way. The annual event, which centers on physical and spiritual healing, began and ended at LCO, July 13-19. (Photo by Charlie Otto Rasmussen)



In a left-hand power pose, Healing Circle runners, walkers and supporters stand ready to begin. Some 330 participants—mostly young people—joined a core group of runners that carried spirit staffs to all six Wisconsin Ojibwe reservations, plus Lac Vieux Desert in Michigan and Fond du Lac, Minnesota. The run took a detour at Hurley, Wis. to connect with the Lac Courte Oreilles harvest camp set up adjacent to the proposed taconite ore mining site in the Penokee Hills. (Photo by Charlie Otto Rasmussen)

# GLIFWC returns to site of Sandy Lake Tragedy *Elder advisors on language project honored*



GLIFWC hosted its annual Mikwendaagoziwag (They are Remembered) Ceremony at the site of the Sandy Lake Tragedy, now known as the Army Corps of Engineers (ACoE) Recreational Site on July 31st. The day opened with a paddle across Sandy Lake to the site prior to a feast and ceremony next to the Mikwendaagoziwag memorial monument. All is done in remembrance of those Ojibwe ancestors in 1850 who suffered and perished at the site or on their way home, having been forced to travel far to Sandy Lake for their promised annuity payments. Above, paddlers land at the Sandy Lake site led by Mic Isham and Tom Crump, ACoE. (Photo by Jennifer Burnett)



Barbara Nolan, first speaker from Garden River, Ontario, spoke only in Anishinaabemowin as she expressed her gratitude and respect for the ceremony and story of the Sandy Lake Tragedy with GLIFWC board members in attendance. Nolan was one of the elders who contributed to GLIFWC's Gidaadizookaaninaanig language project which produced the bilingual book Dibaajimowinan: Anishinaabe Stories of Culture & Respect. (Photo by Jennifer Burnett)



GLIFWC was honored to have members of the elder advisory committee and contributors for the language program attend the Board of Commissioners meeting at Black Bear Casino & Resort and the Sandy Lake feast and ceremony. They were recognized for their many contributions towards the completion of a new Ojibwemowin book, Dibaajimowinan: Anishinaabe Stories of Culture and Respect. Back row from the left: Jim St. Arnold, Wesley Ballinger, Veronica Smith, Barbara Nolan, Mary Moose, Leonard Moose, JP Montano, Fred Ackley, Dana Jackson, Larry Smallwood, Robert Van Zile, Leon Valliere, Jason Maloney, Levi Tadgerson and Mark Van Zile. Front Row: Leora Lancaster, April Lindala, Michelle DeFoe, Frances Van Zile, Diane DeFoe, Genevieve Goslin, Doug Sam and Benny Rogers. (Photo by Jennifer Burnett)



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

CHANGE SERVICE REQUESTED

NON-PROFIT ORG  
POSTAGE PAID  
PERMIT # 205  
EAU CLAIRE, WI

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

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

Susan Erickson..... Editor  
Lynn Plucinski..... Assistant Editor  
Charlie Otto Rasmussen..... Writer/Photographer

