Mazina'igan
A Chronicle of the Lake Superior Ojibwe
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Waabizheshi mystery on the Apostle Islands

By Jonathan Gilbert
GLIFWC Wildlife Biologist

What do you say when you find a species that you thought was long gone from an area for more than 40 years? Was it rediscovered after having been there the whole time? Was it successfully reintroduced more than 60 years prior? Did it recolonize the area after reintroductions to nearby areas? No matter what it is called, it is an exciting development. This is exactly what is happening with the American marten (waabezheshi, martes americana) on the Apostle Islands in Lake Superior.

Prior to gathering biological data from waabizheshiwag, GLIFWC wildlife technicians administer a temporary sedative to each animal. (Nick McCann photo)

Martens were native to Wisconsin and were common in the northern part of the Ceded Territory prior to European colonization. But through over-harvest and cutting of the forests, martens were extirpated from what is now known as Wisconsin by the 1920s. At least that is what we thought, and what is stated in many published reports.

Martens in Wisconsin and Michigan were reintroduced through several projects. Many people know about the efforts in the Nicolet National Forest, near Eagle River, in the 1970s and the efforts on the Chequamegon National Forest, near Cayuga, in the 1990s -2010s. But the earliest reintroduction effort occurred on Stockton Island, one of the Apostle Islands, in 1953.

In that first reintroduction effort between five and 10 martens were released on Stockton Island. During the next 10-15 years there were sporadic observations of martens on or near Stockton Island, the last observation occurred in 1969 on the ice near Stockton. But since then, and since the establishment of the Apostle Islands National Lakeshore, there have been no observations of martens on the Islands. The Stockton Island reintroduction effort was deemed a failure by Wisconsin Department of Natural Resources.

Fast-forward to 2008-2010. In an effort to bolster the marten population on the Chequamegon National Forest, Great Divide District, 90 martens were captured in Minnesota and released. We are monitoring this population to see if the 2008-10 augmentation of martens had a positive effect on the resident population already there.

However, a few years later (2013) a trail camera placed on the Red Cliff Reservation, just on the mainland from the Apostle Islands and 40 miles north of the releases on the Chequamegon National Forest, captured a photo of a marten. Then, in 2014, a marten was confirmed on Manitou Island through a photo taken by a park visitor; this siting was confirmed by a park volunteer on Manitou Island. That same year a person who visited the park in 2010 identified a marten from one of the pictures they took during that visit. These photos were the first evidence of martens on the Apostle Islands in more than 40 years.

(See Waabizheshi, page 5)

Spring spearing roundup

Long spearing season gets an early start

By Paula Maday, Staff Writer

Spring spearers from St. Croix offered tobacco to the water spirits and ventured out to Cedar Lake to open the 2016 spearing season on March 24. It was the second earliest opener in the modern spearing era.

Large temperature fluctuations made for a choppy start to the season. As tribes in the western region of the 1837 and 1842 Ceded Territory neared their midway point, tribes in the eastern region were just getting started. Of the Wisconsin tribes, Bad River was next in line to start spearing, taking 79 walleye from Long Lake on March 31. LCO joined on April 5, opening nine lakes, only four of which were speared for 46 total walleye. Red Cliff followed on April 9, Mole Lake/Sokoagon on April 12, and Lac du Flambeau on April 16.

In total, Wisconsin treaty spearers harvested 32,270 walleye from a harvest declaration of 58,407 and 179 muskellunge from a quota of 1,658. The walleye harvest was lower than the amount harvested in recent years, falling 8% below last year's harvest of 56%. The muskellunge harvest grew slightly from 9% last year to 11% this year. From 1989-2015, Wisconsin treaty tribes have harvested, on average, 57% of their walleye declaration and 15% of their muskellunge declaration.

Minnesota

On Lake Mille Lacs, continued efforts by state and tribal managers aim to recover a healthy walleye population. The lake has struggled with declining walleye due to the effects of cleaner, warmer water, invasive species, and predation. At the Voigt Intertribal Task Force Meeting on March 2, representatives from Mille Lacs asked Wisconsin treaty tribes to relinquish their harvest allocations on the big lake. Full and partial allocations from these tribes bumped Mille Lacs' walleye quota from 3,101 pounds to 6,579.5. Of this, Mille Lacs tribal harvesters brought in 3,340.9 pounds. They also brought in 235.4 pounds of northern pike.

Lake Mille Lacs also saw action from Fond du Lac. FDL tribal members harvested 2,924.2 pounds of walleye from an adjusted harvest quota of 3,108.5 pounds. They also harvested 209.7 pounds of northern pike. On the 1854 lakes in Minnesota including Eagle Lake, Sturgeon Lake, Lake Vermillion (West), and Whiteface Reservoir, Fond du Lac harvested 1,837 pounds of walleye, including 1,539.2 pounds from Lake Vermillion alone.

(See 1836, 1842 Ceded Territory, page 2)

Brady Edwards angles a Big Muskellunge Lake walleye into a boat shared with fellow spearfisherman Alan Peterson. The Lac du Flambeau spearers and several family members fished under a full Earth Day moon in Vilas County, Wisconsin. (Charlie Otto Rasmussen photo)

GLIFWC Ogichidaa retires after 34 years

By Dylan Jennings
Staff Writer

After 34 years of working with GLIFWC and its member tribes, Neil Kmiecik, also known as Giniw, announced his retirement from the Great Lakes Indian Fish & Wildlife Commission.

Kmiecik, hired by the Voigt Intertribal Task Force in 1983 as a fisheries biologist, worked tirelessly to protect and manage the fisheries populations on inland-Ceded Territory lakes. In 1992 Kmiecik was promoted to the Director of Biological Services, overseeing the Inland, Great Lakes, and Wildlife sections.

Neil was here at GLIFWC when the Commission was in its infancy and the spearing controversies in northern Wisconsin were at their worst. He recalls the power of the drum and the spirit that guided Anishinaabeg through these hard times.

Giniw worked methodically and thoughtfully throughout the years to make sure tribal members from all the member bands could exercise their treaty rights.

Neil played a lead role in the establishment of the Waabanong Run to Washington D.C. in support of tribal treaty rights and eventually the Healing Circle Run, which promotes the ideology that "healing begins with the individual." The Healing Circle Run connects GLIFWC member tribes and promotes healing and healthy living through ceremony, exercise, talking circles, and of course, laughter.

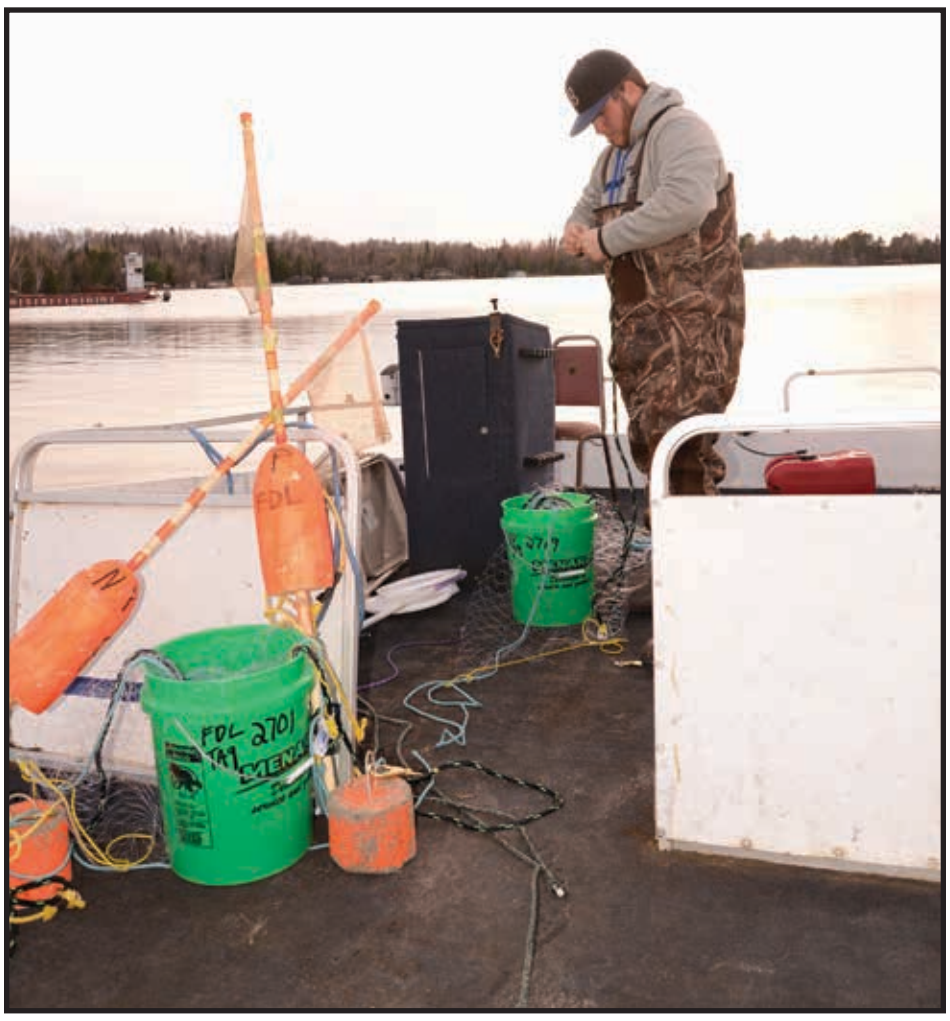
Aside from his regular duties, Giniw also cared for most of the spiritual items that GLIFWC has been given and instructed to use over the years.

On April 7th, Neil was honored at the Voigt Intertribal Task Force meeting in Lac Vieux Desert. A short video tribute from friends, co-workers, and family set the stage followed by tribal representatives adorning him with gifts and kind words of thanks for his service. Representatives from Fond du Lac gifted Neil with a bundle and a buffalo hide, a very high gesture and sign of respect.

Kmiecik, a member of the Standing Rock Lakota tribe will most likely use his retirement to spend time with friends and relatives, and to watch ESPN. Most have agreed that Giniw will still be around the Commission, whether its for his biological expertise or his vast knowledge of traditional practices. Giniw remains an iconic figure at GLIFWC and with the Bands for his dedication, and relentless service to Anishinaabeg and to the resource.

Neil Kmiecik with a beaded medallion, one of the retirement gifts presented at the Voigt Intertribal Task Force meeting, April 7th. (Jen Ballinger photo)

1836, 1842 Ceded Territory yields ogaa harvest in Michigan



Fond du Lac Band fisherman Spencer Otis prepares a gillnet at Lake Vermillion in the Minnesota 1854 Ceded Territory on April 27. Fond du Lac members targeted walleye on the sprawling 39,000-acre lake, but the harvest yielded a variety of fish including some impressive inland whitefish measuring in at nearly six pounds. Tribal conservation officers and creel teams monitored the harvest, counting and measuring every fish taken. (Brian Borkholder photo)

(Continued from page 1)

Upper Michigan

Lac Vieux Desert (LVD) opened their spearing season on April 15, but things didn't get too busy until the weekend of April 23-25 when spearers on Lake Gogebic yielded 1,951 walleye, a whopping 58% of their total declaration for that lake, within three days. Overall, LVD harvested 5,835 walleye and 10 muskellunge as of May 3. Of that, 4,211 came from Lake Gogebic over a six-day stretch.

Keeweenaw Bay Indian Community (KBIC) Fisheries Biologist Gene Mensch reported that KBIC members have harvested 457 walleye from the Portage Lake system as of May 3, but due to restrictive weather conditions including prolonged ice cover and a wind and snow event in late April, harvest has been difficult, even cancelled some nights.

Finally, in the 1836 Ceded Territory, Bay Mills ogaa spearers found limited success at the conjoined Crooked-Pickerel Lake in Lower Michigan, harvesting 35 fish. In the Upper Peninsula's Little Bay de Noc region, Bay Mills members took to the Escanaba and Rapid Rivers, where they speared a combined 243 walleyes at press time. Justin Carrick, Bay Mills Conservation Department also reports that tribal fishers on Gichigami tapped into a fair smelt run using one-inch mesh gill nets.

GLIFWC Chief Warden Fred Maulson indicated that the 2016 season has been a relatively safe one, with only one incident in Wisconsin wherein the wardens had to assist with a boat rescue in LCO. KBIC also saw one incident this year, on April 17, wherein a snow wall was put up, obstructing access to the ramps at a major launching point on the Portage Lake system. It did not impede the opening date.

Miigwech to all those who offer tobacco to the water spirits and set out in a good way to safely harvest ogaa and provide subsistence for our tribal communities.

**All figures are preliminary and reflect totals as of May 3, 2016*

On the cover

Wildlife Biologist Peter David encountered this spiny softshell turtle in Vilas County, Wis. near the Manitowish River. Use caution handling spiny softshells should you assist one crossing a roadway. They have a reputation for being aggressive and can inflict painful bites. In Ojibwe Country, spiny softshells are generally associated with large rivers, lakes and flowages. As their name suggests, these turtles have a shell that is soft, flat and rubbery. In addition, small spines protrude from the edges of their shell, or carapace.

Ceded Territory News Briefs

Updated "Process & the Price" details mining risks

From exploration activity to fully constructed mines, interest in mineral development in the Ojibwe Ceded Territory remains high in the 21st Century. To better evaluate the environmental risks associated with metallic mining, GLIFWC produced the 76-page publication, ***Metallic Mineral Mining: The Process & the Price***. The full-color booklet includes an overview of mining processes and highlights laws and regulations from state, provincial, and federal permitting agencies.

Potential natural resources degradation is a direct threat to the Anishinaabe cultural, spiritual, and subsistence lifeway. GLIFWC's member tribes take risks to natural resources like water quality very seriously. ***The Process & the Price*** provides a detailed look into scientific, environmental, cultural, and legal considerations that factor into metallic mineral extraction. For hard copies of the document contact GLIFWC Treaty Resource Specialist Dawn White at 715.685.2131. For a digital copy see: *www.glifwc.org/publications/pdf/2016Process.pdf* **—COR**

Spring juvenile survey planned for Lake Mille Lacs

GLIFWC, Fond du Lac Band, and Mille Lacs Band will coordinate efforts to conduct a late spring survey at Mille Lacs Lake to measure relative abundance of juvenile walleyes. When water temperatures rise to near 60 degrees, crews will spend 3-4 nights, depending on conditions, electrofishing around the entire shoreline of the large walleye lake.

During late spring after the adult walleye have finished spawning, young walleye move to nearshore habitats to feed. This provides biologists with an opportunity to evaluate the abundance of age one and age two walleye. Results from this survey can be compared to surveys from the fall before the survey, and the fall after the survey to evaluate survival of young walleye during critical increments of their early life stages.

Because poor juvenile walleye survival has been indicated as a key component of the Mille Lacs walleye population decline, results from this survey will be tracked closely. **—Mark Luehring**

World treaty generates hope for climate, tribal homelands

As native communities across Turtle Island increasingly grapple with negative effects of climate change, world leaders formally pledged to lower planet-warming greenhouse gas emissions on April 22. Representatives from some 175 nations signed the Paris Climate Treaty at the United Nations in New York City during an Earth Day ceremony.

Native people residing on ancestral homelands are especially vulnerable to the impacts of climate change. During international climate negotiations in Paris last December, American Indian tribes from the Pacific Northwest sent representatives to push for a strong agreement that can provide relief for future generations. Ancient communities like the Quinault village Taholah are being uprooted as rising ocean waters breach seawalls and damage homes. Increasing global temperatures have melted vast regions of the Arctic, elevating ocean levels across the world.

Without action to significantly reduce carbon emissions, scientists warn that global temperatures may reach catastrophic levels in the second half of the 21st Century.

For more on GLIFWC's work to manage treaty resources in the face of climate change see pp 12-13. **—COR**

Sick whitetails: No reprieve from chronic wasting disease

The distribution of the always-fatal wawashkeshi killer, chronic wasting disease (CWD), reached an unsettling milestone after a recent round of testing by the Wisconsin Department of Natural Resources. For the 10th consecutive year CWD infection rates continued to rise in the state's wild deer (wawashkeshi) herd.

While the vast majority of diseased deer appear to be located outside the Ceded Territory, authorities have identified CWD on northern game farms, and in a wild adult doe in Washburn County. Since the infected doe discovery—in an area between St. Croix and Lac Courte Oreilles (LCO) Reservations—four years of surveillance and testing on more than 2,000 deer have not produced any new positives.

"Tribes are dependent on deer meat for food," said LCO and GLIFWC Chairman Michael J Isham. "If those animals are contaminated and we cannot eat them, that's a problem."

