

Mazina'igan

A Chronicle of the Lake Superior Ojibwe

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Experts weigh in on Mille Lacs Juvenile mortality, not harvest, spurs walleye decline

By Charlie Otto Rasmussen
Staff Writer

Odanah, Wis.—Let's make this clear right away. Natural walleye reproduction remains strong on Lake Mille Lacs. The primary concern plaguing the lake's ogaa fishery is this: most newly hatched walleye are not surviving past their first year or two. Not growing up. Not even close to being big enough for anglers, spearers or netters to harvest.

While critics of interagency management—from barstool biologists to outdoor writers—routinely espouse the simplistic catch-phrase, “it’s the nets,” an independent collection of fisheries professionals confirms that the lake’s problems run much deeper.

In a December 2014 announcement, a blue ribbon panel of North American fisheries experts backed up state and tribal appraisals of struggling walleye stocks on the 132,000-acre lake in the Minnesota 1837 Treaty ceded territory.

“We conclude that recreational and subsistence fishing mortality is unlikely to be the direct cause of the decline of Mille Lacs walleye,” wrote the scientific committee chaired by Paul Venturelli, PhD, University of Minnesota. Additional panelists include researchers from Michigan State University, Ontario Ministry of Natural Resources, and Cornell University.

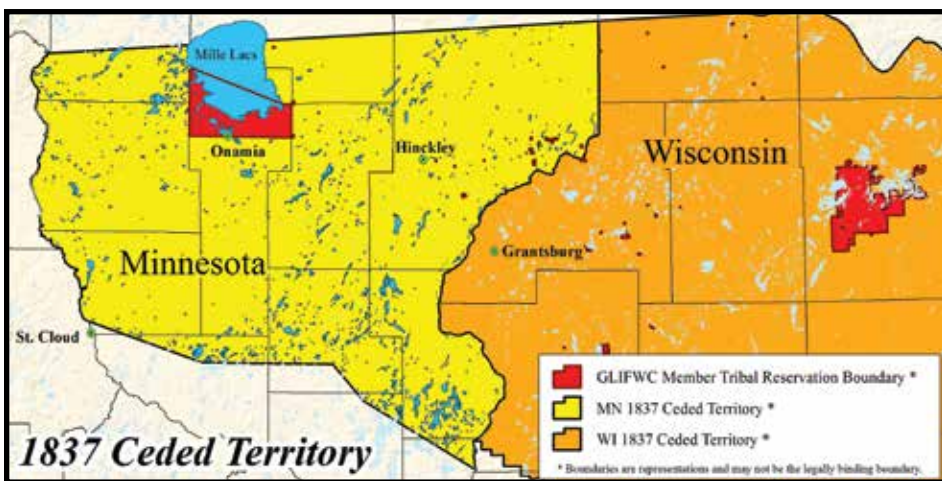
Echoing many of the dynamics identified by the Minnesota 1837 Ceded Territory Fisheries Committee, the panel detailed a ‘perfect storm’ of likely factors that has led to the current imbalance in the Mille Lacs walleye population—a condition most personified by the absence of juvenile fish.

“Cannibalism by walleye has long been known as an important regulator of age-0 walleye survival,” noted panelists in Mille Lacs Walleye Blue Ribbon Panel Data Review and Recommendations for Future Data Collection and Management Final Report. “We found that walleye cannibalism and perhaps predation by northern pike could be responsible for low over-winter survival.”

Why eat your own young? Panelists suggest a combination of too many large walleye and too few lake ciscoes—a major forage species for predatory ogaa. Ciscoes, locally known as tullibee, have significantly declined as Mille Lacs water temperatures rose in recent decades.

In addition to rising annual temperatures, the lake has further experienced an increase in water clarity. Blue ribbon researchers point out that the trend toward clearer water promotes more aquatic plant growth, providing better cover for northerns and smallmouth bass—making them more efficient predators of young walleye.

As noted in the report, the arrival of exotic zebra mussels (which helped accelerate water clarification) and other aquatic invasive species like spiny water fleas that compete for zooplankton adds another layer of complications in the walleye lifecycle. Throw in an indeterminate impact from a new colony of double-breasted cormorants and the panel finds plenty of cause as to how bountiful walleye spawning success ultimately fails to produce catchable fish. (See Mille Lacs, page 2)



Court gives Ma'iingan a reprieve

By Philomena Kebec, GLIFWC Policy Analyst

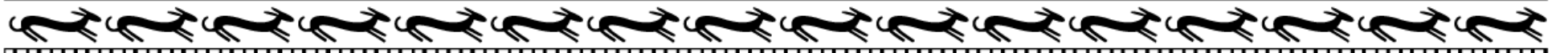
In a 110-page decision issued on December 19, 2014, the federal district court in the District of Columbia invalidated the U.S. Fish and Wildlife’s (USFWS) rule that removed protections under the Endangered Species Act (ESA) for the “Great Lakes Grey Wolf.” This decision instantly restored protections to ma’iingan—the grey wolf populations of the Western Great Lakes region—including the ceded territories. Ma’iingan across the ceded territories now enjoy the highest level of protection offered under the ESA and can no longer be legally hunted for sport or killed for depredation on domestic animals.

The plaintiffs include animal rights and conservation groups (Humane Society of the United States, Born Free, USA, Help Our Wolves Live and Friends of the Animals and Their Environment), who proved that their members had a real and personal stake in the survival of ma’iingan. Defending the action to remove ESA protections from ma’iingan was the USFWS, which was joined by the states of Wisconsin and Michigan and the Hunter and Conservation Coalition as interveners. The Minnesota Department of Natural Resources and the Association of Fish and Wildlife Agencies participated as amicus curiae (friend of the court).

The court reviewed the USFWS’s three previous, and unsuccessful, attempts to delist ma’iingan from the protection of the ESA. The court found that the agency’s fourth attempt was similarly invalid for the following reasons. First, the USFWS attempted to designate Western Great Lakes ma’iingan as a distinct population from the “grey wolf” or *canis lupus*, in order to “delist” ma’iingan living in the Western Great Lakes. The court determined that the ESA only allows the USFWS to designate distinct populations if that distinct population is threatened or endangered; they cannot be created with the intent of removing protections from a sub-area of a more broadly listed species. Second, the court found that the only method available to redesignate a species listed as threatened or endangered is to make decisions regarding the population that was originally listed. There are only three options for redesignating the species: (1) remove protections because the species is recovered or extinct; (2) institute greater protections because the health of the species, as a whole, is decreasing; (3) modify protections in cases where faulty data was used to originally designate the species. The USFWS is required to

make these decisions based on sound scientific analysis of adequate data. The court ultimately decided that the USFWS had inadequate justification to determine that Western Great Lakes ma’iingan is neither threatened nor endangered. The court found that several factors suggested that the USFWS’s decision was “arbitrary and capricious” or unjustified. These factors include: (1) its historical range has been significantly diminished; (2) the USFWS did not explain why the diminishment of its historical range was not considered in its decision to delist; (3) the USFWS did not adequately address multiple mortality factors and their effect on ma’iingan survival; (4) the USFWS did not adequately address the adequacy of state regulatory (See Some seek legislation to delist, page 10)





Partners look to restore Minocqua Chain walleye population

By Mark Luehring, GLIFWC Fisheries Biologist

Odanah, Wis.—The lakes in the Minocqua Chain in Oneida County, Wisconsin (Minocqua Lake, Kawaguesaga Lake, and Tomahawk Lake) had strong walleye populations throughout the 1990s and early 2000s. Unfortunately, poor recruitment has caused the adult walleye populations to decline to unhealthy levels. In response to the walleye decline, the Lac du Flambeau Tribe and GLIFWC biologists are working with the Wisconsin Department of Natural Resources (WDNR) and the Headwaters Chapter of Walleyes for Tomorrow to develop a plan to help the walleyes recover.



Mark Luehring (photo by Butch Mieloszyk)

While biologists don't know what exactly is causing poor recruitment, the survey results are clear: young-of-year walleye are no longer surviving to their first fall in adequate numbers to replenish the adult walleye population. Although the cause of the poor fall survey catch rates in the Minocqua Chain is unknown, biologists do know that walleye need a variety of good conditions to create a strong year-class through natural reproduction.

First, an adequate adult population needs to be present to produce enough eggs and milt. Second, the right mix of water temperatures and oxygen levels need to occur during the egg incubation phase for good hatching success. Third, walleye fry need to have plankton available for food once their energy stores are depleted (about three days after they hatch). Finally, as fry grow into fingerlings, they need appropriate size forage fish (often young-of-year yellow perch) to be available for adequate growth. During all these developmental phases, the tiny walleyes are susceptible to cannibalism by other walleyes, or predation by other fish species.

Since it is unclear which part of the early-life stage is limiting for the walleye in the Minocqua Chain, WDNR took some initial general steps to protect young walleye and bolster some year-classes. The walleye minimum length limit for anglers was raised from 15 to 18 inches in 2012, and the minimum size limit was removed for bass. Stocking of extended growth walleye fingerlings began in 2012 on Tomahawk Lake and 2013 on Minocqua and Kawaguesaga Lakes.