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

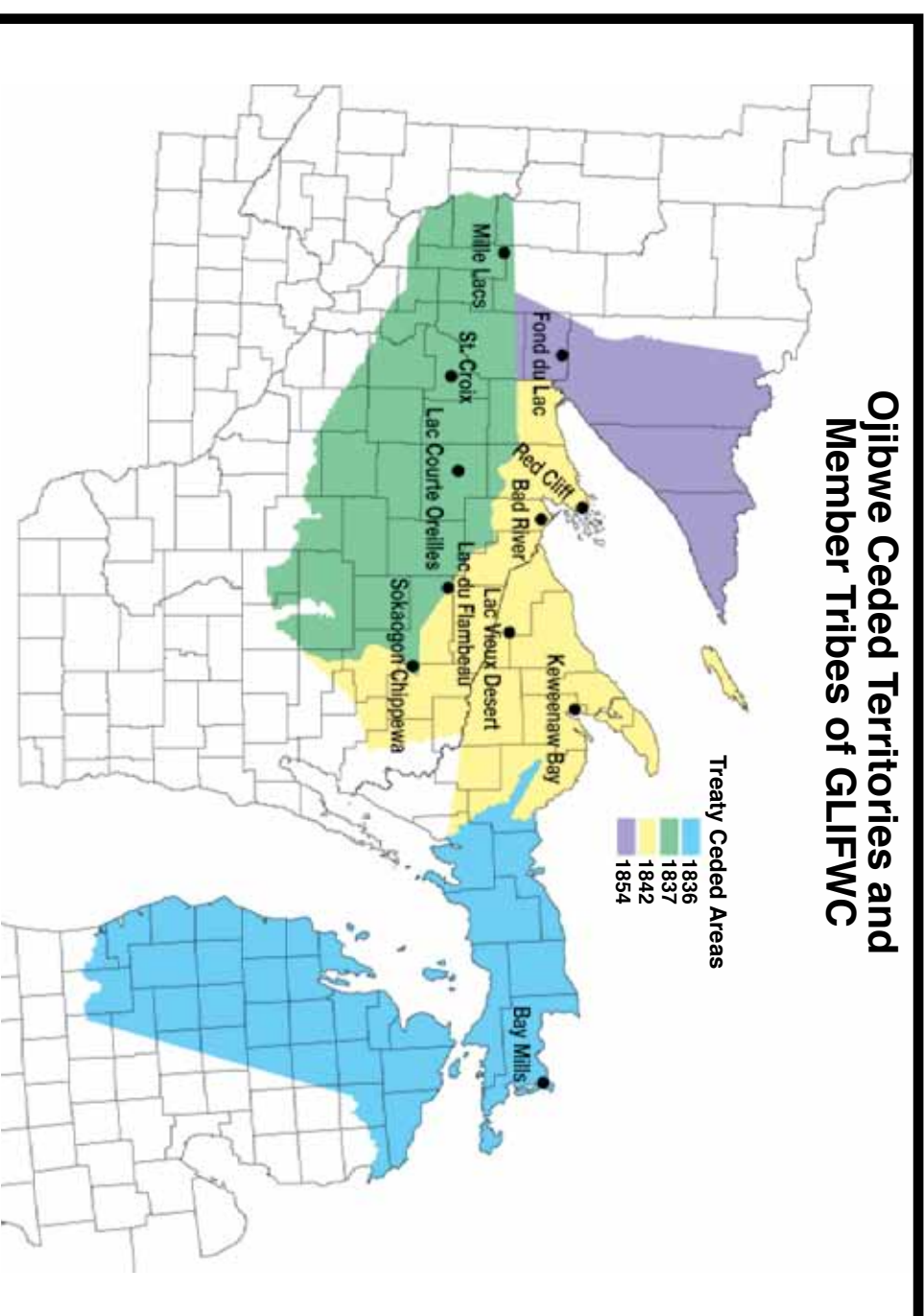
Subscriptions to the paper are free to United States and Canadian residents. Subscribe online at: [www.glifwc.org](http://www.glifwc.org); write **MAZINA'IGAN**, P.O. Box 9, Odanah, WI 54861; phone (715) 682-6619; or e-mail: [lynn@glifwc.org](mailto:lynn@glifwc.org).

If you have moved, or are planning to move, please keep us informed so we can keep our mailing list current. If you plan to be away for an extended period of time, please let us know so we can suspend your subscription until you return.

Although **MAZINA'IGAN** enjoys hearing from its readership, there is no "Letters to the Editor" section in the paper, and opinions to be published in the paper are not solicited. Queries as to potential articles relating to off-reservation treaty rights and/or resource management or Ojibwe cultural information can be directed to the editor at the address given above.

For more information see GLIFWC's website: [www.glifwc.org](http://www.glifwc.org) and our Facebook page.

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



**Mazina'igan**  
A Chronicle of the Lake Superior Ojibwe

**Dagwaagin 2013**