CWD is now present in captive deer and elk farms in Michigan, Wisconsin and Minnesota. Isham said that too many animals from these high-fenced shooting operations escape into the wild. Since downed timber commonly creates breeches in fences, Isham said state regulators should seriously consider requiring treeless buffer zones. **—COR**

GLIFWC completes walleye population estimates

Assists WDNR with Turtle-Flambeau Flowage walleye survey

By Mark Luehring, GLIFWC Inland Fisheries Biologist

After an early warm-up, winter returned to the upper Midwest, and delayed ice-out on many Ceded Territory waters until mid-April. When the ice finally did go out, GLIFWC crews began walleye population estimate work in beautiful spring conditions.

Several days with high temperatures in the 60s and 70s brought prime mid-40s water temperatures, which drew walleye into nearshore rock, cobble, and gravel habitats to spawn. GLIFWC inland fisheries crews took advantage of the nice weather and completed walleye population estimates on 25 lakes in the 1837 and 1842 Ceded Territory of Wisconsin, Michigan, and Minnesota.

One of the main highlights of the season was the joint survey effort led by the Wisconsin Department of Natural Resources (WDNR) on Turtle-Flambeau Flowage, which was last surveyed in 2009. With 13,545 sprawling acres and 211 miles of winding shoreline, the Turtle-Flambeau Flowage provides good walleye harvest opportunity for tribal members, and a very popular angling opportunity for state harvesters.

Asaawe. (Ed White photo)

GLIFWC crews helped out by electrofishing about 20 miles of shoreline on the recapture portion of the survey. In addition to the walleye population estimate, WDNR will be conducting a survey of angling effort and harvest from May 2016 through the 2016-2017 ice fishing season. Results of the spring population estimates will be finalized prior to August.

For a complete list of GLIFWC walleye survey lakes, see page 10.

Mikinaak is on the move

Watch out for turtles on Ceded Territory roadways as spring moves into summer. Mother mikinaakwag are looking for high ground to lay their eggs. Others are on the go as part of seasonal migrations between different wetland habitats.

If possible and safe, first turn on your vehicle's hazard lights when preparing to give turtles a hand crossing the road. Always move turtles in the direction they are going, or they're likely to turn around and attempt another crossing. Move large snapping turtles—like this one—by holding the rear edge of the shell or back legs. Do not pick them up by the tail. While it's temping to examine these fascinating creatures once safely off the roadway, less handling is always best.

Biologists believe highway mortality is a major factor in turtle declines in the Ceded Territory and across the United States. **—COR**

Lake Superior commercial fishery

A treaty resource snapshot

By Bill Mattes, GLIFWC Great Lakes Section Leader

The treaty fishery on Lake Superior extends through all of the four seasons. Both large and small tribal fishing boats traverse the waters of the Great Lake during spring, summer and fall. Once winter sets in and ice covers the bays, many small boat fishers shift from boats to snowmobiles and set their nets below the ice while the larger 'tugs' continue to break out of the ice-covered harbors to the open lake.

Members of the Keweenaw Bay Indian Community (KBIC), the Bad River and Red Cliff Ojibwe bands exercise treaty commercial fishing rights, and also fish for "home use," in Lake Superior under the 1854 and 1842 Treaties. Lake trout and whitefish (adikameg) are the most important species for Ojibwe treaty commercial fishermen in Lake Superior. Consequently, GLIFWC and tribal biologists devote much of their time to assessments of these fish populations and to monitoring commercial fishing harvests. Biologists also work on joint projects to control sea lampreys, an invasive species which threatens native fish populations.

In the 1842 treaty ceded area within the Michigan waters of Lake Superior the tribes use a quota management system to regulate the harvest of lake trout and to limit mortality on recovering lake trout stocks. Total Allowable Catches (TAC's) are estimated for management units and for each fishing year. Treaty commercial harvest is monitored through mandatory daily catch reporting. In addition, biologists from the tribes and GLIFWC monitor the harvest each month and use commercial catches to obtain biological data. Conservation officers from GLIFWC and its member tribes enforce treaty commercial fishing codes in ceded waters of Lake Superior.

Annual assessments are performed by all fisheries management agencies, which along with the harvest and harvest monitoring, provide crucial data biologists use to make management recommendations on the fishery. The information allows fisheries biologists to track trends in numbers of fish by stock over time. Biological information such as growth, mortality, and movement between stocks gives insight into how fishing affects various species of fish.

Habitat degradation through pollution and introductions of invasive species seriously threaten various native fish species, such as lake trout (namegos). Therefore, GLIFWC, Bad River, Red Cliff, and KBIC biologists continue to collaborate with U.S. Fish and Wildlife Services' Sea Lamprey Control Program to monitor sea lamprey populations in tributaries to Lake Superior. The data collected during annual population estimates contribute to a lake-wide management plan to control and reduce lamprey populations. Studies confirm that each adult lamprey can kill 10 to 20 pounds of fish, so they pose a serious threat to the native fishery.

Maintaining a viable native fishery in Lake Superior has long been and will continue to be an important objective of GLIFWC and its member bands. For more information contact Biologist Bill Mattes at 715.682.6619.

Under a swarm of gulls (gayaashkwag), a tribal commercial fishing tug motors along the near-shore waters of Gichigami. (Charlie Otto Rasmussen photo)

GLIFWC, partners explore control methods for Lake Superior's fish-killing sea lampreys

By Bill Mattes, GLIFWC Great Lakes Biologist

A jawless, boneless fish that swam in the oceans at the time of the dinosaurs invaded the waters of Gichigami after shipping canals were built in the 1800s to connect the Atlantic Ocean to the Great Lakes. The canals were built to move goods via cargo ships to cities surrounding the Great Lakes.

At the time, little was known about the damage that the sea lampreys would ultimately have on native fish.

Today, sea lampreys start out as harmless filter feeders in streams which flow into the Great Lakes. However, after several years as filter feeders, sea lampreys transform into parasites developing a hunger for blood and grow a mouth full of teeth (photo), which are used to attach to fish and bore holes in their flesh to feed.

Eighteen months prior to spawning, in the fall, sea lampreys migrate out of streams to feed in the Great Lakes where each lamprey kills up to 40 pounds of fish before reaching adulthood. Adult sea lampreys return to streams to spawn. Males build nests where each female lays over 100,000 eggs. Adults die after spawning leaving only their offspring to grow and damage the fish populations in the future.

The larval, filter feeding sea lampreys are the main target of control efforts in the Great Lakes. Biologists control sea lampreys through regular treatments of tributary streams with lampricide, which kills larval lampreys before they can migrate into lakes and kill fish.

In addition to lampricide, barrier dams, which prevent adult sea lampreys from reaching spawning grounds, are important in controlling their populations throughout the Great Lakes.

Lampricide and upstream migration barriers are currently the two controls keeping sea lampreys from killing more fish. Alternative controls, however, are being researched. These include using pheromones, or scents, to attract, repel, guide or disrupt sea lamprey movements within streams. Also, sea lamprey traps that allow fish other than sea lampreys to pass are being researched.

Additional methods including manually removing adult sea lampreys through trapping, destroying their nests in streams, and trapping larval sea lampreys as they migrate out to the lake are being pursued.

GLIFWC has cooperated with the U.S. Fish and Wildlife Service (USFWS) and the Bad River Band of Lake Superior Chippewa to trap sea lampreys as they migrate upstream in the Bad River to spawn since 1986. The Bad River is one of many tributaries to Lake Superior, which sea lampreys have infested and in which control measures are implemented on a regular basis.

The Bad River Natural Resources Department, the USFWS and the Great Lakes Fishery Commission use information collected by GLIFWC to make management decisions. This, along with other information, is used as part of a large effort to reduce the numbers of sea lamprey preying on lake trout, whitefish, and other fishes throughout the Great Lakes Basin.

Larval lamprey removed from the Bad River through trapping. (Bill Mattes photo)

An adult sea lamprey's mouth is lined with teeth which are used to attach to and bore holes through fish. (T. Lawrence, Great Lakes Fisheries Commission photo)

Tracking waabizheshiwag (martens) in the Chequamegon woods

By Nick McCann, GLIFWC Wildlife Biologist

Mellen, Wis.—She waited patiently for the door of the livetrap to open, then darted out. Her auburn fur drew a sharp contrast to the white snow that blanketed the forest. Once Janis was some distance away she plunged through a snowbank, popped-out the other side, and shook off powdery snow from her coat. After a quick look around to orient herself, she bounded north to a nearby patch of large hemlock and white cedar trees and disappeared from sight.

Janis did not know it, but she was one of three American martens (waabizheshiwag) captured and radio-collared by GLIFWC researchers that January day. Wildlife technician Ron Parisian, who has assisted with marten research for more than 20 years, noted with excitement that three in one day was a new record!

Once common across northern Wisconsin, martens are now rare and are the state's only endangered mammal. In fact, they were once extinct from Wisconsin because of over-trapping, timber harvest, and wildfires. Martens were brought back to the Nicolet National Forest about 40 years ago and to the Chequamegon National Forest nearly 30 years ago. To boost the Chequamegon National Forest (CNF) population, GLIFWC partnered with the Wisconsin Department of Natural Resources, Forest Service, and others to bring additional martens to the CNF a few years back. Despite this population bump, the CNF marten population is thought to still be small.

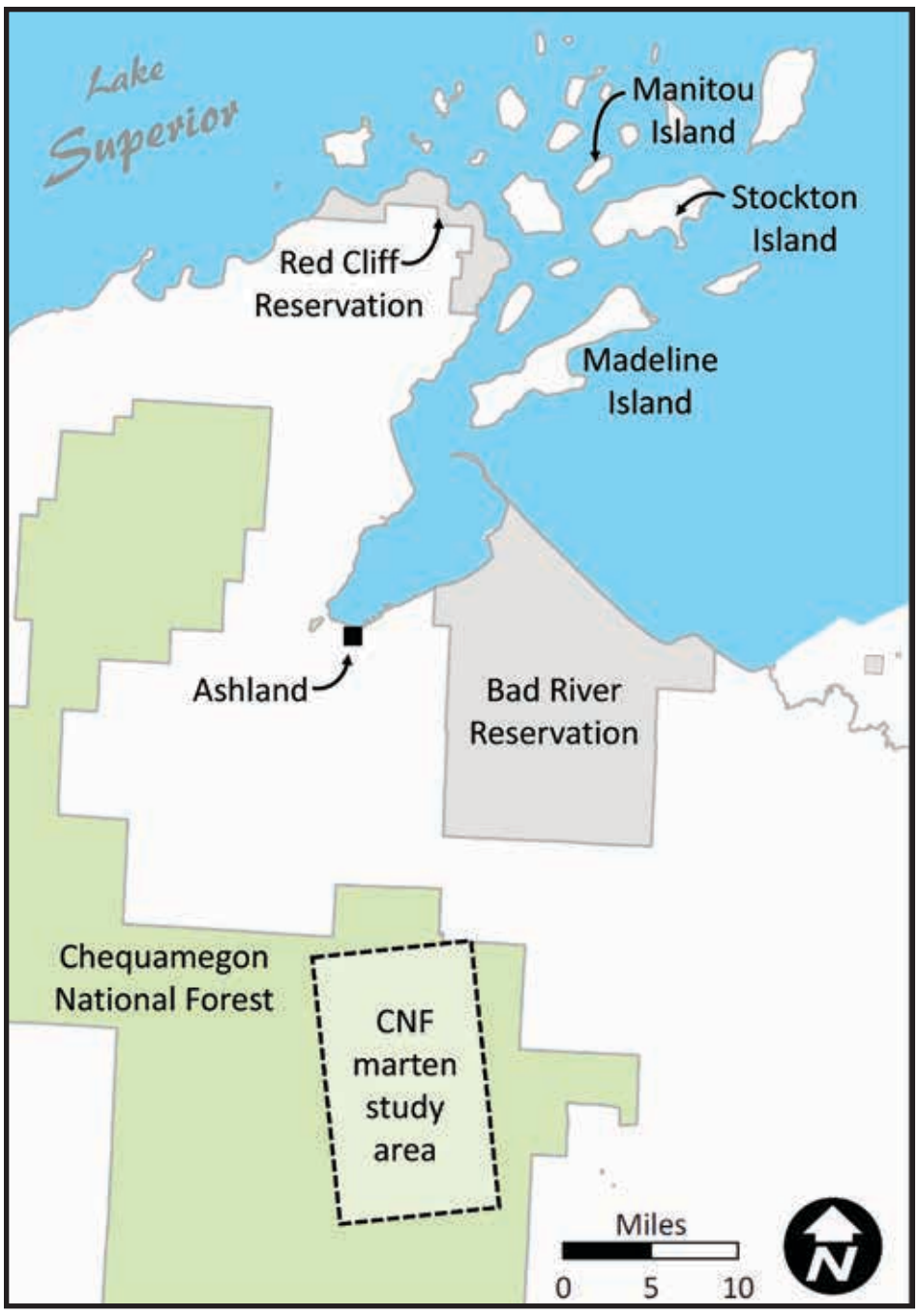
As an original clan animal, martens are particularly important to the Ojibwe. Members of the waabizheshi doodem are known as warriors. They traditionally provided for elders and the destitute and, in some communities, adopted those that did not know their clan. Another role of the marten clan among Ojibwe people has been to maintain order. Similarly, waabizheshiwag are carnivores that help to regulate prey populations—they help to maintain order in the animal community.

Through decades of field research, GLIFWC has learned valuable information about marten behavior and ecology. GLIFWC has partnered with universities and other agencies to publish multiple articles in scientific journals that describe how long martens live, what they eat, what trees they like to rest in, and what forest types they hunt in.

GLIFWC's waabizheshi research team, including Wildlife Section Leader Jon Gilbert and I—along with technicians Adam Oja, Jose Estrada, and Ron Parisian—captured a total of 10 martens last fall and winter using well-sheltered live-traps containing enough food to keep a marten full for days. Each captured marten was outfitted with a collar that had a small GPS tracking device affixed to it.

"We enjoy the up-close-and-personal time we spend with these animals," said Oja, a Bad River Band member. "We give each marten a nickname and look forward to learning everything we can about them."

The newly-developed GPS units can record where a marten travels for months at a time. The team plans to monitor Janis and other collared martens throughout the summer. When fall arrives, we will recapture them to learn more about where they have been. Look for waabizheshi research updates in upcoming issues of *Mazina'igan* and on *facebook.com/GLIFWC*.



Nick McCann map

Waabizheshi

(Continued from page 1)

In the fall of 2014, Dr. Tim VanDeelen, professor at UW-Madison, and his students placed trail cameras on Stockton Island as part of a larger carnivore survey for the Apostle Islands Lakeshore. In the spring of 2015 these cameras were retrieved and surprisingly contained multiple photos of martens, sometimes two martens together. The images constitute another confirmation of martens on the archipelago, and the first evidence on Stockton Island since 1969.

These two confirmations of martens on the Apostle Islands caused great excitement amongst those of us who study this species. During the summer of 2015, Dr. Erik Olson, professor at Northland College, conducted searches for scat, or feces, on several islands. The scats Olson retrieved were submitted to Dr. Jonathan Pauli, professor at UW-Madison, for genetic confirmation of species. In the fall of 2015 more cameras were placed on several of the islands, including those islands from which scat had been collected that summer.

We all await the results of these efforts. It could be that there are more martens on several other islands in the Apostle Islands National Lakeshore. But we already know that there are some martens on at least two islands (Manitou and Stockton). So, back to the original questions. Where did these martens come from? Were they always there? Were they successfully reintroduced in 1953? Did they recolonize the islands, via Red Cliff, in the 2010s?

One may ask how could martens have been there the whole time and no one having observed them? Or even, how could martens have been there since 1969 and no one seen them? These are good questions, but I recall that on Isle Royale, also an island in Lake Superior, martens were reported to have disappeared from the island in the 1920s. No evidence of martens was observed on Isle Royale from the 1920s to the 1980s, when researchers studying wolf/moose interactions on the island observed tracks and eventually the martens themselves. After some genetic testing it was determined that the marten population on the island had never died out but had been present there, undetected, for more than 60 years. So it is possible that the martens never died out on the Apostle Islands, or that the 1953 reintroduction was successful and martens had been there too, undetected, for 40 years.

The other possibility is that martens recolonized the Apostle Islands after the marten augmentation project in the Chequamegon National Forest. The timing of the augmentation (2008-10) and the photos taken on Manitou in 2010, Red Cliff in 2013 and the observations on Manitou in 2014 were coincidental but may be related. Could it be that the martens were released near Clam Lake and wandered up to Red Cliff, and then across to the islands? It is possible.