The partners considered these to be good steps towards bringing the walleye populations back, but wanted to do more. Walleyes for Tomorrow worked with WDNR on plans to extend current spawning habitat on Minocqua Lake by installing spawning reefs in wind-blown areas that currently do not have appropriate substrate. Finally, to provide further protection for the remaining spawning populations and the year-classes of stocked fish that are currently in the system, the group drafted a plan for a no harvest period starting in 2015.

The no harvest period would be in place for 3-5 years until the adult walleye populations reach three per acre on Minocqua and Kawaguesaga Lakes and two per acre on Tomahawk Lake. Biologists hope that increased adult densities will lead to the return of natural recruitment on Minocqua and Kawaguesaga Lakes. The plan was approved by the Voigt Intertribal Task Force on February 5, and the WDNR Board will consider instituting an emergency rule to change the angling regulation for walleye on the chain to catch-and-release only prior to the May 2 opener.

How much mercury is in Mille Lacs northern pike?

By Sara Moses, GLIFWC Environmental Biologist

As with any fish from ceded territory waters, northern pike from Mille Lacs do have some mercury in their tissues. Pike are predatory fish that sit near the top of the food chain and they can therefore accumulate enough mercury that it limits the amount of fish that can be safely consumed.

The good news is fish from Mille Lacs tend to have mercury levels that are lower than many other ceded territory lakes.

GLIFWC tested mercury in northern pike from Mille Lacs in 2013 and 2014. The data collected was analyzed to see what the consumption advice might

be. The results of this analysis indicated that children under 15 and women of childbearing age limit their consumption of northern pike from Mille Lacs to two 8-oz. meals per month. Men 15 and older and women beyond-child-bearing age can safely consume up to eight 8-oz. meals per month.

This analysis was based on a 30-inch northern pike. Since mercury levels are higher in bigger fish, the number of safe meals per month is fewer if you are eating pike over 30 inches. Also, remember that if you are consuming other types of fish, such as walleye, the safe number of meals of pike per month will be reduced since all fish contain mercury and the meal frequency categories above are based on a person eating only northern pike from Mille Lacs.

Mille Lacs: Spring 2015 and beyond

(Continued from page 1)

Moving forward, tribal and state officials have committed to stop the decline of walleye through very conservative harvest allocations. For the upcoming season, fisheries managers have set the total allowable walleye kill at 40,000 pounds leaving a modest 11,400 pounds for Ojibwe tribal members. Significant treaty harvest quotas remain available on Mille Lacs Lake for northern pike (50,000 pounds) and yellow perch (135,000 pounds).

The Minnesota 1837 ceded territory holds other walleye harvest opportunities on 74 walleye lakes, including a number water bodies greater than 1,000-acres where limited gill netting is permitted.

Fishing opportunities in Wisconsin and Upper Michigan

Safe harvest levels for walleye and muskellunge in Wisconsin's 1837 and 1842 ceded territory waters are slightly higher than last year. Tribal declarations for these species, however, have not been finalized as of press time. In Michigan, tribal decisions regarding available harvest opportunities in 1842 ceded territory waters are pending.

Treaty spearfishers typically harvest around 32,000 walleye annually from Wisconsin waters and 4,000 ogaa from the 1842 Treaty lakes of western Upper Michigan.

For details about the spring walleye and muskellunge season contact your tribe's Voigt Intertribal Task Force Representative or call the GLIFWC Inland Fisheries Office at 715.682.6619 after March 15.

Sokaogon fish hatchery goes big on ogaa

By Charlie Otto Rasmussen, Staff writer



The extended growth walleye fingerlings produced by the Sokaogon Band averaged a hearty seven-inches long. Fisheries managers look to double fingerling output in 2015 to 40,000 ogaa for release into public waters in northeast Wisconsin. (photo by Mike Preul)

Mole Lake, Wis.—When it comes to boosting walleye (ogaa) numbers, bigger can most certainly be better. For Wisconsin waters, that translates to releasing larger hatchery stock en masse through a cooperative effort launched by the state with an assortment of partners including the Sokaogon Mole Lake Band.

"The tribe, the state, lake associations, we all have the same goal," said Mike Preul, Sokaogon fisheries biologist. "We're working together to get walleye populations up to where we need them."

A collaborator in the Wisconsin Walleye Initiative (WWI), the Sokaogon hatchery produced almost 20,000 extended growth fingerlings last year, releasing the bounty into four northeast Wisconsin lakes. The young walleye averaged around seven-inches long, a size that boasts a significantly better survival rate over tiny hatchery stock known as fry.

"These fish were so hardy. They came out looking really good," said Preul. Hatched-out in late spring, tribal staff tended to the fish throughout the summer until early October. From a hatchery tanker truck, Sokaogon and Department of Natural Resources staff transported walleye (ogaa) fingerlings from the tribe's four outdoor rearing ponds to freshwater lakes in Forest and Langlade County. Water temperatures in the target lakes hovered in the lower-50s on release day, helping to reduce stress mortality, Preul said.

For centuries ogaa have been an Ojibwe staple food and in the 1900s became a favorite among state-licensed anglers. In recent years, habitat changes spurred by drought, invasive species, shoreline development and a warming trend on northern waters has taken a bite out of natural reproduction.

To help jumpstart walleye numbers, WWI collaborators are drawing from the state's 12 million dollar commitment to fund basic hatchery operating costs and infrastructure improvements. Preul said the Sokaogon community is installing two one-acre ponds that are expected to double the tribe's walleye production capacity in 2015 and beyond.

"We should be able to contribute 40 to 45-thousand fingerlings this fall," Preul said of the multi-year WWI.

Sokaogon representatives are also working with local riparian property owners to enhance walleye populations on additional lakes; cooperative agreements with lake associations yield thousands more extended growth fingerlings for public fishing waters.

"It's taken time to build these relationships, but now things are taking off," Preul said.



Michigan elk season wraps up with conservative harvest

Omeshkooz quota similar for 2015

By Charlie Otto Rasmussen
Staff Writer

Gaylord, Mich.—In the mixed hardwood and pine forests of northern lower Michigan, elk (omashkooz) hunters experienced a solid success rate in the annual fall hunt. 1836 Treaty hunters filled 10 of 11 permits, with the final harvest—a cow elk—taken by a Bay Mills Indian Community member on December 29. State-licensed hunters tagged 77 elk from a quota of 103 during a season split into four time periods across August, September and December. The overall take, however, is a fraction of the elk, or omashkooz, season a year before.

“After the hard winter of 2013-14, we cut the number of permits in half in

order to keep the size of herd within our management goals,” said Brian Mastenbrook, Michigan Department of Natural Resources wildlife biologist. Challenged by deep snow and extended periods of subzero temperatures—elements of the most powerful polar vortex weather event since the late 1970s—the winter took a toll on Michigan omashkooz. In testament to the severity of the season, Mastenbrook said a number of herd bulls—large, dominant males in their prime—were discovered dead, succumbed to the elements.

“We lose another 30-plus animals every year to vehicle collisions, poaching and diseases like brain worm,” Mastenbrook added.

Following a January 2014 survey, Mastenbrook said the population dipped

to an estimated 668, trending a bit lower than biologists prefer. Largely through the issuance of kill tags, wildlife officials look to maintain elk numbers in the range of 500-900 animals—a scale that helps limit conflicts on farmland, forests and highways. Michigan elk managers plan to stay conservative in the upcoming 2015 season and duplicate kill tag availability at 103 elk for state hunters and 11 elk for 1836 tribal hunters.

The Michigan elk herd is centered in the 95,000-acre Pigeon River Country

State Forest along the east-central edge of 1836 ceded territory. Following ratification of the 2007 Consent Decree—a formal recognition of inland treaty rights—state and tribal natural resources managers have developed a cooperative approach to elk management.

“Tribal biologists work with our biologists, and conservation officers work together as well,” said Mastenbrook. “We’ve fine-tuned our relationship and it’s going pretty smoothly.”

It’s that time of year again: Iskigamizigan!

By Alex Wrobel, GLIFWC Forest Ecologist

For treaty harvesters looking to establish an iskigamizigan (sugarbush) on National Forest lands now is a great time to start the planning and permitting process. We will work with you and the U.S. Forest Service to develop your site management plan and permit. The permit process is applicable for the Chequamegon-Nicolet, Ottawa, Hiawatha and Huron-Manistee National Forests located within the Ojibwe ceded territory boundaries.

When scouting the perfect iskigamizigan, (along with ideal maple trees—10” diameter or more at breast height) look for areas that have good road access. This will help avoid excessive disturbance and keep impacts to the surrounding area limited. Locating your site well in advance will ensure the management plan will remain simple and you will have your permit in time for harvest! Information needed for the site management plan includes:

- Site location
- Approximate size
- Equipment or supplies you will use for gathering (i.e., taps, buckets and bags, or tubing)
- Sap processing information (i.e. if you will process the sap on the site, a description of the supplies and structures you will be using)
- Access: roads or trails to be used to access the sugarbush, type of vehicles to be used (i.e. passenger car, ATVs or snowmobiles)
- Site maintenance: the sugarbush operator is responsible for removing all equipment and refuse from the location

County and Wisconsin state properties: Establishing a tribal iskigamizigan on these land jurisdictions can be confusing, but not impossible! GLIFWC will work with designated land managers to navigate their permit requirements. Contact Alexandra Wrobel at 715-685-2125 or awrobel@glifwc.org for more information.

If you are interested in taking your syrup operations to the next level, there is a new opportunity to join a tribally operated maple syrup cooperative! (see below)



A group of elk congregate in the mixed forestland of northern Lower Michigan. (photo by Dean Beyer, Michigan DNR)

Wisconsin seeking review of the night hunting decision by the U.S. Supreme Court

By Philomena Kebec, GLIFWC Policy Analyst

On January 7, 2015, the State of Wisconsin filed a petition for writ of certiorari (or request for review by the United States Supreme Court) of the Seventh Circuit Court of Appeals October 2014 decision on night hunting by the Wisconsin Chippewa Bands that were the plaintiffs in the *LCO v. Wisconsin* treaty rights case. In its October 2014 decision, the Seventh Circuit determined that the Bands had shown that circumstances changed since the original deer hunting trial in 1989, overruling the district court’s decision on that point, and requiring the federal district court to conduct further hearings consistent with the circuit court’s ruling.

After petitions are filed with the Supreme Court, the opposing party can file a response. Likewise, interested persons or organizations can file amici (friend of the court) briefs. In this case, the Association of Fish and Wildlife Agencies and the Wisconsin County Forests Association filed amici briefs supporting the state’s position. The Chippewa Bands have until March 9, 2015, to respond to the state’s request.

The Supreme Court receives at least 10,000 petitions each year, but only accepts about 100 of them. The Supreme Court will issue its decision to accept or decline the case by the end of June, 2015.

IMSPC formed to promote maple sugaring



The Inter-tribal Maple Syrup Producers Cooperative (IMSPC) was recently formed to promote maple sugaring in Indian country. Maple sugar (this includes syrup, sugar cakes, candy, etc.) is an indigenous product that has been produced for hundreds of years in and around the Great Lakes region. Historical records have shown large quantities of sugar being traded and sold throughout the sugar maple belt.

Today, sugar is still being produced by Native Americans but non-tribal production is dominating the market. IMSPC is looking to revitalize the tradition and assist native producers with technical assistance, marketing opportunities, equipment discounts, access to land and business planning. While bolstering production is a large aspect of the effort, returning to a cultural tradition and honoring the sacred gift of the sugar maple tree is a top priority.

IMSPC is currently accepting membership applications to help build capacity for the effort. If you are interested in becoming a member, or just looking for more information, contact Jerry Jondreau at gjondreau@kbic-nsn.gov. You can also visit the website that is currently being developed at tribalsyrup.com.

On the cover

Boozhoo gaag (hello porcupine)! High in a tree this ball of fur and quills was probably ready to snack on some bark. While gaag prefers oak, he/she will also munch on aspen and white pine. (photo by Bill Mattes)

Looking at Lake Superior lake trout dynamics

Why reduced bag limits and quotas?

By Bill Mattes, GLIFWC
Great Lakes Section Leader

Odanah, Wis.—In the Apostle Islands area of Lake Superior the number of adult lake trout (age 7 and older) increased through 2004, but numbers have since declined to levels not seen since the early 1980's (solid line in the graph). The response to this has been a reduced bag limit for recreational fishers and a reduced allowable catch for commercial fishers in the area (solid dashed line).

Since 2000 harvest has increased even with reductions to allowable catch (dotted line). However, the harvest has remained below the set limit. The decline in the number of lake trout coupled with the increase in harvest leads to increased estimates of mortality attributed to the fishery (solid bars).

Note that natural and lamprey-induced mortality stayed low, although the latter did increase slightly during 2007 to 2009. Lamprey mortality is directly related to control efforts of the sea lamprey control program (see related article below).

The harvest limit (solid dashed line) was high from 2006 to 2009 because there were large numbers of lake trout in the area (solid line). Fisheries managers also knew the prey base in the entire lake was declining (gray shaded area) so it made sense to allow harvest of the top predator. (Note: the prey data are taken from the USGS lake wide bottom trawling dataset presented annually at the Great Lakes Fishery Commission's Lake Committee Meetings; all other data is from the Wisconsin State-Tribal Technical Committee.)

In addition, when stock size of adult lake trout was high, the number

of young lake trout (< 4 years old) was very low (not pictured). This can be partially attributed to adult lake trout feeding upon young lake trout in the absence of other prey.

However, in the past two years the numbers of young lake trout in the area have increased. It is important to protect a portion of these young lake trout so that they can grow to reproduce and spawn. Now that the adult lake trout population is low, there is a reduced bag limit for

recreational fishers and a reduced allowable catch for commercial fishers in the Apostle Islands area of Lake Superior. Commercial harvest limits dropped from the highest quotas in 2006-2009 of 134,000 lbs. to the 2014-2015 harvest quota of 48,000 lbs. Similarly the sport harvest has been adjusted down from a 3-bag limit with a size limit of 15 inches and one over 25 inches to a 2-bag limit, one which must be 20 to 25 inches and one must be longer than 35 inches.

Workshop explores lampricide resistance

By Bill Mattes, GLIFWC Great Lakes Section Leader

Ann Arbor, Mich.—The Great Lakes Fishery Commission (GLFC) convened a first-of-its-kind workshop recently to explore the question: "Are sea lampreys becoming less susceptible to the lampricides that serve as the primary method of control for this destructive invader?" Participants included experts internal and external to the Great Lakes in the fields of microbiology, entomology, evolutionary biology, ecotoxicology, animal physiology, population biology, and fisheries management.

Since entering Lake Ontario in the mid-1800s, and the upper Great Lakes beginning in 1921, sea lampreys—parasitic, jawless vertebrates that feed on the blood and body fluids of other fish—have had an enormous, negative impact on the Great Lakes fishery and ecosystem, caused significant economic damage, and changed the way of life in the region.

After extensive research to learn about the sea lamprey life cycle and identify control mechanisms, the GLFC developed an integrated sea lamprey control program that combines lampricides, barriers, and traps to control sea lamprey populations and protect Great Lakes fish. Today, the control program, implemented in partnership with the U.S. Fish and Wildlife Service, Fisheries and Oceans Canada, U.S. Army Corps of Engineers and U.S. Geological Survey, is remarkably successful—sea lamprey populations in most areas of the Great Lakes have been reduced by 90% of their historical highs!

The two lampricides, TFM and Bayluscide (also called niclosamide), are the primary weapons in the sea lamprey control arsenal. Discovered in the 1950s and early 1960s after scientists at Hammond Bay Biological Station in northern Michigan tested more than 6,000 different compounds, they have been successfully applied to the Great Lakes ever since. Used to target larval sea lampreys in a stream before the larvae metamorphose into parasitic juvenile sea lampreys, TFM and Bayluscide are incredibly effective, selective to sea lamprey, and safe to use in the environment.

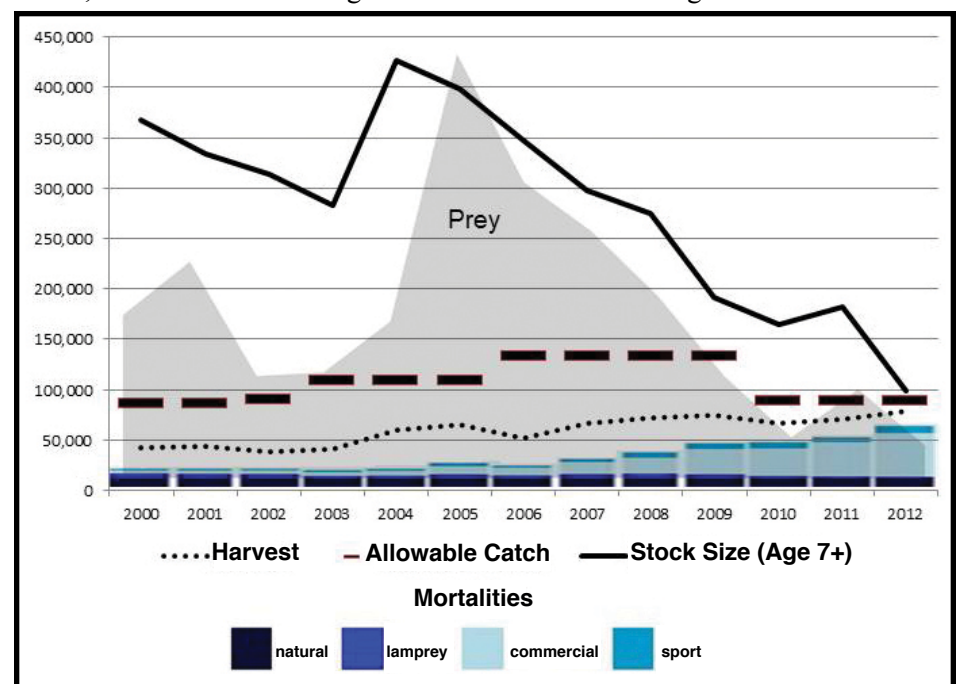
To achieve these objectives, the workshop was designed around four themes:

- Lampricides in the Great Lakes: What We Know;
- Evolution of Pesticide Resistance: Lessons for Sea Lamprey Control;
- Strategies to Prevent and Offset Pesticide and Antibiotic Resistance; and,
- Next-Generation Lampricides.