There are many people very interested in this discovery, including the researchers mentioned in this article and their students. Work will continue to determine the extent of the marten population on the islands and try to answer the question as to where they came from. This will involve work with trail cameras, scat collection, DNA analyses and other survey techniques. As we begin to unravel this interesting question we will be sure to keep you all informed. Stay tuned.

One last question. If martens are moving among islands, or if martens colonized the islands from the mainland, then how did they travel? Did they move over the ice in winter? Or, did they swim in summer? Both are hard to believe, but it has to be one or the other, or both! What do you think?

Manoomin in the Gichigami basin: Merging science with TEK

By Jennifer Ballinger, GLIFWC Outreach Specialist

Odanah, Wis.—Under an US Environmental Protection Agency (EPA) grant, GLIFWC specialists took the first step in a Traditional Ecological Knowledge (TEK) assessment of the historical presence of manoomin (wild rice) in the Lake Superior basin. TEK is knowledge gained from generations of indigenous people's connection and interactions with the environment. This knowledge system is based upon direct observations of the environment and is typically transmitted orally through aadizookaanan (sacred stories), dibaajimowinan (oral histories) and ceremonies.

The information preserved often includes harvesting techniques, best management practices, species habitat and distribution, along with explanations of the consequences and effects of some actions. Such information can be applied and compared among harvests over time. If the harvest was successful, then the validity of such knowledge was reinforced. For unsuccessful harvests, different factors were compared and analyzed, until an explanation was eventually found and then incorporated into future use.

While GLIFWC staff have spent over thirty years exploring, monitoring, and mapping the distribution of manoomin, this is the first project focused on using TEK specific to manoomin. For the Anishinaabe, natural resource management often has a different approach than that of state or federal management due to the desire that a certain resource is widely available for all tribal members' physical and spiritual needs—both in the present and for seven generations into the future. The idea of resources being needed for spiritual health is also reciprocal in that a resource needs respect and love from the Anishinaabe in order to receive the benefits from it. TEK is recognized as a source of understanding how to properly respect resources.

Launched in October 2016, the project is designed to help GLIFWC staff better identify the historic distribution of manoomin. That information will help the Commission assist tribes in more effectively planning for wild rice restoration and rehabilitation of in the Lake Superior basin. In addition, the project will provide valuable information in the development of GLIFWC's future manoomin management plan for all of the Ceded Territory.

For this project, GLIFWC staff conducted 11 TEK interviews with individuals known to be or to come from a family of manoomin harvesters. These sessions posed questions about where manoomin is currently harvested, where manoomin had previously been harvested, if the interviewee had heard about water bodies that used to support manoomin that currently do not, and if the interviewee had any ideas on how to protect or restore manoomin waters.

More outreach, asemaa

Most of the harvesters interviewed for this project were already familiar with previous GLIFWC manoomin restoration and enhancement work and were pleased with the results. However, it was noted that the most successful restorations and enhancements, as defined by increase of yield or time to establish rice beds, included a spiritual component along with western scientific practices. These recommendations were often given as general guidance for any manoomin waterbodies.

The most common recommendation harvesters had for GLIFWC was to increase the incorporation of Ojibwe spirituality with any manoomin work. This includes, but is not limited to: offering asemaa (tobacco) to the body of water where manoomin work will take place, treating the manoomin plant in a respectful manner, and having someone make an offering to the water and manoomin spirits.

Manoomin harvesters recommend that GLIFWC staff incorporate spiritual elements into wild rice management. (Charlie Otto Rasmussen photo)

The other top recommendation for GLIFWC: continue education and outreach about manoomin and its importance in Ojibwe culture. Harvesters were concerned that many tribal youth and non-tribal people disrespect manoomin due to ignorance, especially when it comes to harvesting. Improper harvest techniques, such as hitting the stalks hard enough to break them and canoeing through a rice

(See Merging science with TEK, page 20)

2015 Wisconsin Wetland Awards

GLIFWC was one of the recipients of the 2015 Wetland Awards given by the Wisconsin Wetlands Association (WWA). Award recipients for 2015 were, from the left, John Coleman and Dawn White, GLIFWC; Naomi Tillison and Jessica Strand, Bad River Natural Resources Department; Jim Meeker (posthumously) and Joan Elias; Bill Heart, Trout Unlimited; Tracy Hames and Alison Peña, WWA; Travis Olson, Wisconsin Costal Management Program; Bobbi Rongstad and Tony Janisch, Bad River Watershed Association. (Monika Blazs photo)

GLIFWC was one of the many organizations and individuals recognized in the cooperative efforts of advancing wetland science in the Penokee Hills of northern Wisconsin, headwater wetlands of the Bad River Watershed.

GLIFWC's wetland work in Wisconsin's Penokee Range, consisted of mapping areas that could be perceived as wetlands (potential wetlands) from aerial photos over seven square miles. Although a wetland inventory existed for this area, the abundance of wetlands were not accurately represented. A subset of the potential wetlands were field verified by Bad River's Natural Resource Department and GLIFWC and determined that a majority of these areas were indeed wetlands, increasing documented wetlands from roughly 15% to 25% by area.

Other important work included documenting several unmapped streams, collecting baseline water quality data for many headwater streams, and assisting in the coordination of water quality monitoring in the area by compiling station locations and providing maps.

—Dawn White

Biologists collaborate to help rehabilitate name' across Gichigami

New tools in Bad River assessment

By Charlie Otto Rasmussen, Staff writer

Fortified with financial support and a strong interagency commitment, fisheries biologists are taking a closer look into the lives of the largest fish in the Ceded Territory: lake sturgeon. With innovative survey methods, along with tried-and-true techniques, scientists on both sides of the international border hope to elevate lake sturgeon from threatened to a rehabilitated species.

"We've built a strong working relationship with the US Fish & Wildlife Service to manage a resource that's important to a lot of people," said Ervin Soulier, Bad River Band Natural Resources director.

Biologists Angelena Koosman and Michael Seider hoist a lake sturgeon into a survey boat on the Bad River. (COR)

The north-flowing Bad River bisects its namesake reservation and is home to the largest spawning population of lake sturgeon in the Lake Superior basin. After more than two decades of standardized assessment work, biologists are now utilizing acoustic tags to better understand sturgeon movements and identify critical habitat. Over the coming years acoustic tracking will be employed lake-wide by researchers with the Lake Superior Lake Sturgeon Work Group.

Portable ultrasound equipment allows fisheries biologists to determine the sex of lake sturgeon. (COR)

Keep your hands to your self

The use of acoustics in fisheries monitoring gives the advantage of constant fish monitoring without the need to catch and handle fish regularly. Acoustic "tags"—about the size of a lipstick bullet—are surgically implanted into the abdomen of a sub-sample of fish. Strategically placed tracking stations fitted with high-tech receivers monitor the movements of fish in the study. Setting up the acoustic array was made possible through funding from the Great Lakes Restoration Initiative to make a splash in efforts to improve the future for the fish known as name' in the Ojibwe language.

"Acoustics fill a need to help determine lake sturgeon movement and dispersal patterns at multiple life stages," said Joshua Schloesser, US Fish & Wildlife Service (USFWS) fish biologist. Schloesser said acoustic tracking projects are underway in the St. Louis River near Duluth, and on the east end of Gichigami in Goulais, Batchawana, and Whitefish Bays. The acoustic receiver set up on the lower Bad River is the first for the South Shore, but plans are in place to expand acoustic receiver arrays along the South Shore, including Chequamegon Bay.

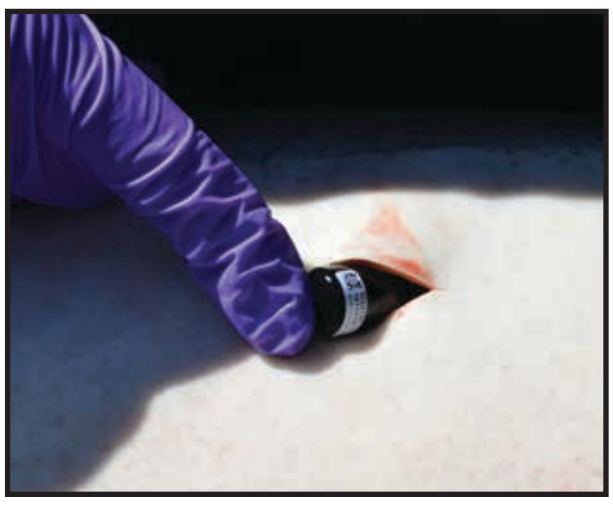
Internal tags are detected with a hand reader. (COR)

Long term collaboration

Meanwhile, biologists continue traditional hands-on lake sturgeon assessments on both the Bad River and its tributary, the White River. The work dates back to 1994 when the Bad River Band and USFWS first launched the survey program. Using the same locations on the rivers every year, biologists string up 100-200 foot gillnets that feature a ten-inch mesh. Crews consisting of USFWS and Bad River tribal biologists check the nets daily during spring spawning runs that typically take place from mid-April in mid-May.

"The Bad River system gives us a good idea at what a self-sustaining lake sturgeon population looks like," Schloesser said.

During a May 2 net check, Bad River Department of Natural Resources biologist Angelena Koosmann joined Schloesser and USFWS Biologist Michael Seider on a warm, sunny morning. With water temperatures edging towards 50-degrees—which kicks spawning into gear—and a weekend drop in water levels, the crew anticipated a good number of namewag in the nets.



USFWS Biologist Joshua Schloesser slides an acoustic tag into the abdomen of a large female sturgeon. (COR)

Two nets stretched from bank-to-bank on the Bad River produced eight spawners, including one nice-sized female. As Schloesser steadied the boat, Seider and Koosman lifted the gillnets, and after a bit of untangling, hoist each fish into an oval aluminum tank. After rounding up all the netted sturgeon, the team motors upstream to a shallow spot in the river where they gather biological data from each fish. The work-up includes an ultrasound that reveals whether the sturgeon is male or female. Many of these fish have been captured before, evidenced by spaghetti-like floy tags attached at the base of the dorsal fin, along with a small internal (PIT) tag, which was detected with a hand reader.

None of these fish carried one of the new acoustic tags and Schloesser selected the large female as a good candidate for a short surgical procedure to implant the transmitter. For the 2016 assessment season, biologists plan to tag five males and five females.

Schloesser completed the surgery on the female name' in only a few minutes, sliding the acoustic tag through a small cut in the abdomen and closing the incision with a few stitches. After a net check and sturgeon work-up on the White River, the crew wrapped up for the day around mid-afternoon. Under the care of a dedicated team of biologists, namewag of the Bad River watershed appear to be in good hands, even for the "acoustic" fish who may never get handled again.

Essential Ojibwemowin

name'—lake sturgeon

The emerald ash borer is on the move

Ash-killing beetle continues its relentless march

By Steve Garske, GLIFWC Plant Specialist

The emerald ash borer (EAB) continues its relentless spread across North America, aided by people hauling ash logs and firewood from infested areas. After a lull in new EAB discoveries in the Ceded Territory, the Michigan Department of Agriculture and Rural Development (MDARD) announced in February the discovery of EAB in two additional Upper Michigan counties.

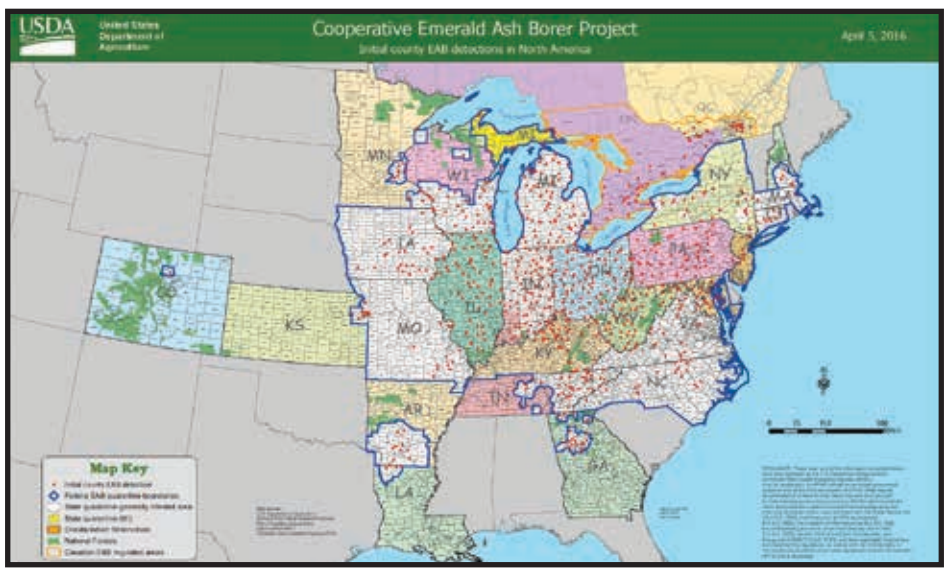
This dying ash shows classic symptoms of EAB infestation, including thinning canopy and profuse dark green shoots from the lower trunk. Superior Wisconsin, September 2015. (SCG)

Adult EAB were found on three USDA-APHIS purple panel traps placed in 2016. The EAB-positive traps came from the city of Marquette and a site just northwest of the city in Marquette County, and near the town of Norway in Dickinson County.

As a result, the MDARD and the USDA have quarantined both counties. Menominee and Baraga counties were also quarantined, in part because MDARD considered the chances of the EAB being established there as high.

New Wisconsin finds came when residents of Stevens Point noticed woodpeckers pulling bits of bark from neighborhood ash trees. Woodpeckers love EAB larvae and often pull pieces of dark outer bark from the ash trees to get at them, leaving their trunks with a mottled look. City foresters confirmed the infestation, and on April 7 the Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP) announced the find.

The central Wisconsin counties of Portage and Wood have now been quarantined. Both counties extend north into the 1837 Ceded Territory.



Known locations of EAB in North America as of April 5, 2016. Federal quarantine areas are outlined in dark blue. The red dots show the location of the first EAB discovery in each state or province. Updated monthly maps can be found at* http://emeraldashborer.info/documents/MultiState_EABpos.pdf. *(USDA-APHIS map)

Weaving a traditional black ash basket. (COR photo)

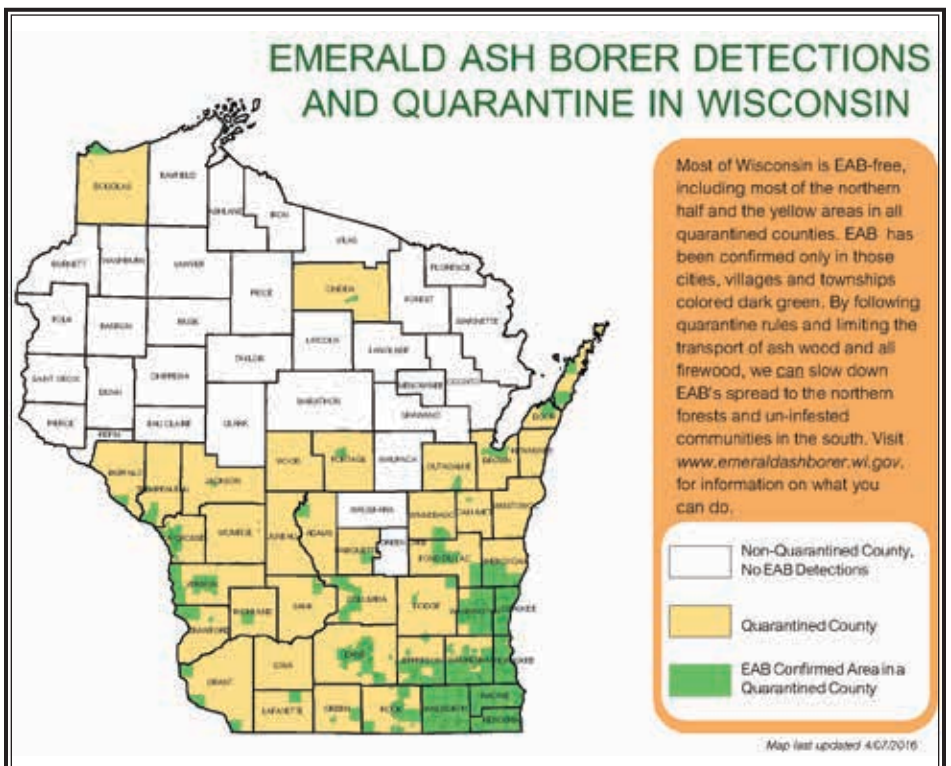
The EAB generally attacks and kills only true ash (*Fraxinus* spp.). (Recently the EAB was also found attacking white fringe trees, native to the southern US.) In the Ceded Territory this includes black ash (baapaagimaak, wiisagaak), green ash (aagimaak, emikwaansaak), and white ash (aagimaak, emikwaansaak). The Ojibwe and other Great Lakes tribes value black ash for making woven baskets. The wood of white and sometimes green ash is used for items that require strength and flexibility, including aagimag (snowshoes) and zhooshkodaabaanag (sleds or toboggans). The bark (wanagek) of all three ash species is used medicinally.

The demise of ash would be devastating to the environment and the other forest beings that depend on them. Their loss would also diminish the ability of future generations to carry on a way of life that has sustained the Ojibwe people for generations.

About quarantines

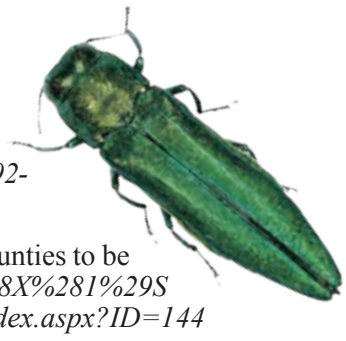
A quarantine of an area means that it is illegal to move certain specified materials outside that area. Quarantined materials can include items such as nursery trees, boughs, and untreated logs and firewood of specified trees, which can harbor forest invasives.

The EAB quarantine prohibits the movement of untreated hardwood firewood as well as ash nursery stock from quarantined counties to unquarantined counties. The quarantine includes all hardwood firewood because it can be difficult to distinguish ash from other types of wood.



This map of Emerald Ash Borer (EAB) detections and quarantines in Wisconsin shows in a nutshell why it's so important to not move firewood, even within quarantined counties. While about half of the state is now quarantined (yellow counties), the area known to be infested by EAB (in green) is much smaller. Established EAB populations only spread a mile or so on their own, which is fast enough! Don't give them a lift.
***(Wisconsin DATCP map:* http://datcpservices.wisconsin.gov/eab/articleassets/EAB%20Detections%20and%20Quarantine%20in%20**

More on the emerald ash borer



Michigan revises its quarantine for emerald ash borer (press release): *http://michigan.gov/som/0,4669,7-192-47796-376585--,00.html*.

EAB Found in Stevens Point; Portage and Wood counties to be quarantined (press release): *http://datcp.wi.gov/%28X%281%29S%28dakcwqk05tq0tbpxvqg21z10%29%29/news/index.aspx?ID=1447&AspxAutoDetectCookieSupport=1*.

The Emerald Ash Borer Information Network (*emeraldashborer.info*) is the go-to site to learn about the EAB.

For state-specific information on the EAB see:
Michigan: *http://michigan.gov/mdard/0,4610,7-125-2390_18298---,00.html*
Wisconsin: *http://datcpservices.wisconsin.gov/eab/index.jsp*
Minnesota: *http://mda.state.mn.us/emeraldashborer*.

Finally, check out the GLIFWC Forest Invasives website at *http:glifwc.org/Forest_Pests/index.html* . Here you can learn about the EAB and other forest invasives, view presentations from the March 2015 forest invasives meeting in Red Cliff, and download GLIFWC flyers, pamphlets and other materials on these forest invasives.

Commercial demand for wiigwaasaatig (birch) prompts multi-agency management effort

By Alex Wrobel, GLIFWC Forest Ecologist

Odanah, Wis.—In recent years there has been a notable increase in the harvest of paper birch (wiigwaasaatig) seedlings, saplings and branches across the Ceded Territory. As mentioned in the recent *Mazina'igan* article, "Commercial demand for birch on the rise as species declines: GLIFWC" (Ziigwan 2016) tribal members and non-members alike are increasingly concerned about the wiigwaasaatig resource. Harvesters are cutting young trees, branches and even mature trees to supply the growing craft and decoration industry. As the demand and the monetary incentive for these products increases, paper birch is at serious risk of being over-harvested.

With requests from GLIFWC member tribes, there is now a collaborative effort underway to learn more about this matter. On March 9 at the Bad River Convention Center a meeting was held with representatives from GLIFWC, tribal natural resource departments, tribal harvesters, the Bureau of Indian Affairs, U.S. Forest Service, Wisconsin DNR and several northern Wisconsin counties. The meeting was an information-sharing session to better understand this issue as a whole, and discuss what the next steps should be. So what did we learn?

Harvesting of seedlings, saplings and branches for commercial purposes is occurring across all jurisdictions. Various tribes have either implemented a moratorium to close the on-reservation harvest of wiigwaasaatig products (except for the bark, wiigwaas) or have at least discussed it. One difficulty with restricting this harvest activity, is that it can impact those harvesters who are gathering for personal or ceremonial use. The Chequamegon-Nicolet National Forest is still allowing the general public to harvest small amounts of birch poles, and GLIFWC tribal members can continue to harvest lodgepoles under the Tribal-USFS Memorandum of Understanding (MOU). The Brule River State Forest is considering a trial birch thinning permit that would direct harvesters to allowable areas. Bayfield County is allowing the harvest of already-downed trees following timber sales, whereas Douglas County is discontinuing all permits for birch harvesting after too many violations. While different management strategies are being discussed, there is a general consensus that this is a widespread and growing issue, and that consistent regulations across jurisdictions may be the best approach.

After a full day of discussion it was determined that a smaller "sub-committee" consisting of tribal and agency land managers, law enforcement personnel and harvesters should be formed to follow up on ideas discussed at the meeting. This includes finding a way to quantify the extent of this harvest activity, and its long-term impact on wiigwaasaatig populations. One way to accomplish this may be to develop relationships with the buyers of these products, as they would have the most accurate information on the volume of birch products being sold. Another possibility would be to establish a permitting system that would direct harvesters to areas where harvesting would have less of an overall impact. Allowable harvest areas might include timber sale areas, power corridors, road right-of-ways, areas scheduled to be cleared for logging roads, or areas that are set aside for this type of harvest activity. Directing harvesters to "allowed" harvest areas would lessen the pressure on stands that are being managed for regenerating healthy wiigwaasaatig populations. As harvesters often target the youngest birch, it is the regenerating birch stands that are often the easiest place to harvest.

An eight-foot birch like this brings in around $2 for harvesters. (COR photo)

One of the most important tasks of the sub-committee will be to determine what qualifies as a "sustainable" harvest. This would enable land-managers to provide harvesters with guidelines that allow them to continue harvesting in a manner that will not jeopardize the long-term health of wiigwaasaatig populations and the ability of future generations to harvest as well.

Stay tuned for updates as these management strategies progress. In the meantime, if you are looking to harvest birch saplings or twigs off-reservation on Wisconsin state lands or National Forests located in the Ceded Territory please note: You must obtain a miscellaneous forest products permit from your tribal registration station. To harvest birch saplings you will need a "lodgepoles" permit, which allows the harvest of any tree less than 5″ in diameter at breast height (dbh). Each permit allows the harvest of 75 trees per year. Beyond 75 trees you must work with your tribal registration station and the land manager to obtain a large-scale harvest permit. It's up to us to treat this sacred tree in a respectful way that will allow it to continue to carry out its role on the landscape, and that will allow future generations to respectfully harvest this tree as well.

A seven-foot birch pole "room divider" set into a planter box retails for around $300 at a national home furnishing store. (COR photo)

Great Lakes Indian Fish & Wildlife Commission

Tribal Birch Pole Harvest Regulations in the National Forest and on State Land

- A permit is required for cutting birch poles (available at the tribal conservation department)
- Each permit is valid for 75 trees
- Beyond 75 trees a large-scale permit is required
- Tribal members must carry their tribal ID
- Only 50% of the trees of a particular species within a given area may be harvested
- Trees may be a maximum of 5 inch diameter at breast height

For permit information call (715) 682-6619

Tribes, GLIFWC focus on youth treaty rights education

By Paula Maday, Staff Writer

Shane Cadotte's fillet knife is no ordinary fillet knife. The story goes that Shane and his cousin Richie had decided to go spearing at Bad River Falls a couple years back. When they arrived they realized, after fumbling through their backpacks, that they had forgotten a fillet knife. Disappointed and wondering how they were going to fillet any fish, they started walking down the trail to the falls when Shane happened to glance at the ground, where something caught his eye. Approaching the item, he was astonished to find that it was a fillet knife, tucked in an envelope, with an eagle feather sticking out.

At the landing, Shane took the knife around to other spearfishers, seeking to reunite the precious object with its owner. Surely someone had dropped it. No one claimed it. "Finally," he said, "I took it to my elder, Mike Barbano. "You found this on the ground like this?" he asked. "Yes," Cadotte replied. Barbano gave the knife back to Cadotte. "That's your knife," he said. Cadotte understood. He secured the knife and went out on the water, where he speared one of his most successful harvests to date.

Cadotte's story was one of many stories shared on Friday, April 15 at the Birch Hill Community House, where Bad River harvesters gathered with youth to tell fish stories, talk about treaty rights, and relive memories of being young Anishinaabe. The gathering was a feast, meant to acknowledge and give thanks to the ogaawag that help to feed tribal families.

For some who spoke, spearfishing has been a part of their lives since they were young. But for others, it is something they never knew as young people and are just now learning. Cadotte says he didn't hold a spear in his hand until he was 30 years old. Part of his message to the youth attending the feast was to take advantage of the opportunities that are being presented to them now to learn about Ojibwe culture and lifeways.

"It's a good thing to learn about when you're young," Cadotte said. "I didn't learn about it until I was older. When I was younger, I was more interested in going to open gym or walking around Odanah. As an older person, I was almost too shy to ask for help because I had so much to learn and catch up to."

Approximately 300 students from the Chequamegon Bay area attended Bad River's Treaty Education Day on April 22, 2016.

Inset: Bad River Youth Drum Medicine Wolf sings an honor song to start Treaty Education Day in a good way. (Paula Maday photos)

Expanding outreach through partnerships

This year alone, Bad River has organized several opportunities for youth to learn about treaty rights. In addition to the feast, Birch Hill Community House partnered with the Healthy Lifestyles program and the Boys & Girls Club to organize a youth event wherein veteran harvesters took kids in 4th-12th grade out spearing. The Bad River Natural Resources Department also planned and hosted a Treaty Education Day at Northern Great Lakes Visitor Center, which brought in close to 300 high school students from Chequamegon Bay area schools to learn about treaty rights. That day included educational booths, a treaty rights presentation by GLIFWC staff, a panel of active harvesters from Bad River and Lac du Flambeau, and a youth discussion on strategies for protecting rights and resources for the next seven generations.

Ervin Soulier, Director of Bad River Natural Resources Department, said in his opening remarks that his inspiration for the event came from his experience interviewing tribal members for positions within his department who had little to no knowledge about treaty rights.

In 2009, similar concerns spurred GLIFWC, in partnership with its member tribes and the US Forest Service, to create Camp Onji-Akiing at the Ottawa National Forest's Environmental Education facility at Camp Nesbit in the Upper Peninsula of Michigan. The five-day, annual summer camp aims to prepare a new generation of tribal leaders to protect and preserve natural resources in the treaty-ceded territory. The camp is an impressive mixture of leadership building, science and outdoor education, traditional ecological knowledge and cultural traditions for tribal youth in grades 5-8.

In fact, Camp Onji-Akiing was selected as a semi-finalist for Harvard University's 2016 Honoring Nations Program, a nationally recognized awards program that identifies, celebrates and shares outstanding examples of tribal governance. Final awardees will be selected later this year.

Tribal leaders from GLIFWC's member tribes were looking to build on the success of Camp Onji-Akiing when they signed a resolution in 2015 supporting additional efforts to promote educational leadership in the areas of natural resource management and protection for tribal youth. This has prompted the start of work in surveying tribal youth needs, identifying effective and appropriate delivery methods, creating new partnerships, and researching funding opportunities. Significant work lies ahead, as many youth claim to be in the same boat as Cadotte was as a young person, not having consistent exposure to harvesting or cultural activities. This makes the work all the more important.

To end his spearfishing stories at the Birch Hill Community House, Cadotte gave some special advice to those who had never gone out spearing before, about half of those in attendance. "Don't give up," he said. "The first time, the first couple times I went out, I didn't get anything. I was about to give up, but decided to go out one last time. I was on my boat when I thought I saw something out of the corner of my eye. I looked closer at the water, and saw, between two rocks, a walleye, looking up at me, waiting. It was the most beautiful thing I have ever seen in the natural world. I got to experience that and you can too, if you don't give up when things get hard."

At GLIFWC, we are proud to be undertaking the work of forging a path for tribal youth to become leaders and environmental stewards. Along the way, we know the Creator will help us find the tools we need so that our youth can one day look deep into the eyes of a walleye and experience complete harmony with the spirit of Inaakonigewin.

Lakes where walleye population estimates were completed in 2016

State	County	Lake
MI	Gogebic	Cisco
MI	Gogebic	Thousand Island
MN	Chisago	Green
MN	Chisago	Chisago
WI	Bayfield	Siskiwit
WI	Douglas	Lower Eau Claire
WI	Forest	Butternut
WI	Forest	Jungle
WI	Iron	Turtle-Flambeau Flowage
WI	Oneida	Bearskin
WI	Oneida	Buckskin
WI	Oneida	Hasbrook
WI	Oneida	Manson
WI	Oneida	Pelican
WI	Oneida	Squash
WI	Oneida	Squirrel
WI	Sawyer	Teal
WI	Vilas	Horsehead
WI	Vilas	Kentuck
WI/MI	Vilas	Lac Vieux Desert
WI	Vilas	Little John
WI	Vilas	Sherman
WI	Vilas	Squaw
WI	Vilas	Star
WI	Washburn	Bass-Patterson

PolyMet Mine project maneuvers toward permitting

By John Coleman, GLIFWC Environmental Section Leader

With the issuance of the Final Environmental Impact Statement (FEIS) by federal and state agencies in the summer of 2015 and acceptance of the FEIS by the State of Minnesota in the fall, the proposed PolyMet open pit mine project moves closer to obtaining the permits needed to begin operation. Despite objections by tribal technical staff that the methods used to evaluate the potential environmental impacts of the project contain major information gaps and, in some cases, are not based on science, the FEIS received approval from the State.

The U.S. Forest Service is in the process of developing a final Record of Decision (ROD) on the proposed exchange of land with the mining company after receiving thousands of public comments objecting to the draft ROD released last fall. That draft ROD was based on information in the FEIS. The Army Corps of Engineers will be developing a draft ROD related to permits for filling and destruction of wetlands in the coming months.

The agencies responsible for drafting and issuing permits for the mine project, the Minnesota DNR and PCA, the Army Corps, and the Forest Service are working with the applicant to develop draft permits for wetland fill, for groundwater and surface water discharges, and for discharges to the air, among others. It is expected that the process of developing and issuing permits may take one to two years.

Since the release of the FEIS, tribal staff have met with the Forest Service and the U.S. EPA and will be meeting with the Army Corps to discuss tribal concerns that decisions are being made without an adequate scientific foundation and that some areas of impact have been overlooked during the EIS process. Tribal staff continue to urge regulatory agencies to arrange for independent analysis of the impacts from this project. So far, the regulatory agencies have relied heavily on technical analysis by the project applicant, and have been unwilling to undertake the requested actions.

In its FEIS comments, the EPA called for further analysis by the lead agencies of groundwater, surface water and mercury impacts during the permit writing period. Such analysis would be a step in the right direction, but whether the lead agencies will adequately respond to the EPA's request is unknown.

GLIFWC staff, working in coordination with other tribal staff, have identified a number of concerns including:

Unrealistic prediction of seepage capture at the tailings basins

The capture rate of tailings basin water that seeps through the basin berm is predicted by the applicant and in the FEIS to be 99%. There is no evidence that such a high capture rate can be achieved. A tailings basin water capture system at the Minntac iron mine near Virginia, MN captures approximately 40-50% of the water that leaks through the berm.

Adjacent iron mine pits not considered

The influence of the adjacent taconite mine pits on groundwater hydrology has not been considered. The nearby Peter-Mitchel taconite pits are permitted by the State of Minnesota to be excavated several hundred feet into the bedrock aquifer. In some locations near the proposed PolyMet project, they are already 250 feet deep. The company's own characterization of the mine site hydrology indicates that the iron mine pits in close proximity to PolyMet would cause groundwater to flow to the north after PolyMet closure. However, such a scenario was not examined in the FEIS. There has been no mechanism proposed to prevent northward flow of contaminated groundwater that doesn't involve either: physical topography that does not exist at the mine site; radical alterations to the waste rock disposal plan for the project; or a groundwater pumping program that would be run forever.

Mercury releases and impacts have been inadequately evaluated

Mercury will be released through air emissions and because of the excavation of mercury containing soils, waste rock and ore. While air emissions of mercury are examined in the FEIS, the other sources of mercury release were not seriously considered. Because waters and wildlife in the area are already contaminated with mercury, the mobilization of additional mercury is a serious concern, particularly for those that consume fish and wildlife.