Each theme consisted of invited symposia presentations from subject-matter experts and was followed by small breakout group sessions in which participants were asked to discuss specific questions related to the theme.

"The sea lamprey control program is composed of highly motivated, intelligent, forward-thinking individuals," said Sea Lamprey Control Board Chair and GLFC Commissioner Don Pereira. "During the lampricide resistance workshop, I was reminded again of what an outstanding team we have working to protect our lakes. Watching the crew interact with the participants from many other fields of study from all around North America was inspiring: the synergy, the depth of discussion, and the myriad ideas for future collaboration confirmed that this workshop was a successful start to addressing a major unknown in our program."

The comments and discussion from the breakout sessions were recorded and will be used to develop two synthesis papers for publication. The first synthesis paper will focus on the likelihood of lampricide resistance development and strategies to reduce the risk while the second synthesis paper will examine research strategies to inform the development of next-generation lampricides. Publication information will be updated here as it becomes available.



(graph by Bill Mattes)

Eighth Circuit rules that 1837 Treaty precludes Lacey Act

By Philomena Kebec, GLIFWC Policy Analyst

On February 10, 2015, the Honorable Diana E. Murphy, writing for a three judge panel of the United States Court of Appeals for the Eighth Circuit, issued an opinion barring the prosecution of four tribal members of the Minnesota Chippewa Tribe for violations of the Lacey Act. The court found that the Treaty of 1837 protected Michael Brown, Jerry Reyes, Marc Lyons and Frederick Bud Tibbits from the imposition of federal jurisdiction by a Lacey Act prosecution because the act of harvesting and selling harvested fish was protected by the Treaty of 1837.

This case began in 2010, when the Minnesota Department of Natural Resources began an investigation into illicit sales of walleye and other game fish in northern Minnesota. The investigators discovered that several tribal members were gill-netting walleye on the Leech Lake Reservation and selling the fish to non-Indians.

This activity violated tribal law, as Leech Lake Band of Ojibwe prohibits the taking of game fish by gillnets for commercial uses and requires permits from the band's conservation committee to commercially sell fish. Many of the individuals investigated were charged with criminal offenses in state and federal courts. The federal charges were for violations of the Lacey Act, which makes it a federal offense to "sell ... any fish ... taken, possessed, transported, or sold in violation of ... any Indian tribal law." 16 U.S.C. § 3372(a)(1).

Brown and his co-defendants raised a treaty-rights defense at trial in the federal district court. They argued that the Treaty of 1837, which ceded lands in what is now northern Wisconsin and eastern Minnesota, guaranteed Leech Lake tribal members the right to harvest and sell fish from lakes on the Leech Lake Reservation and nearby their tribe's nineteenth century settlements.

Using the *Minnesota v. Mille Lacs* decision as precedent, the courts found that the 1837 Treaty guaranteed tribal members' rights to harvest and sell their harvest, and that the treaty had not been abrogated by later treaties or anything else. The courts also determined that the Lacey Act had no effect on Indian treaty rights and could not be read to abrogate treaty rights. Ultimately the circuit court determined that, regardless of whether the tribe made commercial fish sales illegal, the United States had no power to prosecute tribal members exercising a right guaranteed by a valid treaty.

Leech Lake Band authorities informed *Mazina'igan* that they plan on prosecuting this case in tribal court.

No new sulfate level set for Minnesota manoomin waters yet

Multi-year study of sulfate impact on wild rice continues

By Sue Erickson, Staff Writer

Minnesota Pollution Control Agency (MPCA) scientists were sent back to their various labs by a peer review committee this fall in order to pursue more definite results relating to the impact of sulfate/sulfide on manoomin (wild rice). The studies are being performed to determine a suitable standard for sulfate levels in Minnesota's wild rice waters that would adequately protect this cherished resource. But no conclusive answers yet.

The standard for sulfate levels in Minnesota wild rice waters was first set in 1973 at 10 mg/liter and was immediately challenged. There was even a failed effort to legislatively change the standard. Subsequently, the standard just was not implemented, a fact which came to the attention of the tribes as they looked into discharges into wild rice waters, states Nancy Schuldt, Fond du Lac Water Projects Coordinator. The potential impact of mining and industrial discharges into water continues to be a tribal concern, and both Fond du Lac and Grand Portage maintain a 10 mg/liter standard on reservation lakes. However, in 2010 the MPCA decided to re-evaluate that determination, and in 2011 the Minnesota Legislature provided funding from the Clean Water Land and Legacy Amendment for in-depth studies to be performed over a span of three years.

Sulfate is a type of mineral salt that can harm rice stands when it converts into sulfides at the root level and becomes toxic to the plant. Naturally occurring sulfates are uncommon in northern Minnesota, but levels can become elevated in areas with discharge from mines and other industries.

The MPCA developed protocols for the study with input from Minnesota tribes, the Minnesota Department of Natural Resources, the US Environmental Protection Agency and interested stakeholders. The MPCA contracted with the University of Minnesota to perform the research that has involved several different components.

Field surveys of wild rice habitats comprised one component of the study. This included analysis of sediments and water quality and was used to expand understanding of the environmental conditions which were conducive or detrimental to manoomin.

Another component focused on controlled laboratory hydroponic experiments to evaluate the impact of sulfate and sulfide on wild rice seed germination and growth. These experiments were only limited to ten to twenty-one days, so have no bearing on the effect of sulfate or sulfide throughout the life cycle of the plant. Consequently, the hydroponic experiment had only limited use, according to Schuldt, who is also a member of the Wild Rice Study Committee.

A third area of study used outdoor container experiments to determine the impact of sulfate on manoomin over a full growing cycle. The container experiments were another "dose-response" experiment yielding results that could eventually be compared with the results from the laboratory and field studies. These were started with tribal funding for the first two years, and tribal funding also supported a fourth year of study. Cumulatively over time the 150 mg and 300 mg have shown a clear effect of increased sulfate on wild rice and that effect becomes stronger over time, Schuldt says, noting that by year four the tribes can show that the plants treated with the 300 mg sulfate level are completely dead.

Other study areas included collection and analysis of rooting zone depth profiles which examined sediments at manoomin's rooting level in the field and containers. Also, sediment incubation laboratory experiments were performed to better understand the effect of temperature on movement of sulfate into and out of underlying sediment.

Once the studies were complete, the MPCA appointed a peer review committee to review the work of the researchers and provide comments. The review took place in August 2014.

While overall the research showed that sulfate, converted by bacteria into sulfide, interferes with the long-term viability of wild rice stands, experts on the review panel called for further study before a new standard sulfate level is considered.

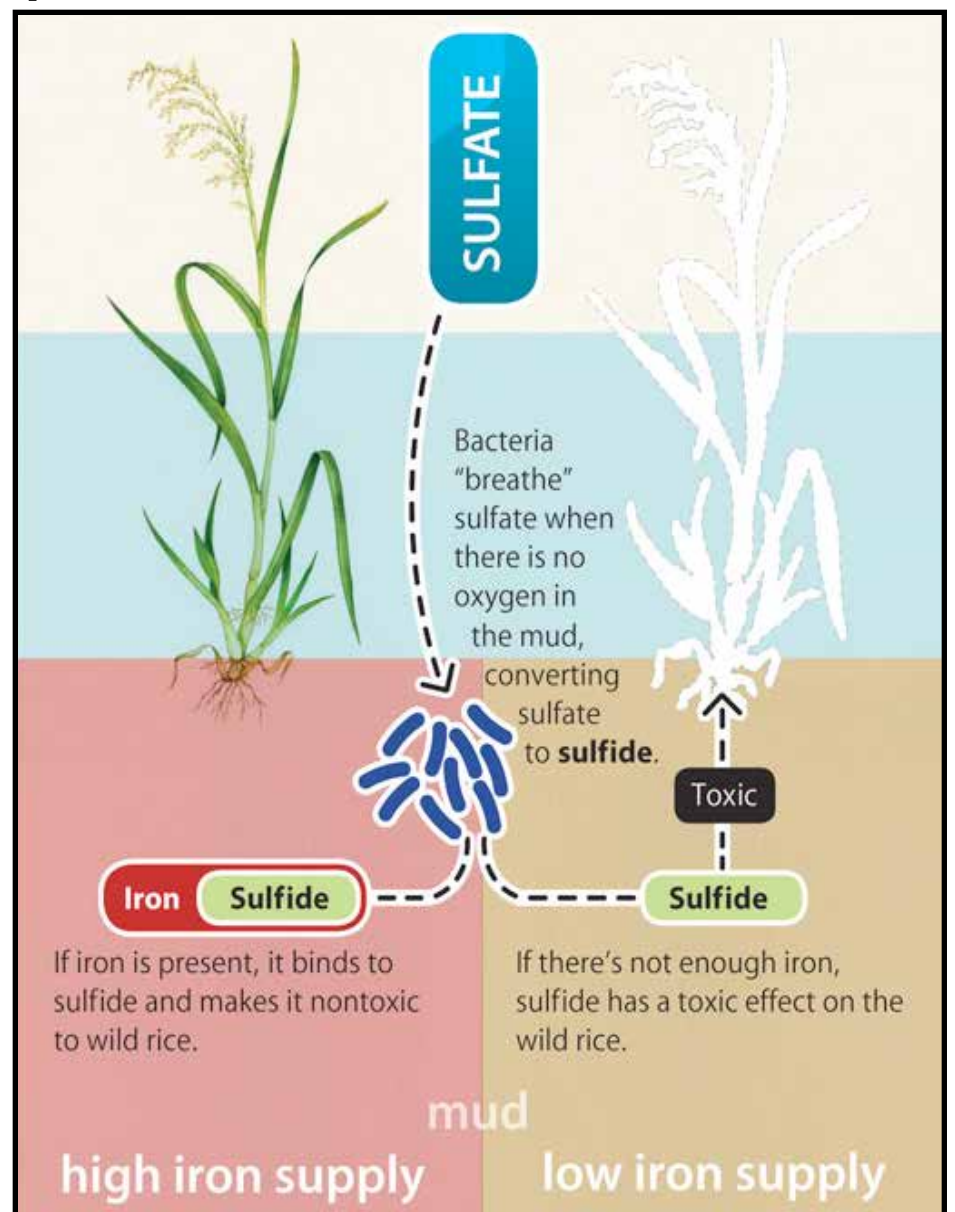
Some of the questions still out for study included the period or conditions when manoomin is most susceptible to sulfide impacts. Questions also remain about setting site-specific standards since varying conditions in waterbodies may be more or less likely to convert sulfate to sulfide. For instance, the study suggests a higher concentration of iron in the water may be less conducive to converting sulfate into sulfide.