The need to reduce discharges to already impaired waters

Several water bodies around the project, including the Saint Louis River, are already impaired for mercury and other contaminants. Discharges from the PolyMet project must not add to that impairment. Permits for the project must ensure that discharges from the project do not add to already elevated levels of contaminants in surrounding waters.

Loss of high quality wetlands is not adequately mitigated

The project does not propose to replace wetlands lost due to this project with wetlands of similar type in the Saint Louis River basin. Approximately 2/3 of the replacement wetlands for the approximately 900 acres of direct wetland removal or fill at the project site will be outside the St. Louis River basin and the 1854 Ceded Territory. The high quality wetlands that will be lost are unlikely to be successfully replaced at the proposed mitigation sites.

The technical comments on the FEIS by GLIFWC staff are available at: *http://www.lic.wisc.edu/glifwc/polymet/FEIS/GLIFWC_comments/*

They provide detailed explanations of staff concerns with the FEIS's characterization of the proposed project. GLIFWC and other tribal staff will continue to engage with the regulatory agencies as they draft permits for the Polymet project. The permit drafting period is a time when the data and analysis gaps can be filled, and staff will continue to advocate for independent and thorough evaluation of the questions that remain.

Fish consumption advisory on the St. Louis River. (GLIFWC photo)

Mining Alternatives Summit returns

Odanah, Wis.—When it comes to mineral resource extraction in Indian Country, corporate interest seems to ebb and flow, but never really goes away. While proposed operations like the Penokee Range iron mine are shelved for the time being, others like the Back Forty metallic sulfide mine in southern Upper Michigan are pushing forward.

Bringing together legal and resources specialists with local residents, the Bad River Band of Ojibwe hosted the second Mining Alternatives Summit March 17-18 which included more than 100 registrants plus an additional 300 that tuned in via live stream. Discussions ranged from sustainable economic ventures to mining initiatives to food sovereignty.

"Events like this really help build community," said Naomi Tillison, Bad River Natural Resources Department water resources specialist and a conference presenter. "It gives the public a better understanding of considerations like water resources and water resource protection."

Students from the club Bad River Youth Outdoors made a rousing appearance, relating how a clean, undisturbed environment enhanced their enjoyment of the region's woods and waters. Some also spoke of how working and recreating in the outdoors helped build confidence and leadership skills.

Many presenters hailed from natural resource management fields, along with several policy experts including GLIFWC's Ann McCammon Soltis, who sketched out the levels of authority that tribes, states, and the federal government have over land use. McCammon Soltis said that while GLIFWC and American Indian tribes do not possess the ability to approve or deny off-reservation permits for activities like mining, tribal representatives play a crucial role informing all parties of the hazards and potential environmental and cultural impacts that come with large-scale manipulation of natural ecosystems. With on-reservation rules—like water quality standards approved by the Environmental Protection Agency—individual tribes can further influence permitting agencies, McCammon said.

The Chippewa Federation Mining Committee, an intertribal group comprised of representatives from Sokaogon Mole Lake, Lac du Flambeau, Bad River, Red Cliff, St. Croix and Lac Courte Oreilles Bands, sponsored the 2016 summit.

—Charlie Otto Rasmussen

GLIFWC taking multifaceted approach to climate change

Traditional Ecological Knowledge:

A foundation for GLIFWC's Climate Change Program

By Melonee Montano, GLIFWC TEK Outreach Specialist and Kim Stone, GLIFWC Policy Analyst

Traditional Ecological Knowledge (TEK), traditional knowledge, or indigenous knowledge are terms with many definitions. Perhaps most would agree these concepts have no singular, universal description. Traditional knowledge is expressed in various ways but most often orally, through languages, stories, songs, and laws.

Some look at TEK more as knowledge systems of community, traditions, rituals, practices, and moral values that reflect an intergenerational worldview of interrelationships with the environment. Others look at traditional knowledge as something that is linked to spiritual beliefs, cultural practices, and ways of life. Many look at TEK as being a combination of all of these things. Traditional knowledge is transmitted interpersonally by individuals entrusted with its care.

In many ways, TEK differs from the more western-based, scientific ecological knowledge that is commonly applied in natural resource agencies. Western accounts emphasize trial-and-error learning obtained through observation over many generations. TEK practitioners obtain knowledge through direct connections with the environment and often emphasize traditional knowledge as a gift from the Creator, ancestors, and the spirit world. The way scientists describe plants, animals, and ecosystems can be very different from a native perspective; scientists describe them as inanimate, as objects, in ways that are inconsistent with the native perspective in which all living beings are connected. As noted by one Anishinaabe elder, "Our people do not define; they *describe*."

Tribes and other natural resource managers are using TEK in many ways to inform their climate change evaluation and adaptation planning. At GLIFWC, traditional knowledge is providing the foundation for a phenology study and the vulnerability assessment, two major projects within the climate change program.

In the phenology study, GLIFWC climate change scientist Hannah Panci and climate ecologist Travis Bartnick are monitoring the seasonal changes in 11 traditionally harvested plant species in the 1837 and 1842 Ceded Territory: aninaatig (sugar maple), aagimaak (black ash), wiigwaasaatig (paper birch), zhigaagawanzh (wild leek/ramp), giizhik (Northern white cedar), wiigob (basswood), zhingob (balsam fir), ode'imin (strawberry), waagaag (ostrich fern), and miskomin (raspberry). The scientists visit the sites frequently, particularly during periods of rapid phenological change in spring and fall, to observe and record the various phenophases of the plant. State-of-the-art weather stations are collecting additional data on temperature, wind speed, wind direction, relative humidity, barometric pressure, solar radiation, and rainfall. (See *Weather Stations Now Recording Data for Climate Change Phenology Study*.)

Guiding the phenology study is the traditional knowledge obtained through interviews with Anishinaabe elders and harvesters that helped determine which species should be studied. As the work continues, the traditional knowledge will blend with the scientific ecological knowledge gathered at the two phenology study sites. Melonee Montano, GLIFWC TEK Outreach Specialist, is continuing to interview tribal members to learn more about these species and the phenology, cultural traditions, stories, and songs related to them. By listening to and learning from all sources of knowledge, GLIFWC will achieve a greater understanding of how climate change may impact traditional harvesting.

Wild leeks, or zhigaagawanzh. (COR photo)

The vulnerability assessment is being carried out through a combination of approaches including the gathering of TEK to evaluate the vulnerability of a suite of species found across the Ceded Territory. A vulnerability assessment examines the sensitivity, exposure, and adaptive capacity of a species or ecosystem to determine how vulnerable it might be to climate change. As in the phenology study, Anishinaabe elders and harvesters helped determine which species should be studied and that knowledge will continue to blend with the scientific ecological knowledge as the work continues.

More generally, traditional knowledge can provide observations of ecosystems that might otherwise be overlooked by scientific approaches. This can be seen in language, when traditional place names are often highly descriptive of conditions of an area that existed when the name of the place was given. Traditional calendars and astronomical observations tied to animal migration times and harvests can also reflect significant ecosystem changes. For example, *Iskigamizige Giizis*, the Sugar-bush or Sap Boiling Moon that occurs in April, reflects the time of year when the maple syrup traditionally was gathered and boiled. A combination of language and observation can bring to light weather patterns that may be changing due to climate change, if a long-term trend emerges where sap boiling is occurring earlier than April. Knowledge of traditional medicines and subsistence foods also can reveal changes in ecosystems that might be the result of climate change, most notably when their distribution and availability changes.

Sometimes traditional knowledge offers expertise where scientific knowledge simply doesn't exist. In trying to predict how climate change will affect an ecosystem, traditional western science often uses climate data and climate models that are very broad in scale and do not take into account local conditions. For example, a climate model predicting how climate change may impact an ecosystem near Lake Superior may be so broad that it includes ecosystems affected by the lake as well as those which are not, affecting the accuracy of the prediction and limiting its application. The local knowledge of those who have lived and subsisted in an area provides the nuanced understanding of ecological conditions on a smaller, more localized scale.

To learn more about GLIFWC's phenology study or vulnerability assessment, go to *http://glifwc.org/ClimateChange/ClimateChange.html*. Further information on TEK will be added to GLIFWC's climate change website link in coming months.

Time-lapse camera used to monitor tree canopy phenology at one of the GLIFWC phenology study sites. (Hannah Panci photo)

One of the weather stations used to record weather data near a GLIFWC phenology study site. (Travis Bartnick photo)

Weather stations now recording data for climate change phenology study

Phenology is the study of the timing of biological events. Each biological event in an organism's life cycle—flowers budding, seeds dispersing, leaves dropping—is known as a phenophase. Environmental factors such as temperature, precipitation, and number of frost-free days can cause the timing of *phenophases* to vary from year to year.

Now, scientists in GLIFWC's Climate Change Program are getting some high-tech help monitoring the phenology of several Ceded Territory plant species. State-of-the-art weather stations have been placed at the phenology study sites in the Chequamegon Nicolet National Forest and the Penokee Range in northern Wisconsin. Compact and rugged, the industrial-grade data logging stations measure a number of weather parameters including temperature, wind speed, wind direction, relative humidity, barometric pressure, solar radiation, and rainfall. Equipped with a solar panel to keep the battery charged, the stations have sufficient data storage to store over 6 months of data when programmed to log weather parameters once every 60 minutes.

The weather stations are particularly helpful in the phenology study because weather conditions across the Ceded Territory can be quite variable. Having the weather stations close to the phenology study sites provides GLIFWC climate scientists a continuous record of weather parameters on a local scale. After several years of data collection, GLIFWC will be able to use the observations to assess potential relationships between variation in the environmental parameters and the phenological timelines of the species being monitored.

To learn more about how GLIFWC is looking at phenology to learn how climate change may be affecting different species in the Ceded Territory, go to *www.glifwc.org/ClimateChange/PhenologyStudy.html*.

—By Kim Stone, GLIFWC Policy Analyst

Melting snow and heavy rains raised the level of the Brunsweiler River near one of the GLIFWC phenology study sites. (Travis Bartnick photo)

GLIFWC Board of Commissioners supports guidelines for tribal climate change actions

By Kim Stone, GLIFWC Policy Analyst

At its January meeting, the GLIFWC Board of Commissioners passed a Resolution of Support for the document *Tribal Climate Change Principles: Responding to Federal Policies and Actions to Address Climate Change*.

The *Tribal Climate Change Principles* is a policy paper setting forth eight recommendations to guide federal agencies in the development of administrative and legislative actions related to Indigenous Peoples and climate change. The principles address many of the recommendations made by President Obama's 2014 State, Local and Tribal Leaders Task Force on Climate Preparedness and Resilience, on which former Fond du Lac Chairwoman Karen Diver served. One of the goals of the Principles is to help to translate tribal concerns to a national level on climate change programs, funding, and initiatives.

Ogaa captured and released during a recent GLIFWC fisheries assessment. (Ed White photo)

With more attention being paid to the pronounced effect climate change has on tribes and treaty resources, the need to educate decision makers has become similarly important—particularly to raise awareness and recognition of how traditional ecological knowledge (TEK) should be used in policy and government. One of the enumerated principles specifically addresses TEK in climate change actions, stating: "Indigenous traditional knowledges, with the free, prior and informed consent of Indigenous Peoples, must be acknowledged, respected, and promoted in federal policies and programs related to climate change."

Involved in creating the guidelines were authors representing many organizations, tribes, and tribal groups, and several GLIFWC staff members consulted in the drafting process. Many of the primary authors of Principles also worked on a separate, earlier set of guidelines that focused specifically on the application of TEK in climate change action, entitled *Guidelines for Considering Traditional Knowledges (TKs) in Climate Change Initiatives*.

GLIFWC ANA Program Director Jim St. Arnold was a consulting author on those guidelines, which were presented to the Board in May 2015.

GLIFWC joins the National Congress of American Indians and the Affiliated Tribes of Northwest Indians in supporting the Tribal Climate Change Principles. They can be accessed at *http://tribalclimate.uoregon.edu/publications/* as can the *Guidelines for Considering Traditional Knowledges in Climate Change Initiatives*. GLIFWC's Board Resolution of Support can be found at *https://blogs.uoregon.edu/tribalclimate/files/2010/11/GLIFWC_Resolution-275c38y.pdf*.

Tribal Climate Change Adaptation Training in Great Lakes Region July date TBA online

Plans are being firmed up for a climate adaptation training that will occur in mid-July for tribal environmental professionals. Offered through the Institute for Tribal Professionals (ITEP), the course will focus on climate change impacts in the Great Lakes region. It will cover how to develop climate adaptation plans from starting the process, to assessing vulnerability and impacts, to developing tribal adaptation strategies.

The course's instructional methods will include examples of tribes that have gone through the adaptation planning process and involve small and large group discussions and activities. The course will also suggest regional and national tools, resources, and partnerships for climate adaptation planning.

While ITEP does not require pre-requisites for the course, participants should have a basic understanding of climate change impacts and complete a pre-course assignment prior to the training. The course is offered with no registration fees for natural resource professionals working for federally recognized tribes. Some travel funds are available.

Watch for further information; enrollment will be limited, so don't delay in registering. The training location has not yet been finalized but is expected to be in the northern Wisconsin Ceded Territory. Course registration was not open at press time for this edition of *Mazina'igan*, but updated information can be found on the ITEP webpage at *www7.nau.edu/itep/main/Training/training_ccAdaptPlng*.

—By Kim Stone, GLIFWC Policy Analyst

Scientific method & iskigamizigan

6th grade class explores cultural knowledge and sap sugar content

By Dylan Jennings
Staff Writer

The Waadookodaading Ojibwe Immersion School located in the Lac Courte Oreilles community is redefining science by merging scientific method and traditional knowledge at iskigamizigan (sugar bush).

One recent example comes from the 6th grade class, which worked on a science project this season for the National American Indian Science and Engineering Fair sponsored by AISES (American Indian Science and Engineering Society).

In the most recent years, Anishinaabe perspective and knowledge has been finding its place in the classroom. Traditional ecological knowledge, or TEK, is helping to bridge the gap that exists between science and indigenous perspective. Native American people throughout the country and indigenous communities throughout the world have spent generations living harmoniously with the environment. Observation often meant survival many decades ago.

Today, many of the underlying questions concerning TEK are being answered through scientific method. "The students took something that was mainstream (referring to the virtual science fair project) and made it relevant to us as Anishinaabe and how we live seasonally." Remarks Niizhoobinesikwe Katie Carlson, Waadookodaading staff.

The class came up with an overarching question about the effects on sugar content in sugar maple trees. Students then broke into three groups to look at specific factors that could contribute to a difference in sugar content.

Group one (Waaseshkang/Little Bird Benton, Niizhoodewii/Dawn Denomie and Giizhigookens/Memengwa Paap) looked at the crown size of sugar maple trees and the possible effects on sugar content.

Group two (Niizhoodewin/Miriam Denomie, Niigaanibines/Brandon Debrot and Asiniiwaabiikwe/Isabelle Grover) explored the locations of sugar maple trees on the slope of a hill and those effects on sugar content.

Group three (Gidagaakoons/Stephany Miller, Giiwitaagiizhigookwe/Rainy Dawn Kingfisher and Niizhoogaabaw Sullivan) researched the possibility that traditional old time tapping methods (basal scarring) could have a different sugar content than modern boring methods.

Sixth grade teacher Ziigwanikwe Katy Butterfield led the students through the process. "We started this project about halfway through February and began by studying the process of sugar production in a tree. The students refined their questions and hypothesis for their initial submission the last week of February. We began surveying the trees the first week of March and began tapping the next week. We spent most of March collecting data."

The students' final presentation was submitted April 12 and their final interviews were Friday, April 22. The students are in the process of further analyzing their data. Already they have decided that a larger sample size next year will yield better results.

It's truly refreshing to see young people learning their language, while bridging the gap that exists between cultural knowledge and what we know as scientific method today.