Among a number of recommendations the panel suggested the use of more sophisticated, multi-level models to crunch data as well as including other experimental variables such as nitrogen, phosphorus, iron, and the amount of organic matter in the sediment. They emphasized a need to better understand the complex interactions that occur in the mucky sediments that support manoomin.

The studies used a measurement of wild rice coverage per acre of the waterbody. Reviewers suggested using other methods, such as counting stems per square meter, biomass per meter, or the number of flowering stems. These methods would provide a more complete picture of the stand's overall vitality.

According to the MPCA, the review panel recommends that the MPCA first re-analyze their current data-set in light of the peer reviewers' comments,

"Taken together, the multiple lines of evidence seem to indicate that the current standard is protective, and that increased concentrations of sulfate turned into sulfide is toxic to rice. There is clearly an effect."
—Nancy Schuldt, Fond du Lac Water Projects Coordinator



The iron-sulfide battle: The amount of iron and sulfide is dynamic and one affects the other. If enough new iron is flowing into the mud (e.g., via groundwater), then even a lake or stream with high sulfate levels can support wild rice. On the other hand, enough sulfate can overwhelm the supply of iron and make sulfide levels toxic. (reprinted with permission from MPCA)

especially around the studies that examine the role of sulfate and sulfide in wild rice responses in the laboratory and containers for comparable occurrences in the field. This re-analysis should include a "rooting-zone porewater profile" study and laboratory experiments on temperature effects.

The re-analysis should improve the overall value of the current datasets in understanding the concentrations at which sulfate and sulfide can adversely impact manoomin.

The MPCA feels the peer review process was critical. Commenting that the peer review "was a key step in the MPCA's ongoing efforts to improve its scientific understanding of the effects of sulfate on wild rice, and to provide additional factual information for the MPCA's decision about whether the current Minnesota wild rice sulfate water quality standard should be changed."

Manoomin research is not new to tribes, who have been researching and gathering data on manoomin for years. Schuldt believes the current standard of 10 mg/liter is defensible. "Taken together, the multiple lines of evidence seem to indicate that the current standard is protective, and that increased concentrations of sulfate turned into sulfide is toxic to rice. There is clearly an effect," she comments.

While Schuldt is pleased with the quality of research, she has some concerns that the rulemaking process is more complicated than it needs to be. For example, the MPCA seems to want to focus on specific sites with higher concentrations of iron in the porewater, which can mitigate the toxicity of sulfides. Schuldt finds that focus unreasonable because water quality standards and regulations should be very clear. "There is an undue focus on iron mitigation that should not be part of the water quality regulations," she says. She notes that a definition of wild rice waters in Minnesota's water quality standards also needs clarification.

For now, research, and yes, debate continue. No target date for a determination has been announced.

Members of the peer review team included: Gertie H. P. Arts, Alterra, Wageningen, University and Research Centre, Netherlands; Donald Axelrad, Florida A & M University; Patrick Brezonik, University of Minnesota (retired); Siobhan Fennessy, Kenyon College; Susan Galatowitsch, University of Minnesota; Mark Hanson, University of Manitoba; Curtis Pollman, Aqua Lux Lucis, Inc.

Peer review report is available at: www.pca.state.mn.us/index.php/water/water-permits-and-rules/water-rulemaking/sulfate-standard-and-wild-rice/scientific-peer-review.html

Enaabijichigaazowaad Okeyawag Anishinaabewing “How decoys are used in the Anishinaabe way”

The art of subsistence

By Dylan Jennings, Staff Writer

Lac du Flambeau, Wis.—Walking in the front door, the house has the demeanor of a rustic workshop. Wood shavings scatter the floor in the kitchen, and the room smells of fresh basswood, sage and paint. Jerry Labarge, a Lac du Flambeau tribal elder, has been making fish decoys for over 50 years. He learned this trade from his grandfather, Joe Sharlow, back when Jerry was a young man. Every creation is done with extreme expertise and care.

Although materials have obviously changed over the last hundred years, the idea and technique have stayed pretty much the same. Jerry doesn't utilize a band saw or other modern-day equipment to cut out the decoy's body.



Instead he takes a block of basswood, usually from a log, and then begins to envision the fish. His process starts with asemaa for the trees and the mitig (wood) that he harvests. He then takes the hatchet and studies the natural curve of the wood and then utilizes this for the fish's curved tail. He rough cuts everything, and it's still pretty unclear what he is making. Jerry carves down the fish to the right size and then begins a period of sanding.

A couple of youth watch and participate as he instructs them on their decoys. He tells the young boys to shave



Jerry Labarge, a Lac du Flambeau tribal elder, holds a piece of basswood and begins to envision the fish he will create.

more wood off of the tail so it swims clockwise. “All of my fish swim clockwise. I don't make them any other way; I've never seen a left-handed fish,” he jokes. He then instructs the boys to cut a rectangular hole on the underside of the fish decoy. Fins and an eyehook are placed through the top, and once the creation is ready, melted lead is poured into the rectangular pocket. This lead will keep everything together and allow for it to sink and swim properly.

He reminds us, “Too much lead will make the fish sink, and not enough will make the fish flutter around. You want the fish to swim in circles.” The belly of the decoy is then rounded out and a plastic-wood coating is painted over the lead hole. A jig stick is fashioned, sometimes intricately modeled after a clan animal, and both are painted depending on the fish shape. Once the fish decoy is finished and attached by ice line to the jig stick, Jerry brings his creations onto the ice for testing. He tests every one of his decoys to make sure they swim and can be used.

Photos by Dylan Jennings

Stanlee Labarge closely follows instructions as he carves and sands his decoy.

Inset: A notch must be cut on the underside of the decoy to hold lead so that the wooden fish can swim.



Once the body is formed, marks are made to signify fish body parts.



Decoy fish from start to finish. Each fish is hand-carved and can take approximately one or more days to complete.

The art of harvesting

Akwa'waa is a word Anishinaabe people know all too well. “Fishing through the ice with a spear” is the rough translation. Anishinaabe people have practiced this traditional method of subsistence for centuries on rivers, lakes, and streams. When the ice would prohibit netting and spearing, holes would be chiseled through the ice and a different form of fishing would occur. Nowadays the practice is still done; however, it is exercised in a more modern fashion. The work that goes along with the spearing is still challenging and at times dangerous.

The day starts with the offering of asemaa (tobacco). The tobacco itself is a form of prayer and an extension of gratitude for the ability to attempt the harvest and for the spirits of the giigooyag that may give themselves up to feed the people. Once this protocol is taken care of, the area is scoped out.

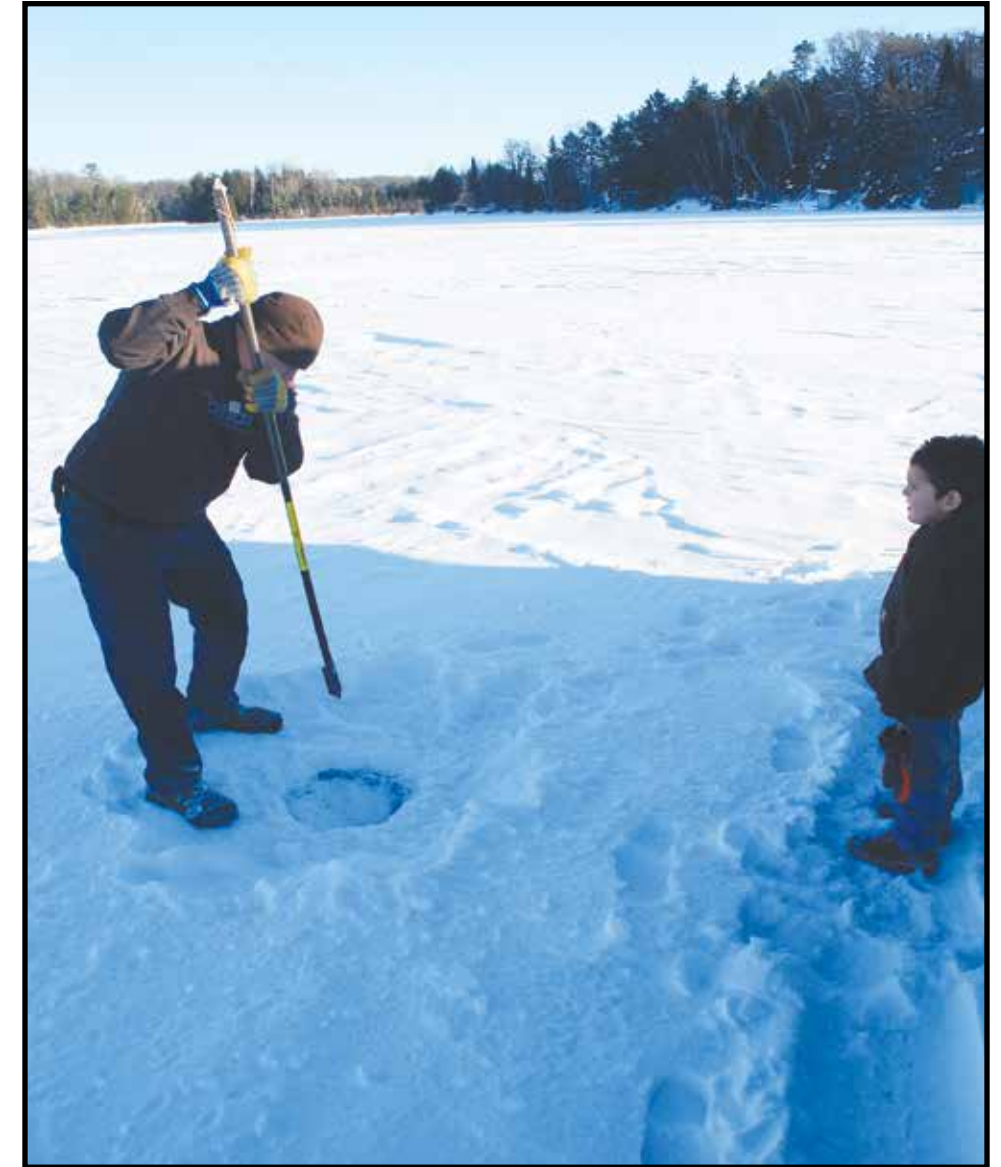
Many people have their special spots, or at least some form of oral knowledge pertaining to local lakes and rivers. Once the spot is picked, an ice chisel hammers through one, sometimes two, feet of ice. The hole needs to be big enough to pull a large fish through and to create visibility on all sides. Chiseling a hole through ice is no easy task, and it can take time.



A tarp is layed over the ice hole and then a shelter is placed on top of the tarp to minimize light penetration for fish.



Michael Labarge stands upon Big Arbor Vitae lake excited and ready to fish.



After asemaa (tobacco) is offered, a hole is chiseled through the ice.

Once the hole is chiseled to an acceptable diameter, the slush and ice pieces need to be scooped out of the hole. A black tarp with a cutout is placed over the spearing hole. This is to help with visibility at the bottom of the lake, and allows the fisherman to lay on the ground, even closer to the bottom.

Akwa'wewigamig (fish house for spearing) is placed over the hole. Many people to this day still rig up a tipi-like system made of small poles with a tarp or balsam boughs covering the structure. This allows for the cancellation of light within the shelter to create visibility under the ice. The structure allows for the retention of heat, which can be critical when temperatures soar below zero degrees.

Okeyaw (fish decoy) is then sent down the hole and plunges to the appropriate depth. An experienced spearer moves the jig stick in a pattern that makes the decoy swim in a circle. Different movements of the jiggling stick correspond to different movements of the decoy fish. Sometimes the fish decoy is swimming in up-and-down patterns while other times it darts around in an eye-appealing injured manner.

Eventually, if it's meant to be, a fish, usually maashkinoozhe (musky) or ginoozhe (northern pike), swims through, interested in the fish decoy. Sometimes the fish will even attack the decoy. Peripheral vision is very limited with a small ice hole; however, an experienced fisherman will see the fish moving in slowly. The spearer will position himself or herself and make sure the spear is attached to the shelter or themselves. In a fast motion, the anit (spear), a heavy, one-piece bar of metal, is dropped down the hole, and in an instant a fish is pulled up.

Everything happens so fast. Every tribal member that has speared through the ice knows that a person could go all day in the freezing cold, without seeing one fish. Every time is different, but the Anishinaabeg continue to brave the cold weather and harsh winters to feed their families and to revitalize these cultural practices.

Essential Ojibwemowin

akwa'wewigamig—fish house for spearing
okeyaw—fish decoy



Milania Labarge jigs a decoy up and down, side to side in hopes of luring in some giigooyag. To the left: A completed okeyaw ready to be submerged.





Iskigamizigan "Sugar Bush"

Boozhoo (Hello) my relatives! Winter is almost over, and springtime is the time for iskigamizigan (sugar bush)! I want to tell you how we do maple syrup up here!

Before anything is done, asemaa (tobacco) is offered to the manidoog (spirits) and the trees. This is to ensure a good harvest in a respectful way. After this is done, the sugarbush is scoped out for the sizable healthy aninaatig (maple tree). Do you guys know what a maple tree looks like? Check out the pictures to the right.

Each tree is drilled, not too deep, as we don't want to hurt the tree. We then put a tap in the drill hole and hang a akik (pail/bucket) from the tap. The pail will collect the wiishkobaaboo (maple sap). Some people use coffee tins; some use milk jugs; others use bags. Everyone has their own special way of doing things. Our ancestors collected sap in birch bark baskets.

Next it's all about patience. My grandparents always remind me that being patient is really important in everything we do. Sometimes the bags will be full of sap in a couple hours; other times it takes longer. Every day we return to the sugar bush to empty the pails of sap into a bigger bucket. When we fill a couple of the larger containers, we know it is time to boil.

The next step is to build a fire. Our word for fire is ishkode. Ishkode needs to be hot for the sap to boil down. Wood is constantly added to the fire, and the sap lets off a lot of steam. There is a lot of water in sap, so we need to keep boiling the water away.

Eventually, we begin to smell the sweet scent of warm syrup. Most of the water is gone, and we can smell natural sugar. We clean out the mixture and then it is time to bottle the syrup. We make enough syrup every year for our family and also to give away as gifts to community members and relatives.

Makakoke!
(Make a birch bark basket!)

Cut out this pattern and trace onto construction paper.

Cut out the pattern again, then fold along the dotted line.

Fold pieces inward and tape on the inside.

Number the events in order!



Oziiginaan
ziinzibaakwadaaboo

(To make maple sugar)

Bagone'ige

(To drill)



Iskigamide

(Boil down)

Biindaakoojige

(Make an offering of tobacco)



Naadoobii

(Gather sap)

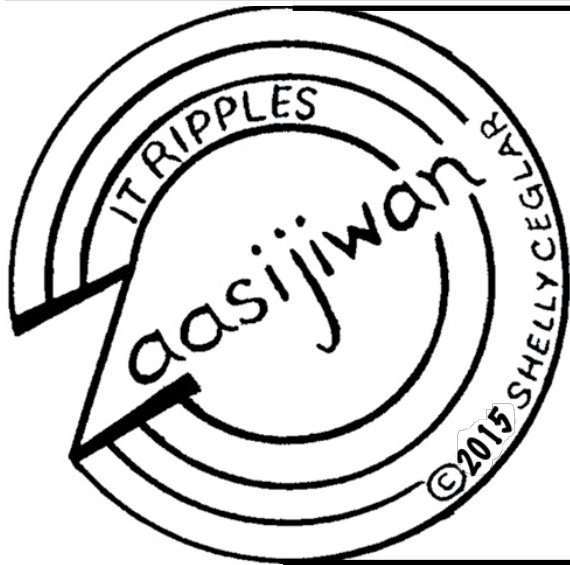
Ozhigaa'ige

(Tap trees)



Akik

(Pail)



Aaniin ezhwebak ziigwang? What is happening as it is spring?