Waadookodaading 6th grade class is paving the way with science and traditional knowledge. (submitted photo)

An old method of tree slashing next to a more modern method of piping were two methods studied by 6th grade students and staff. (submitted photo)

Wild Rice Berry Salad

Original concept from Terry Fox, Lac Vieux Desert
Serving Size: ½ cup • Yield: 24

Ingredients

1 ½ cups	wild rice
4 ½ cups	hot water
2 tablespoons	maple syrup
1 quart	fresh strawberries (about 4 cups)
¼ cup	dried cranberries
6 ounces	fresh blueberries (about 1 ¼ cups)
6 ounces	fresh blackberries (about 1 ¼ cups)
6 ounces	fresh raspberries (about 1 ¼ cups)

Directions

1. Using a large saucepan, combine rice and water, cover with a lid and allow to soak for at least 8 hours.
2. After soaking, uncover sauce pan and bring rice to a boil over high heat.
3. Once boil starts, turn off heat and remove rice, cover, and let sit 10 minutes.
4. Drain and rinse with cold water until cool. Drain well and add maple syrup and mix thoroughly.
5. Refrigerate mixture until thoroughly chilled, about 3 hours.
6. Before serving, rinse strawberries and cut off leaves and stems. Cut strawberries into bite size pieces and place in a separate bowl. Mix in cranberries.
7. Remove rice from the refrigerator and gently fold in strawberry mixture until thoroughly combined.
8. Clean remaining berries, cutting any large berries in half, and gently combine in a medium bowl.
9. In a large serving bowl, alternately pour in portions of the rice mixture and berry mixture to prevent the softer fruit from breaking into small pieces.
10. Serve chilled.

***(Reprinted from Mino Wiisinidaa! Let's Eat Good! Traditional Foods for a Health Living published by GLIFWC. The book can be ordered at:* http://www.glifwc.org/publications/index.html**

Sweet rewards await berry pickers

In the Ojibwe calendar, June is ode'imini-giizis, or "time for picking strawberry month." Wild strawberries lead off a string of summertime wild fruit harvest opportunities that by July includes a perennial favorite: blueberries. For Ceded Territory blueberry (miinan) pickers it's hard to beat old standbys like the Raco Plains west of Bay Mills, Michigan or the Moquah Barrens in the heart of Wisconsin's Bayfield Peninsula.

Recently burned areas—including the site of sprawling Germann (gareman) Road Fire south of Brule, Wisconsin—offer additional opportunities for pickers to bring home a bounty of blueberries. In May 2013 the nearly 7,500-acre wildfire torched mostly public lands sectioned off by forest roads that make exploration and access more convenient. As always bring along a plat book or maps of the area to avoid trespassing on private land. **—COR**

Beargrease rich in tradition and function

By Charlie Otto Rasmussen, Staff Writer

Northern Wisconsin—A therapy for treating joint pain, favored baking ingredient, birch bark canoe sealant, even gun barrel conditioner, beargrease is one of the great gifts from the natural world in Ojibwe Country.

"The bear is a medicine animal," explained Ojibwe elder Joe Rose Sr. at GLIFWC offices in Odanah. "In pictographs on ancient scrolls, bears appear with medicine plants in their mouth. The water that it drinks, the food, the plants that it eats all becomes part of the bear."

For members of the Bear Clan, consuming makwa, even utilizing bear parts—is oftentimes taboo—akin to eating one's relative. For others, including Rose who grew up eating bear meat, a makwa harvest can be very much an element of mino-bimaadiziwin—living life in a good way.

Creating the valued liniment known as makwabimide is a process that extends threads—thick and thin—to all sorts of traditional activities: hunting and skinning, food preparation and storage, and in the final stages, the process feels a whole lot like sugarbushing. In the fall 2015 a group of us did our best to fully utilize a bruin harvested in Ashland County.

From point-of-kill to finished grease, this makwabimidekwin venture transpired into an afterhours GLIFWC staff affair involving a handful of friends that work at the Commission. There's the guy with the land, the guy with the harvest permit, the guy with the boiling equipment, and the linchpin, Jennifer Ballinger, who carries the know-how and titular family credentials. Ballinger is the twice great-grandaughter of Gichigami north shore icon, John Beargrease, a Grand Portage Ojibwe heralded for delivering the U.S. mail along a rugged and challenging route in northeast Minnesota.

Our makwa was harvested on an 80-degree October afternoon and butchered that evening. The thick layers of fat so valued by historic settlers and natives alike were packaged into clear plastic bags and frozen for some seven weeks. Around Thanksgiving time, we set aside a few days to make grease.

Bear fat contains all the nutrients, all the plants and medicines, that the animal has consumed. It is essential for the bear's fat to be highly nutritious in order to sustain the bear throughout winter hibernation.

As part of the filtering process hard bits of fat are removed from the rendered beargrease. (COR photo)

Making beargrease (makwabimidekwin)

At room temperature makwa fat is pretty hard to handle, escaping from the firmest grip, even squishing its way out from under a sharp blade. Half-thawed after a day removed from the freezer, however, the snow-white fat becomes much more manageable. Armed with a pair of knives and a sharpener, Ballinger's husband Wesley tackles much of the prep work, investing hours into slicing thick sheets of fat into small cubes. The work is slimy but ultimately pays off by creating more surface area, accelerating the rendering progression.

Drawing from traditional knowledge keepers, elders Nancy and Dennis Jones, Ballinger guides the process along, sharing insights into the Anishinaabe relationship with bears. We load a steel stockpot with diced makwa fat and crank up the propane cooker. After a while the little white chunks hiss and pop, and take on a pale russet tone.

Aside from occasional stirring, it's time to ease into a folding chair and share stories as the mix begins to liquefy and boil. Apart from the city lights and hum of traffic, we could be sitting around a maple sap evaporator, working up a load of early spring syrup. Ballinger discusses the teachings widely shared by the Joneses—mother and son from the Red Gut First Nation (Nigigoonsiminikaaning) in northwest Ontario. We learn of the special relationship between humans and bears, origin stories, and the vital role of makwabimide in some sweat lodge ceremonies. Just as explained by fellow elder Joe Rose (raised 270 miles away from Red Gut in the United States), bears are exceptional beings fortified with healing powers. It is an Anishinaabe truism.

Hours pass, stirring continues, and the batch has rendered down to a golden liquid. Crispy brown chunks of hard fat—some call cracklin'—float on the surface and are easily removed with a hand strainer (Wesley later demonstrates that bear cracklin' is a highly potent fire starter).

Like maple syrup, we filter hot makwa liquid through a cloth to remove leftover bits of cracklin' and impurities. Once cooled we carefully ladle the still-watery grease into glass jars and seal each one tight. With another large cache of cubed makwa fat at the ready, it's time to fire up the cooker again.

Friends and relatives

After another day's work all the fat is rendered. Some jars we store at home in the refrigerator to extend their shelf life. But much of the makwabimide is gifted to friends and relatives. Following a December 21 ceremony at GLIFWC offices—the shortest day of the year—all staff in attendance take home a jar knowing it was created in a good way.

Ma'iinganag remain protected under the Endangered Species Act—for now

By Philomena Kebec, GLIFWC Policy Analyst

Since the decision in *Humane Society v. Jewell* issued in December, 2014, ma'iinganag (wolves) in the western Great Lakes have been protected from a general hunting and trapping season. The decision by the federal district court in the District of Columbia required the U.S. Fish and Wildlife Service to take actions to relist mai'inganag as an "endangered species" in Wisconsin and Michigan, and a "threatened species" in Minnesota. The relisting of wolves has halted the general hunting and trapping seasons. In Wisconsin and Michigan, taking of ma'iinganag is only allowed to protect human life; in Minnesota they also may be killed in response to verified livestock depredations.

Annual counts have shown a rise in ma'iingan population numbers following the Humane Society decision. During the 2013-2014 count, researchers estimated 660 to 689 individuals living within the State of Wisconsin. This increased to 746 to 771 individuals estimated in the 2014-2015 count, including around 29 ma'iinganag living primarily within tribal lands. Preliminary results from Wisconsin's 2015-2016 count will be available soon.

The decision by the district court may not provide permanent protection. The Interior Department appealed, with several states filing amicus briefs. It is not clear when the D.C. Circuit will reach a decision as oral arguments have not been scheduled.

In addition, Senators and Representatives from Minnesota, Wisconsin and Utah have introduced legislation to remove ma'iinganag in the Great Lakes region from protection under the Endangered Species Act. The staffers of legislators in these states report receiving significant contact, both for and against removing Endangered Species Act protections for ma'iinganag.

Aaniin ezhiwebak niibing?
What is happening as it is summer?

"Apane zaaga'iganan gizaagitoonaamin Aanishinaabeg. NIBI. Mino-bimaadiziwin. Wendad. Gimanaajitoonaamin. Giganawendaanaamin. Nibiikaa. Gigikendaasomin. Noongom, gidaa-naagadawenimaawaag goozhishenyag. Bekish, gwayakwendandaa! Nindaa-aandaakonigemin. Megwaa. Inaabaji' giizis! Inaabajitoon giiwedin! Miigwech. Wiinaabikad nawaj bimide dash waasamoo-bimide. Ode'imini-giizis wa'aw giizis izhinikaazo. Aabita-niibino-giizis izhinikaazo. Manoominike-giizis izhinikaazo. Miigwech."

(The people always love the lakes. WATER. The good-life. It is easy. We (all) go easy on it. We (all) take care of it. There is a lot of water. We (all) are smart. Today, you (all) should think about (them), your grandchildren. At the same time, let's all rightfully consider it. We should change our policy/plans. Now. Use the sun! Use the north wind! Oil and gasoline are dirtier. This moon is named the Strawberry Moon (June). July is named (the) Half Way Through The Summer Moon. August is named (the) Wild Ricing Moon. Thank you.)

Bezhig—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.

Mayagi-bine nooji'ikwewe-nagamo.

PC'S & Common Phrases

Particles: Add meaning –no inflections, adverbs, conjunctives or exclamatory!

dash, idash—and, gemaa—or; ganabaj—maybe, perhaps
gaye—also; apii—when, at the time
Amanj iidog.—I am not certain.
Bekaa!—Wait! gaawiin wiikaa—never
geyaabi—yet, still; mewinzha—long ago
Ambe omaa/imaa!—Come here/there!
miinawaa—again; baanimaa—later, not;
Miigwech miinawaa.—You're welcome.
Giga-waabamin.—I shall see you.
Eya'—Yes; naagaj—later; Gego!—Don't!
Maanoo—Don't care/let it be. Howah!

Niizh—2

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

A. Boodaweg! Aaniindi misan? Onaagoshin. Gashkiidibikad.

B. Niwii-jiichiishkinzhe'ige. Awedi bagidinisen noongom.

C. Gidaa-gabesh miikanaang. Omaa onizhishin.

D. Odadaawen gabeshiiwi-daabaan Nookomis. Bakakidoodaa!

E. Gigii-maajiidoon ina giwaazako-nebijigan? Giwii-aabajitoon.

F. Gigii-maajiidoonan ina waabooyaan idash wiiwaakwaan?

G. Nindaanawenimaag zagime imaa.

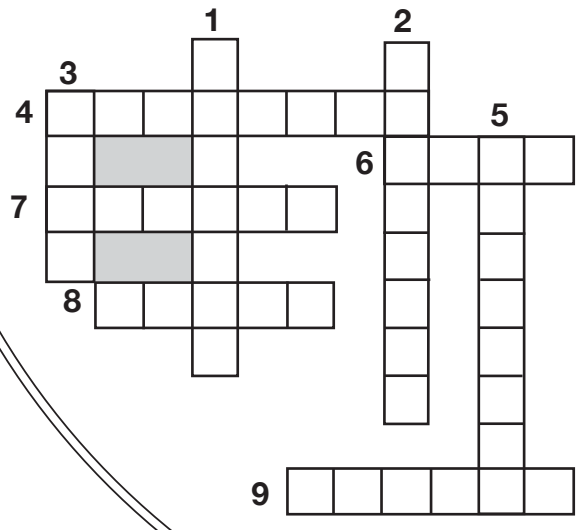
H. Waaban, gabeshidaa abinoojiyag!

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

Bimise nenookaasi.

Niswi—3

IKIDOWIN ODAMINOWIN (word play)



Down:

1. It is raining.
2. It is noon.
3. water
5. later

Across:

4. There is a lot of water.
6. come
7. grease
8. always
9. It is easy.

Opichi nagamo.

Online Resources
ojibwe.lib.umn.edu
umich.edu/~ojibwe
www.glifwc.org

Niiwin—4

Common Phrases:

Minwendaagwan o'ow.—This is fun.
Weweni izhichigen!—Behave yourself!
Giin niwiijiiwaagan.—You are my friend.
Aaniin enendaman?—What do you think?
Niimi'iding.—A Powwow.
Aaniin apii? Aandi?—When? Where?
Mino-dibishkaan!—Happy Birthday!
Wawiyash i'iw.—That's funny.
Gizaagi'ininim.—I love you all.
Gigizhebaa-wiisinidaa!—
Let's all have breakfast!
Naawakwe-wiisinidaa!—
Let's have lunch!
Mii'iw.—That's all.

Eya'.

Bekaa!

Giga- -in

Amanj iidog.

Gemaa

1. _____Aandi izhaayan noongom?

2. Enange! _____-waabam_____ naagaj gichi-ziibiing.

3. Gimiwan ina imaa? _____gimiwang imaa.

4. Gimiwan ina _____ mizhakwad? Ganabaj eyiizh.

5. Giwii-gabesh ina gichi-ziibiing? _____ niwiigabesh. Waawaate idash anangokaa.

Translations:

Niizh—2 **A.** Build a fire you guys! Where's the firewood? It is evening. It is getting dark. **B.** I will stir the fire. Over there, put more wood on the fire now. **C.** You should camp on the trail. It is nice here. **D**. My Grandma brought the camper-vehicle. Let's all set it up! **E.** Did you take along a flashlight? You will use it. **F.** Did you bring a blanket and hat? **G.** I dislike mosquitoes there. **H.** It is dawn, let's go camping kids!

Niswi—3 ***Down:*** **1.** Gimiwan **2.** Naawakwe **3.** Nibi **5.** Baanimaa ***Across:*** **4.** Nibiikaa **6.** Ambe **7.** Bimide **8.** Apane **9.** Wendad

Niiwin-4 **1. Wait!** Where are you going now? (Bekaa!) **2.** Okay, sure! **I shall**- see **you** later at the great river. (Giga— —in) **3.** Is it raining there? **I am not certain** when it rains there. (Amanj iidog) **4.** Is it raining? **o**r is it clear skys? Perhaps both (gemaa). **5.** Do you want to go camping by the big river? **Yes.** I want to camp. There are northern lights and there are many stars. (Eya'.)

There are various Ojibwe dialects; check for correct usage in your area. The grammar patterns may help a beginner voice inanimate and animate nouns and verbs correctly, as well as create questons and negate statements. 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*. Edited by Jennifer Ballinger, Saagajiwe-Gaabawiik.

Powwow Trail

By Dylan Jennings, Staff Writer

Boozhoo giinawaa! (Hello Everyone!)

It's almost summertime and you know what that means? It's powwow time! For those that don't know what a powwow is, let me take a second to explain.

A powwow is a social gathering, which highlights Native American singing and dancing. Many different tribes have various stories as to how the powwow started or came to their area.

In the Great Lakes region, powwows are held just about every weekend in the summertime. Tribal communities across the area host these events to welcome visitors and to socialize with relatives. Food, laughter, and craft vendors are also a big part of powwows.

When we look out into the dance arena there are many styles of dance. It's important to remember that the dancers wear regalia (pronounced ri-gey-lee-uh) and not costumes.

Some of the men's dances include: traditional, fancy, chicken, and grass. Traditional dancers wear one bustle made of feathers on their backs. They are also adorned with other feathers and sometimes carry staffs or war clubs. Grass dancers wear fringed regalia and mimic the swaying grass of the prairies. Men's chicken dancers wear smaller bustles and mimic the prairie chicken. Men's fancy dancers wear two bustles and are usually adorned in flashy colors.

Women's dances include jingle, fancy shawl, and traditional. The jingle dress originates from the Ojibwe people and the dress is adorned with jingle cones. Fancy shawl dancers wear a skirt and a shawl with fringe. Many times fancy shawl dancers will wear vibrant colors as well. Women's traditional dancers typically wear buckskin or applique dresses, and carry items such as a purse, shawl, or fan.

The dewe'igan is the hearbeat of mother earth and the beat to which the dancers move. (Dylan Jennings photo)

At the center of every powwow is the dewe'igan (drum). The drum is the heartbeat of mother earth and the beat to which the dancers move. Every song is different and specific for every category. Drums are usually constructed of wood and animal hides.

Powwows are a great way to learn about other tribes and communities. Keep an eye out for all the different dance styles. We will see you on the powwow trail!

After reading the story about the powwow, look at the pictures below and fill in the blanks with the name of the regalia that each dancer is wearing.

Dylan Jennings photos

GLIFWC staff recognized for each 5-year anniversary

GLIFWC staff were recognized during the annual staff meeting held at the Bad River Convention Center in February. Reaching the 30-year employment milestone at GLIFWC are, from the left, Ron Parisien, wildlife technician; Jim Thannum, natural resource development specialist; Peter David, wildlife biologist and Gerry DePerry, deputy administrator. Front row: Kim Campy, enforcement administrative assistant; Rose Wilmer, executive secretary. (Dylan Jennings photo)

Shelly Ellson, payroll manger, received a pin for 10-years of service and Steve Garske, plant specialist was recognized for 15-years. (Dylan Jennings photo)

5-year anniversary awards were given to: Jennifer Ballinger, outreach specialist; Tom Kroeplin, enforcement training director; Lauren Tuori, western district warden; Steve Amsler, eastern district warden; and Kia Hmielewski, fisheries database manager. (Dylan Jennings photo)

Paddle, ceremonies at Sandy Lake July 27

All are welcome to join GLIFWC for annual ceremonies, paddle and feast in commemoration of the 1850 Sandy Lake Tragedy. It is a time to remember the sacrifices made by the many tribal members who arrived at Sandy Lake, Minnesota to receive annuity payments, but found only inadequate and spoiled rations, delayed payments and, for many, death.

It is a good time to remember those people, their struggles and determination, and to say chi miigwech!

Agenda: A morning ceremony at the East Boat Landing is followed by a paddle in canoes or kayaks across Sandy Lake where ceremonies are held at the Mikwendaagoziwag Monument located at the Sandy Lake Recreation Site on Highway 65 north of McGregor, Minnesota. A noon feast follows. For more information contact GLIFWC at 715-682-6619.

Check GLIFWC's Facebook page for map, directions and other details.

GLIFWC Enforcement Division hires three conservation wardens

By Charlie Otto Rasmussen, Staff Writer

Chief Conservation Officer Fred Maulson says the GLIFWC warden class of 2016 is going to face some tough challenges.

"We put a lot on our wardens," Maulson said. "The work is physically demanding, mentally challenging, and you need to have good cultural awareness."

The hours can be very long. Wardens are tasked with everything from a weekend-long snowmobile patrol to plying Lake Superior for the occasional ghost net. During the spring fishing season, wardens work into the wee morning hours, catching sleep when they can.

And with so many jurisdictions—three different states, federal, county, and tribal reservation properties—GLIFWC wardens must be able to navigate through a variety of regulations and build solid relationships with their enforcement counterparts. Community relations are equally important as wardens routinely promote culturally-appropriate skills classes, like how to carve wild rice knockers.

The following three recruits are scheduled to work with experienced wardens throughout the summer and fall before assignment to a permanent duty station.

Christina Dzwonkowski

After more than a dozen years and three tribal nations Christina Dzwonkowski returns to the GLIFWC Enforcement Division in 2016. Dzwonkowski (zwan-kowski) rejoins GLIFWC a seasoned officer after serving as a police officer for Lac du Flambeau and Menominee Bands, plus four years as a tribal conservation warden at the 124,000-acre Bad River Reservation.

Gale Smith, Christina Dzwonkowski and Mike Burns on Chequamgon Bay earlier this year for cold water rescue training. (COR photo)

A Bad River member, Dzwonkowski said the time is right to solidify community roots after diverse experiences in Indian Country law enforcement.

She grew up in California and Illinois, and like many school-age kids made annual summer pilgrimages to her home reserve. Now, Dzwonkowski is seizing an opportunity to permanently raise her six-year-old daughter at Bad River—a central location for GLIFWC enforcement patrols in far northern Wisconsin. It's also a great place to romp about on an ATV—one of Dzwonkowski's favorite outdoors activities.

Dzwonkowski earned a criminal justice degree at Rock Valley College (Ill.), and completed the police academy at Chippewa Valley Technical College. In late May, she will finish training at the Wisconsin Department of Natural Resources Warden Academy.

As part of an interest in youth outreach, she plans on expanding her popular "Critter of the Month" program, which features animals that reside in the Ceded Territory. Dzwonkowski currently offers educational "critter" classes to Bad River Headstart children and pre-K–2nd grade students at Our Lady of the Lake School in Ashland.

Gale Smith

Inspired by a family pedigree of law enforcement officers, Gale Smith says his young career is right on course. The warden recruit and Lac du Flambeau member joined GLIFWC shortly after the New Year and has been busy training with fellow officers. Smith comes to GLIFWC via the Town of Lac du Flambeau Police Department.

For Smith the move from small town cop to Ceded Territory warden fulfills a desire to not only protect public safety, but look after the natural resources that have helped shape his life. Utilizing treaty resources in the woods and waters of northern Wisconsin, Smith said, was big part of growing up.

Smith studied law enforcement and criminal justice at both Nicolet Technical College and Fox Valley Technical College. The father of two children is scheduled to complete major training this summer at the Wisconsin Department of Natural Resources Warden Academy in Fort McCoy.

Mike Burns

La Crosse, Wisconsin native Mike Burns just wrapped up a demanding training schedule that culminated with graduation from the Department of Natural Resources Warden Academy. A former state deputy conservation officer, Burns said he made the jump to the Commission's Enforcement Division after learning about GLIFWC's work to protect and enhance natural resources. At GLIFWC, Burns said, he can devote more time to field work and make a bigger impact safeguarding resources.

Growing up near the Mississippi River, Burns devoted much of his free time to fishing and duck hunting. No matter where he's living, Burns now makes time to bowhunt whitetails in Wisconsin and travels to the western United States to hunt mule deer.

Burns earned a bachelor degree in Resource Management Environmental Law Enforcement from UW-Stevens Point. His education continues this summer through the field training program, which pairs recruits with experienced officers.

Onji-Akiing (From the Earth)

Natural Resource Cultural Summer Camp

July 18-22 2016

Lake Nesbit Environmental Center
Sidnaw, Michigan

GLIFWC is excited to announce our 2016 Cultural Summer Camp Program: Onji-Akiing for grades 5-8!

A collaborative effort between GLIFWC and the US Forest Service (USFS), Onji-Akiing (From the Earth) is a cultural outdoor adventure-based camp that focuses on natural resource career exploration and treaty rights. This camp is held at beautiful Camp Nesbit, nestled in the heart of the Ottawa National Forest in Sidnaw, Michigan, also home to the calling loons of Lake Nesbit.

Leadership and service learning activities are important aspects of this program. Activities also focus on group cooperation and communication, problem-solving, self-confidence, leadership, physical exercise, spiritual growth, social skills, as well as respect and responsibility to self and community. Hands-on experiential activities include a group obstacle course, high ropes course, sweat lodge, fishing, archery, swimming, canoeing, animal and plant wisdom, cultural exploration, and cooperative games.

Centered on the Medicine Wheel, this camp explores Native American traditional ways and traditional ecological knowledge, but also learning in the areas of forestry, biology, fisheries and botany. Youth will work with staff from GLIFWC and the USFS. This camp is free of cost. Deadline for accepting applications is June 13, 2016, and it fills up fast so early applications are encouraged.

Deadline for accepting applications is June 13, 2016

Onji-Akiing Registration Form

Participant Name _____

Address _____

City _____ State _____ Zip _____

Email _____ Phone #( )_____

Grade _____ Age _____

Tribe Affiliation _____(if none, leave blank)

Please attach another sheet of paper with a short essay (at least 100 words) on why you want to attend Camp Onji-Akiing. Please include any special achievements, and how this camp might help you in school, your community, and with any life goals.

Please attach one letter of recommendation from an adult, not related to you, about why they think you should attend the camp and how you will benefit from it.

Students are accepted on the basis of their essays, recommendations, and space availability. In the event you are accepted, you will be expected to sign a statement saying that you will participate fully in all activities and parents/guardians will have to complete and sign health forms and permissions for all camp activities.

For questions or concerns, please contact:

Heather Bliss
906-458-3778
hnaigus@glifwc.org

Fred Maulson
715-682-6619 ext. 113
fmaulson@glifwc.org

Mail application, essay and letter of recommendation to: GLIFWC, Attn: Camp Registrations, PO Box 9, Odanah, WI 54861 or Heather Naigus at 253 Silver Creek Rd., Marquette, MI 49855. You can also email application to *hnaigus@glifwc.org* or fax application to 715-682-4221.

Second round of Anishinaabe language booklets set for summer release

By Levi Tadgerson, ANA Language Specialist Assistant

Sponsored by a grant from the Administration for Native Americans, the Nenda-gikendamang Ningo-biboonigag (we seek to learn throughout the year) language booklets entitled Ziigwan are almost ready for release. Copies will be distributed for free to the 11 GLIFWC member tribes as well as project partners over the course of summer 2016. This second set is in the same three-book format as the previous Biboon (winter) edition with a storybook, activity book, and bilingual teacher/parent edition.

The Ziigwan (spring) storybook picks up where Biboon left off. Nigig finds Makwa waking up hungry from his winter sleep. Nigig takes Makwa iskigamiziganing (to the sugarbush), and with the help of their many friends, makes syrup and maple sugar candy. After gathering at the sugar bush the team continues to go set gill nets and spear fish by torchlight. The activity book follows the storyline giving readers a chance to explore and practice some of the terminology used during these springtime harvests.

The series is being created to give children in grades K-5 access to monolingual language materials both within and outside of a classroom setting. With the inclusion of the bilingual parent/teacher edition this series can be used by people of all ages, specifically to create fun interaction between adults and children who want to learn the language of our ancestors. This series is being designed so that people of various skill levels within the language are able to use it. Although written educational materials can be useful tools in acquiring inwewininaan (our language), nothing will ever be able replace our fluent speakers. This is why Larry Amik Smallwood, a fluent-speaking tribal member from Mille Lacs, has extensively overseen all of the language used throughout this project.

In order to make the information more publically available, we have also created an interactive website so that kids are able to access language materials at home as well as on the go. The website includes interactive kids games, printable PDF files, and a digital storyline flipbook. Language staff will add updates as the project proceeds. The site can be accessed on computers and most mobile devices at *www.GLIFWC-inwe.com*.

Join Nigig and friends as they explore Anishnaabeg cultural activities which have been done around the Great Lakes region for thousands of years!

Wesley Ballinger, GLIFWC Ojibwemowin specialist, met with two dozen educators at Bayfield School District to showcase a new language project "Nenda-gikendamang ningo-biboonagak." Ballinger, pictured with Diane DeFoe, provided an orientation to GLIFWC's activity booklets and complementing website. (Melissa Rasmussen photo)

GLIFWC awarded First Nations grant

Promotes tribal ricers, connects with youth programs

By GLIFWC Staff

The First Nations Development Institute recently awarded GLIFWC a one-year grant totaling more than $31,000. The grant supports a new project called "Manoomin—The Good Berry," which aims to strengthen tribal food systems by increasing awareness of local tribal wild rice harvesters and their products within all 11 GLIFWC member tribe's communities.

Project staff—including Coordinator LaTisha Coffin and Community Dietitian Owen Holly Maroney—are working with regional tribal wild rice harvesters to build entrepreneurial skills to promote their products within their communities. Wild rice harvesters and project staff are also developing plans for wild rice demonstrations involving tribal youth-based programs.

The demonstrations will provide the opportunity for tribal harvesters and project staff to work with native youth to better understand the cultural importance of wild rice, demonstrate how "the good berry" is harvested and processed, and collaborate in a hands-on cooking demonstration of a healthy and delicious wild rice-based recipe.

"This project encourages tribal members to support local and tribal producers to create personal connections to traditional food," said Maroney. "We highlight the value of Anishinaabe traditional lifeways, strengthening local, tribal economies through a sustainable enterprise, and supporting local tribal food systems by working with tribal youth and participating in local community events such as health fairs."

This project is part of First Nations Development Institute's Native Agriculture and Food Systems Initiative program. Funding for the grant originates with Shakopee Mdewakanton Sioux Community through their Seeds of Native Health campaign.

Please contact Owen Holly Maroney at 715-685-2147 or LaTisha Coffin at 715-625-2128 with any questions concerning the "Manoomin—The Good Berry" project. Check GLIFWC's Facebook page for updates and announcements for upcoming demonstrations.

Merging science with TEK

(Continued from page 6)

bed in a disorderly fashion, not only decreases the yield for subsequent harvesters that season but may also decrease the volume of future harvests due to perceived spiritual transgressions.

Manoomin protection is important to ensure that the resource will be available to future Anishinaabe in the quantities needed for continued practice of Ojibwe culture and lifeways.

As stated before, manoomin is essential to Ojibwe history and culture. Modern and future ceremonies and other spiritual practices will still need significant sources of manoomin, and its absence may alter Anishinaabe culture and lifeways.

Attention National Forest campers!

By Alex Wrobel, GLIFWC Forest Ecologist

GLIFWC member tribes exercising their treaty rights may camp for free on most campgrounds in the Chequamegon-Nicolet, Ottawa, Hiawatha, and Huron-Manistee National Forests.

There is currently no camping agreement for Michigan State properties, Wisconsin State properties, Minnesota State properties or County properties, so your Tribal camping permit issued through the NAGFA system is valid ONLY for the above four National Forest campgrounds.

It is your responsibility to know the ownership of the campground where you plan to stay. If you have questions with this please contact Alexandra Wrobel, GLIFWC at 715-682-6619.

Prior to camping:

You must obtain a tribal camping permit through your tribal registration station or GLIFWC. You will be issued a paper permit (similar to previous years). This permit will include a tribal camping permit number (see below) that you will use to fill out the envelope at the campground.

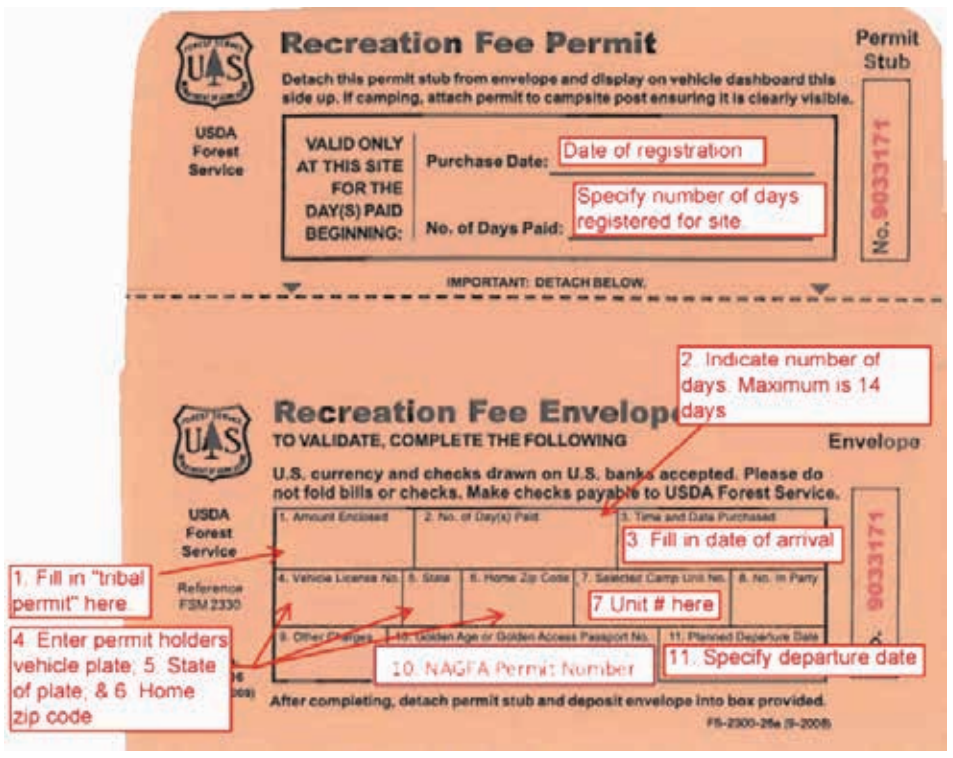
If you will be using other areas of the National Forest that require a parking permit, you can also obtain this from your registration clerk or GLIFWC.

The parking permits are now rear view mirror hangs with the GLIFWC logo on them, these do not expire and can be used beyond this season. The number that is on your parking permit is a number unique to you in the NAGFA system. You can find this number at the top of your paper permit next to "NAGFA ID #." This is different than the number you will use for the camping envelope.

Arriving at the campground:

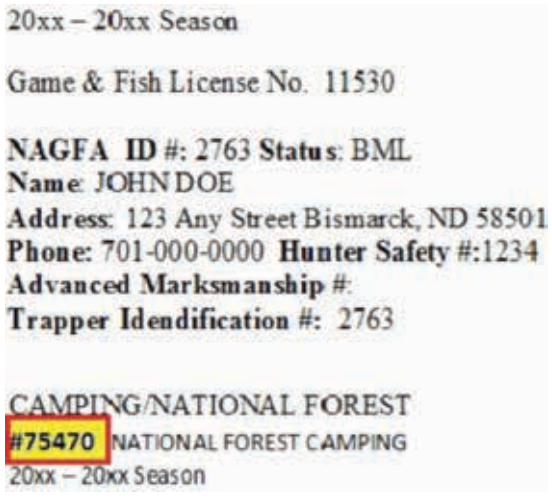
Follow the camping registration procedures at the campground. Generally, this involves providing information requested on a registration form or envelope. You do not need to place anything inside the envelope.