Bimaadiziwin. Akiing, aanzinaagwad. Aaniin ezhwebak agwajjiing? Zhaawaninoodin. Noodin. Gimiwan wayiiba. Giwedining, bimisewag, ingiw andegwag. Aabawaasige dash abaate. Ningizo goon. Onaagoshing mashkawaakwaji. Izhinikaazo Onaabani-Giizis o'ow giizis. Wayiiba maajigaa idash zaagibagaa. Bizindan! Noondaagoziwag ingiw omakakiig. Ombiigiziwag. Ninzaagi'aag. Zhishiibensag. Gaye baashkawe'owag zhiishiibensag. Miigwech!

(Life. On the earth, the land looks transformed. What is happening (weather) outside? There is a south wind. It is windy. It will rain soon. To the north they fly, those crows. The sun warms things up and it is warm weather. She melts/thaws, the snow. In the evening s/he freezes. She is called the Crust on the Snow Moon this moon (March). Soon, sap begins to run and the leaves bud. Listen! They are calling/croaking like they do, those frogs. They are loud. I love them. Also, they are hatching the ducklings. 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
Aaniin—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.

Aaniin Questioning

Aaniin?—What/how?
Aandi/Aaniindi?—Where?
Aaniin waa-miijiyan?—What do you want to eat?
Waawaanoon niwii-miijinan.—I want to eat eggs.
Aaniin ezhichigeyan?—What are you doing?
Nindagindaas.—I am reading.
Aandi gaa-izhaayan?—Where did you go?
Ziibiing ningii-izhaa.—I went to the river.
Aandi waa-izhaawaad baanima?—Where will they go later?
Iskigamiziganing wiiizhaawag.—They will go to the sugar bush.
Aandi gaa-izhaad bijiinaago?—Where did s/he go yesterday?
Gii-kiiwe.—S/he went home.

Niizh — 2

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

A. Aandi bemoseyan? Megwaayaak nimbimose noongom.

B. Aandi gaa-wiisimid? Wiisiniwigamigong gii-wiisini imaa.

C. Aandi waa-nwaajigiigoonyiwed?
Ziibiing noojigiigoonyiwe.

D. Aaniin apii waa-maajaayan?

Niwii-maajaa niizhwaaso-diba'iganek.

E. Aaniin enaanzowaad ingiw miigwanag? Migiziwag ina?

F. Gichi-mindido a'aw migizi ziibiing.
Gigii-waabamaa na?

G. Aandi dezhed?
Aandi eyaad dibi migiziwazison?
Maamakaaden-daagoziwag migiziwag.

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

Niswi — 3

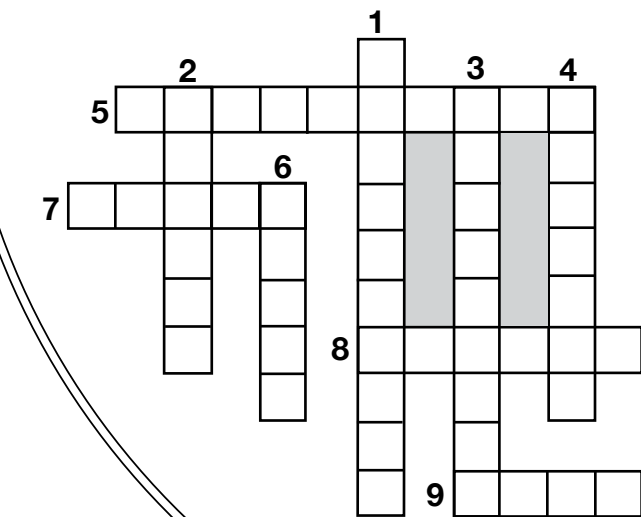
IKIDOWIN ODAMINOWIN (word play)

Down:

- It buds.
- How, what?
- frogs
- It is melting.
- S/he goes.

Across:

- eggs
- Where?
- S/he is sick.
- also



Online Resources
ojibwe.lib.umn.edu
www.umich.edu/~ojibwe/
www.glifwc.org/
QRCode: Scan for lesson

Niwin — 4

VAI - S/he is... They are... suffix -wag

Who, What, Where type questions:

S/he? suffix -d. You? suffix -yan. They? suffix -waad.

We/Us w/o you suffix -yaang.

All of Us w/ you?—yang.

Iskigamizige.—S/he is making sugar.

Iskigamizigewag.—They are sugaring.

Aandi eskigamiziged? Where is s/he sugaring.

Aandi eskigamizigeyan? Where are you sugaring?

Aandi waa-iskigamizigeyang?—Where will we sugar?

Mino-ziigwan. Maajigaa.—It is a good spring. Sap begins to flow.

Howah! Mii'iw.

Howah! Mii'iw.

Howah! Mii'iw.

Howah! Mii'iw.

Howah! Mii'iw.

1. Iskigamizige _____ nimise dash nishiime.

2. Aandi waa-izhaa _____ ikwe waabang oodenaang?

3. Aaniin egindaaso _____? Mazina'igan o'ow.

4. Aaniin waa-agindaawo _____ gikinoo-amaadiiwigamigong? Giwii-agindaamin mazina'iganan.

5. Baanima. Aaniin apii waa-iskigamizige _____ megwaayaak? Maajigaa wayiiba ziigwang.

-yan

-waad

-d

-wag

-yang

Translations:

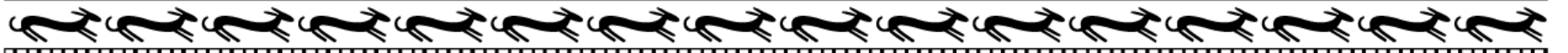
Niizh — 2 A. Where are you walking? In the woods I am walking now/today. B. Where will s/he eat? At the restaurant she will eat there. C. Where will s/he go fishing? At the river s/he will go fishing. D. When will you leave? I will leave when it is seven o'clock. E. What/how are they colored those feathers? Eagles? F. That eagle was big by the river. Did you see h/her? G. Where does s/he live (animal)? I wonder where s/he has the eagle's nest? They are amazing/astounding eagles.

Niswi — 3 Down: 1. Zaagibagaa 2. Aaniin 3. Omakakiig 4. Ningozi 6. Izhaa Across: 5. Waawaanoon 7. Aandi 8. Aakozi 9. Gaye

Niwin — 4 1. They are sugaring (-wag) my older sister and younger siblings. 2. Where will the lady be going (-d) in town tomorrow. 3. What are you reading? (-yan) This is a paper. 4. What do we want to read (-yang) at the school? We all want to read books. 5. After a while. When do they want to go sugaring (-waad) in the woods? Sap begins to flow soon when it is spring.

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 lynn@glifwc.org.



Dr. Jim Meeker, manoomin expert and friend, walks on

By Sue Erickson, Staff Writer

Sadly, Dr. Jim Meeker, Gurney, Wisconsin, walked on last December; however, his legacy and passion for plants lives on. That legacy includes comprehensive research on manoomin in Bad River's Kakagon Sloughs, coordinating the compilation of GLIFWC's popular book, *Plants Used by the Great Lakes Ojibwa*; several years as a columnist for the *Mazina'igan*, and twenty years as a professor and student mentor at Northland College, Ashland, Wisconsin.

Jim held a number of degrees, including a Master's degree in Special Education at Northern Illinois University and a Master's degree in Environmental Science at the University of Wisconsin-Green Bay. With a developing passion for botany, Jim pursued his doctorate at the University of Wisconsin-Madison with his dissertation on the Kakagon Slough's wild rice involving extensive studies of the plant and habitat.

Jonathan Gilbert, GLIFWC's Wildlife Section leader, recalls Jim coming aboard and serving as GLIFWC's first botanist in 1992-1993. "He was a man who thoroughly appreciated our native plants and was dedicated to their preservation," Gilbert comments. Jim essentially developed the Wildlife Section's botany program and continued to include a tribal perspective in his work after he left GLIFWC. Retaining his strong connection to GLIFWC and the tribes, he was also instrumental in preparing Northland students to serve as GLIFWC interns.

Gilbert recalls Jim's particular concern about the management of deer density in a manner that also preserves plants. This was also a frequent topic in his

Mining alternatives summit held at Red Cliff

By Jen Burnett, GLIFWC Outreach Specialist

Red Cliff Reservation, Wis.—The Chippewa Federation Mining Committee held a three-day conference at Red Cliff to bring Wisconsin tribes together with local municipalities and the public to talk about sustainable alternatives to mining in the region. The summit began with presentations by tribal organizations and environmental groups who offered an overview of environmental impacts caused by mining.

GLIFWC gave an overview of the mining activities occurring throughout the ceded territories and the potential impacts mining would have in the Lake Superior region. Also discussed were alternatives to develop the natural resources of the ceded territories in a more economically sustainable fashion such as creating a maple sugaring co-op, metal recycling, and food and energy sovereignty.

Panel discussions were also an integral part of the summit. An elders' panel with native and non-native locals offered advice and suggestions on ways to help think about how today's decisions impact the future and to consider how the next seven generations will be affected.

Tribal representatives sat with local leaders to facilitate a discussion with the public on the numerous mining alternatives. Attendees were able to ask leaders about their ideas on how best to help their communities and offer input on which alternatives they should consider implementing.