See illustration on how to fill out the fee envelope:



1. Enter "Tribal Permit."
2. Indicate only the number of days you plan to stay. Do not enter 14 days if you do not intend to stay for 14 days. Let the campground concessionaire know if you plan to be gone during the days.
3. Enter your date of arrival.
4. In spaces 4-6 enter the permit holder's vehicle information.
7. Enter the campground unit where you will stay.
10. This is where you will enter the number located on your permit next to your camping stamp.

Example permit:



11. Enter your date of departure.

During your stay:

You are required to follow all posted campground rules and regulations, and note that some rules may differ between campgrounds.

Note for the Chequamegon-Nicolet National Forest

Due to challenges related to increased operational costs and a decrease in the amount of funding available to cover those costs, you may notice some changes at recreational areas of the forest. This could be anything from reduced services all the way to campground closures. Camping is prohibited at closed campgrounds so prior to camping please check *https://data.glifwc.org/camping/* for an updated list of campgrounds with reduced services or closures.

GLIFWC welcomes new staff

Youth, writing projects key roles for public outreach assistant

Under a work plan focused on tribal youth development, Bad River member Paula Maday joined GLIFWC in February as Public Outreach Assistant. She is charged with helping enhance and expand GLIFWC's youth initiative—an effort to teach young people outdoor skills, science, and leadership—all wrapped in Ojibwe culture and traditions.

Maday brings more than a decade of writing experience to the Commission, including work in grant and educational writing along with general reporting. At GLIFWC she has already hit the ground running, penning articles for *Mazina'igan* and drafting documents for various Commission-wide projects. She has also started connecting with member tribes, part of a strategic effort to learn more about tribal youth programs and to identify areas where GLIFWC can help.

Maday earned a Bachelor Degree in English from Dartmouth College in 2003 and continued her education in a graduate program in Curatorial Studies at Bard College in New York.

During free time Maday enjoys running, watching movies, and adding to her vast knowledge of Disney (whatever there is to know about Disney World, she knows!) Maday lives with her husband, four-year-old son, and two dogs in Ashland.

–Charlie Rasmussen

Climate change division gets a dose of TEK

New to the GLIFWC team but certainly not a new face to our tribal communities is niso-gaahbowikwe, or Melonee Montano. Montano has taken up a brand new position as the TEK Outreach Specialist under the climate change section.

Montano brings a wealth of cultural knowledge and environmental knowledge, which she is utilizing for this new position at GLIFWC. TEK refers to Traditional Ecological Knowledge, which often times is passed down through oral tradition. Montano is charged with the task of visiting with traditional harvesters and knowledge-holders to learn more about Anishinaabe resources and practices. Montano will aide GLIFWC in determining which species are gathered at the designated study sites, which species may be at risk due to climate change and also potential projected risks due to climate change that may impact harvest.

Formerly, Montano was the Environmental Programs Manager for the Red Cliff Band. She was responsible for the overall management of environmental programs, which included grant writing, performance recording, capacity building, and environmental compliance.

In her free time Montano enjoys spending time with her three kids and grandchild. She also enjoys hiking, attending and helping with ceremonies, and harvesting traditional resources.

"I look forward to all of the visits with harvesters, gatherers, and teachers, and a lot of appreciation and love goes to all those who I have already been blessed by working with throughout the years," Montano said. **—Dylan Jennings**

Ogichidaag storytellers project launches

By Dylan Jennings, Staff Writer

Nearly two full generations have passed since Ojibwe tribal members first sought to reclaim their reserved rights to hunt, fish and gather in the Ceded Territories. Today, many young people, native and otherwise, have a limited understanding of late 20th Century treaty rights struggles: For them, treaty rights have always been there. GLIFWC in collaboration with its member bands are teaming up to explain and preserve the story of how ordinary tribal members did extraordinary things. Extraordinary movements like challenging state government authority by joining with legal experts to overturn unlawful regulations that greatly diminished Ojibwe access to traditional resources.

Many people that know about treaties sometimes forget that the treaty rights retained by the tribes were subsequently ignored after the territories of Michigan, Wisconsin and Minnesota assumed statehood and began regulating their natural resources. Those regulations were imposed on tribal members regardless of the reserved rights. Tribal members exercising those rights were often given citations, taken to court, fined and had their equipment confiscated if harvesting fish or game without a state license. This era of harassment and trauma suffered by the tribal communities is less talked about.

In late February, after many months of planning, filming of the short video series "Ogichidaag Storytellers," launched. One of the project goals is to help current and future generations better understand an important era in Ojibwe treaty rights history. A secondary goal is to properly and respectfully recognize native individuals who showed courage, leadership and perseverance in the face of harassment and unbending non-Indian resistance toward rights reserved in the Treaties of 1836, 1837, 1842 and 1854.

The Ogichidaag storytellers project kicked off in March at Lac Courte Oreilles with (from left) Fred and Mike Tribble. Videographer Finn Ryan (far right) known for the series, "The Ways," led filming on the Chippewa Flowage and other locations on the Ojibwe reservation. (COR photo)

It was determined through research and collaboration with educators and the greater public that short video series can be a very effective route. Teachers are more apt to show shorter productions that highlight important topics. This method is also more appealing to both students and social media users who receive their information in a much more expedited fashion these days.

It must be understood that the states of Minnesota, Wisconsin, and Michigan all dealt with different litigation and different race battles. These individuals, and the stories they hold, were significant in the reaffirmation of treaty rights that allow tribal members today to engage in harvesting of resources that have always been culturally important. These stories are the roots of modern day treaty rights and the present day youth need to understand the histories and the struggles that their relatives have endured.

Furthermore it is hoped that tribal members both young and old will adopt these stories and share them proudly. These stories will be used to empower tribal members to exercise these treaty rights and embark on the journey to learn their culture and traditions.

In addition, non-tribal youth and adults will gain a better understanding and insight into the significance of these retained rights. The information shared will develop dialogue and interest in Anishinaabe culture and identity and will foster healthy grounds of support for Anishinaabe people.

GLIFWC would like to extend a big Chi-Miigwech for all of the support and help from the communities. GLIFWC recognizes that there were numerous individuals that stood up for these rights. With limited resources, we can only cover a few of them in this project. We'd like to acknowledge all of these individuals and thank them for their efforts in keeping our Anishinaabe traditions and practices alive for seven generations to come.

Community gathers for ceremony to acknowledge nibi

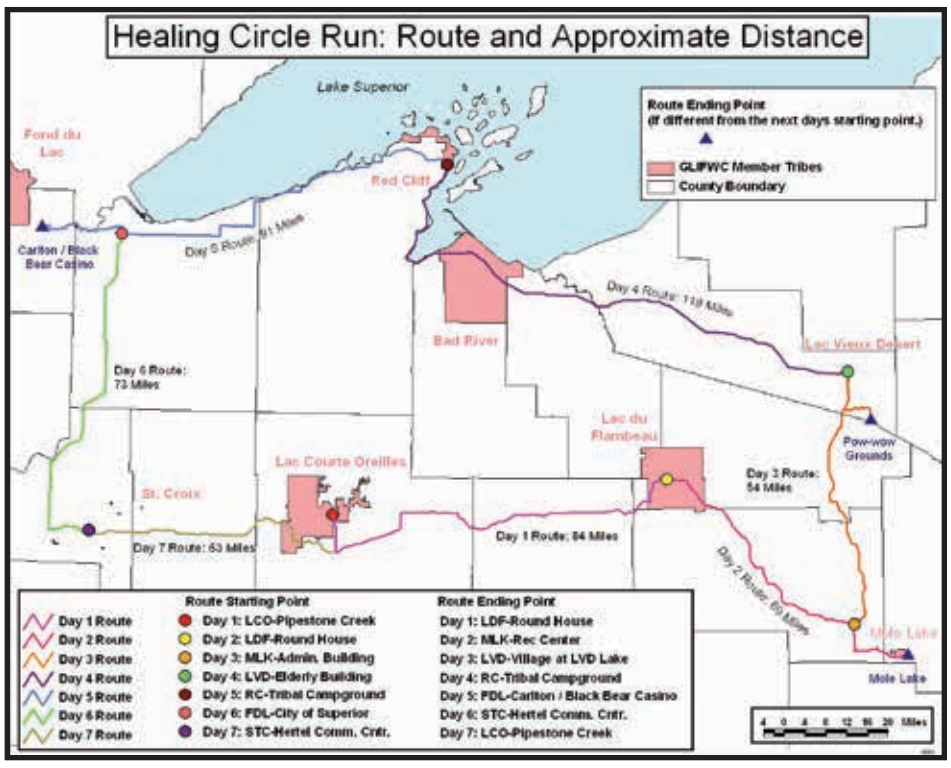
Bad River ikwewag Sue Lemieux and Essie Leoso pray for nibi (water) and give teachings about the importance of Anishinaabe water ceremonies. (Dawn White photo)

Participants at the water ceremony help to make tobacco ties and offerings for the water, asking for safety and giving thanks for all that the water does. (Dawn White photo)

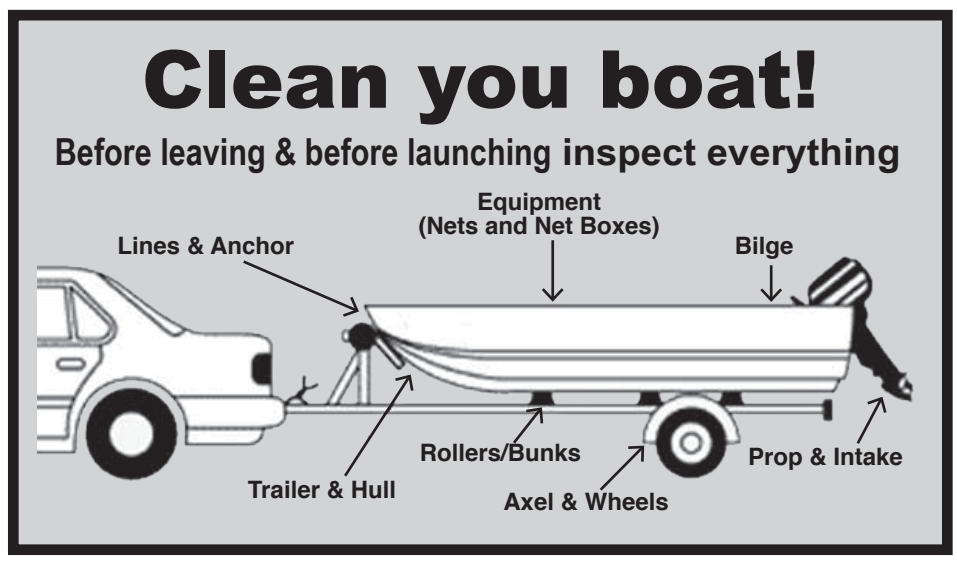
Healing Circle Run/Walk
July 9–15, 2016

The 2016 Healing Circle Run/Walk is intended to be a prayer for healing. During the 2001 Healing Journey Run, participants thought of a teaching on healing—"for a nation to heal, it must begin with the individual. As a person heals, then that person can help heal his/her family. As a family begins to heal, they can help heal their community. As communities heal, they can help the nation heal. As nations heal, they can help Aki (the earth), our plant and animal relatives to heal."

The 2016 Healing Circle Run/Walk will occur from July 9–15, 2016. The run/walk will connect eight Ojibwe reservations in northern Wisconsin, Michigan, and Minnesota (see below map) starting at the Lac Courte Oreilles Reservation and ending at Lac du Flambeau on July 9 (Day 1), then ending at Mole Lake on July 10 (Day 2), at Lac Vieux Desert on July 11 (Day 3), at Bad River/Red Cliff on July 12 (Day 4), at Fond du Lac/Black Bear Casino on July 13 (Day 5), at St. Croix on July 14 (Day 6), and at Lac Courte Oreilles on July 15 (Day 7).



For more information or if you are interested in participating as a core runner, or having a group of runners from your reservation participate, please contact Jenny Krueger-Bear, Sue Lemieux, or Dylan Jennings at GLIFWC at (715) 682-6619. All participants must assume personal liability, as well as responsibility for their own transportation and expenses.



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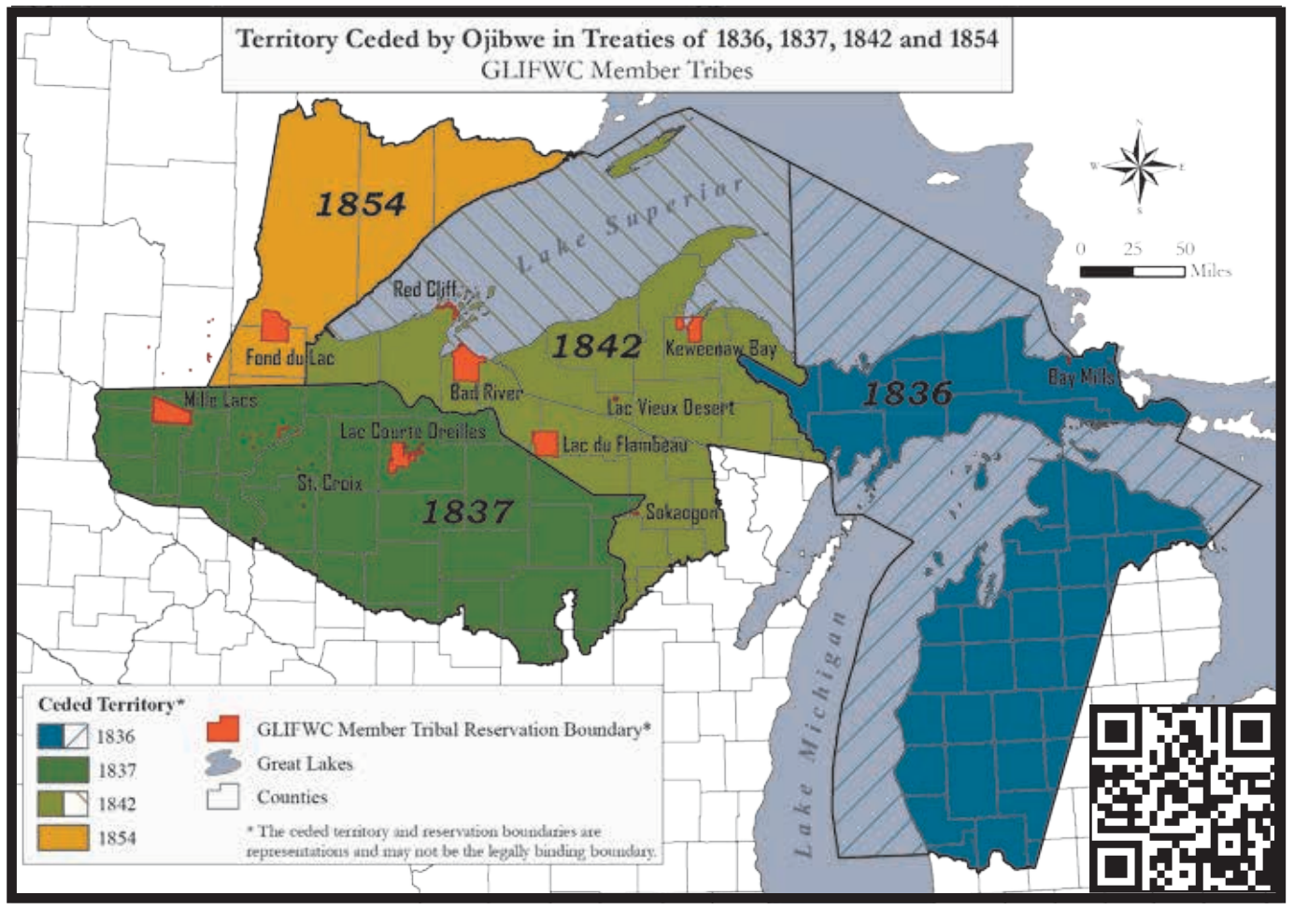
To recieve the e-edition contact *lynn@glifwc.org* and provide your email address.

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** and our Facebook page.



Mazina'igan

A Chronicle of the Lake Superior Ojibwe

Niibin 2016

INSIDE:
Traditional Ecological Knowledge
Marten Mystery
Walleye Season