The summit was recorded and available to view online at News from Indian Country's TV archive.



With an eye to future careers, the Lac Courte Oreilles Middle School trekked north and spent the day with a cross-section of GLIFWC staff January 28. Students experienced the Commission's unique marriage of science and culture in the office and afield—learning how to track waabizheshiwag (martens), aging Lake Superior fish, and previewing Ojibwemowin outreach programs. Conservation officers were also on hand and shared stories of their adventures patrolling in the ceded territory.

Nick McCann, wildlife biologist (pictured left), and Wildlife Technician Adam Oja, led student tracking teams across Northern Great Lakes Visitor Center grounds in search of radio collars used to monitor furbearers. (COR)

Mazina'igan columns, particularly preservation of the Canada yew on the Apostle Islands where yew have been threatened by deer browse.

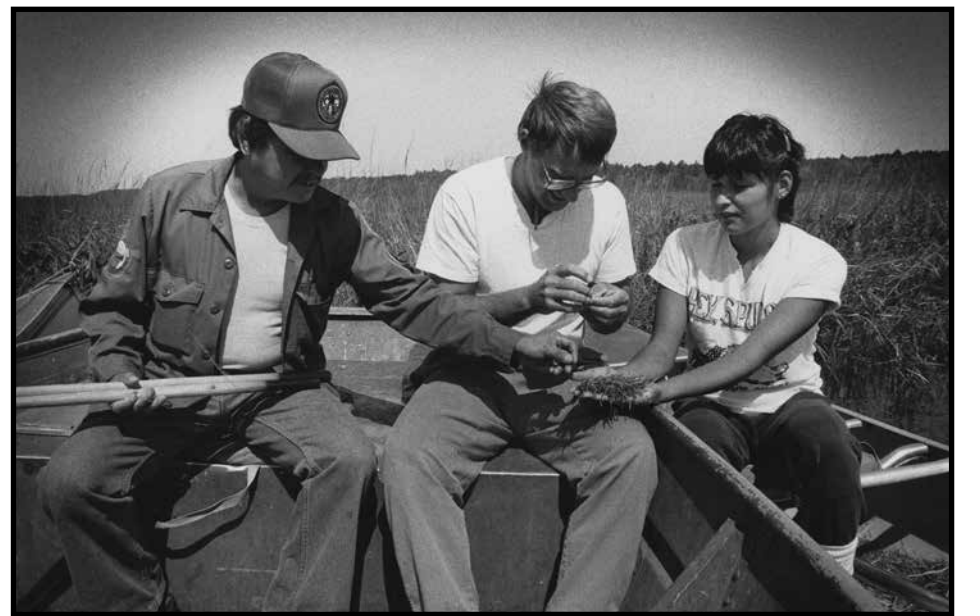
Jim oversaw the compilation of *Plants Used by the Great Lakes Ojibwa* along with his wife, Joan Elias, and John Heim, Bad River tribal member and Northland College student who gathered much of the information as an independent study under the supervision of Professor Joe Rose Sr.

Rose, former Director of Northland College's Native American Studies program, later hired Jim to teach botany in the program's Natural Resource Management Program. Rose, ethnobotany instructor, and Jim would take their students on joint field trips. Rose would talk about the practical uses of plants while Jim would relate the taxonomy. "Jim had the taxonomy key for northern Wisconsin plants in his head. He didn't even have to look in a book!" Rose relates.

Jim continued his career as a Northland College professor in the Natural Science Division.

GLIFWC is grateful for Dr. Meeker's many contributions as a former staff member, scientist, teacher and mentor, but mostly as a very gentle, approachable human-being, filled with kindness and concern for all living creatures, but especially those plant-beings!

Chi miigwech Dr. Jim!



Jim Meeker takes a close look at Kakagon manoomin. John Denomie (left) and Marcia Diver, both of Bad River, assist Meeker in the Kakagon Sloughs where he studied manoomin for his doctoral dissertation. (staff photo)

Mercury maps can guide lake selection

Pick your lakes wisely this spring! Maps indicating mercury levels in ogaaw (walleye) for key lakes used by GLIFWC member tribes are available online at www.glifwc.org, at tribal registration stations, or at GLIFWC's main office in Odanah, Wisconsin: (715) 682-6619 or e-mail jburnett@glifwc.org.

Some seek legislation to delist ma'iingan

(Continued from page 1)

schemes to protect ma'iingan; and (5) the failure of USFWS to justify the policy of Minnesota to allow "virtually unregulated killing of wolves" in half of the state.

The defendants have 60 days from December 19, 2014, to file an appeal to the D.C. Circuit Court (appellate court).

Possible Congressional Intervention

It is also possible that Congress will intervene to delist ma'iingan in the Western Great Lakes Region and Wyoming.

In 2011, after wolves in Idaho, Montana, and parts of Washington, Oregon and Utah were similarly relisted after a legal challenge to a delisted action by the USFWS, Congress intervened. Congress inserted a rider into a budget bill that delisted wolves in that area, and included a provision indicating that the action "was not subject to judicial

review." It was the first time in the 38 years the ESA had been in existence that a species was delisted by legislation.

Several members of Congress are already circulating a draft of similar legislation that would delist ma'iingan in the Western Great Lakes region and the state of Wyoming. (In September, Wyoming wolves were also placed back on the ESA list following a successful legal challenge to their delisting.) The effort is being led by U.S. Rep. Reid Ribble (R-WI), whose district is in northeast Wisconsin. Co-sponsors include U.S. Reps. Collin Peterson D-MN, Dan Benishek, R-MI, and Cynthia Lummis, R-WY.

Humane Society of the United States v. Jewell, decided by the United States District Court for the District of Columbia, full decision available at http://www.endangeredspecieslawandpolicy.com/files/2014/12/Humane-Soc_y-of-the-United-States-v.-Jewell_-2014-U.S.-Dist.-LEXIS-17524....pdf



Chainsaw safety class welcomed

Hopes for a second level training voiced

By Sue Erickson, Staff Writer

Lac du Flambeau, Wis.—This was a first! We all know about hunter, snowmobile and ATV safety classes, but chainsaw safety is a new one. A level one chainsaw safety class drew nine participants to Lac du Flambeau on January 28 clad in heavy work boots and ready for a day-long session in handling a chainsaw safely. Before the end of the day, they could holler “timber!”

“We thought the opportunity to co-sponsor this class was very important,” states GLIFWC Warden Heather Naigus, “because more tribal members began to rely on firewood for heat after propane prices soared.”

Instructor Ben Parson, Forest Industry Safety and Training Alliance, Inc., reviewed chainsaw basics with the participants, including personal protective equipment, chainsaw safety features, reactive forces of the chainsaw, how a chainsaw functions, and safe handling and maintenance of a chainsaw.

He also went over the basic bore cut, how to establish a hinge in a tree and how to make an open face notch in a tree. With chainsaws in hand, participants later took to the woods to practice boring techniques and ultimately teamed-up to “fell” a tree.

Participants ranged in ages from 16 on up and included novice and seasoned chainsaw users. But even those who had been using chainsaws for years benefited. One participant stated he didn’t realize how dangerous he had been. The session concluded with hopes for a level two chainsaw training in the near future.

The session was sponsored by the Upper Midwest Agricultural Safety and Health Clinic, the National Farm Medicine Center, and GLIFWC and was coordinated by GLIFWC Warden Heather Naigus.



Instructor Ben Parsons demonstrates boring techniques for workshop participants Bill Kane, GLIFWC Warden Jordan McKellips, Mike Zimmerman, GLIFWC Warden Mike Popovich and Cole Chapman, the youngest participant (age 16) in the class. (photo by Heather Naigus)

Bay Mills snaring workshop



GLIFWC Warden Terry Carrick led a two-day snare workshop on January 31st and February 1st at Migizi Hall in the Bay Mills community. This was the second year for Carrick presenting a snaring workshop for GLIFWC. The workshop attracted twelve participants the first day and sixteen the following day.

Tribal members learned how to make snares and properly set them. “Snaring has been practiced forever at Bay Mills,” Carrick says. His parents schooled him in the art. The crew ventured outdoors and set their snares for them to sit overnight and ended up with a waabooz (rabbit) for dinner. Rabbits and snowshoe hares are the primary target of snares, but an occasional partridge can be caught, especially in the fall. Carrick says if the interest continues to be there, he will present another workshop next year. (SE)

To the left: Timothy Walden shows how to set a snare.

Below (left): Nicholas Cameron and daughter Mary Jane show off their catch of the morning.

Below: Paula Carrick demonstrates the art of snare making.

(Photos by Erica Carrick, Bay Mills Healthy Start)



Bill Kane fells a tree as Mike Zimmerman and Ben Parsons look on. (photo by Heather Naigus)



First deer! Mitchell McGeshick Jr. proudly displays his first deer harvested during the fall hunting season. Mitchell is a recent graduate of the Hunter Safety course offered on-reservation by GLIFWC Conservation Officer Matt Kniskern and Patrick Hazen, Lac Vieux Desert youth director. (photo submitted)

