

# Mazina'igan

A Chronicle of the Lake Superior Ojibwe

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SUMMER 2019

## Productive fishing, good weather mark spring season

By Charlie Otto Rasmussen, Editor

Friday night. Walleye spearfishing opener. There's a good chance the action is at Cedar Lake in western Wisconsin. And so, it unfolded at the 1,100-acre lake where ten St. Croix Anishinaabeg kicked off spring treaty fishing with a solid 193 walleye harvest April 19. In a season running about a week later than the long-term average, Ojibwe fishers from Wisconsin, Minnesota and Michigan engaged in the annual pursuit to resupply family freezers and native communities with fresh fish.

"It's been a pretty good season between fishing area lakes and over at Mille Lacs lake," said St. Croix Ojibwe Conrad St. John. A Voigt Intertribal Task Force representative, St. John said some tribal fishermen also donate walleyes to the St. Croix Elder Advocate Program, which distributes fish to seniors.

As winter ice melts away from inland lakes each spring, Ojibwe people take to the waters of the western Great Lakes region to spearfish walleye, northern pike, muskellunge and other species. An expression of culture, sovereignty and straight-up grocery shopping, the fishing season lasts only around three weeks, but provides food for much of the year ahead. More often than not, Cedar Lake, located in the south- (see Spring season, page 15)



*GLIFWC Creel Clerk Carrie Boyd pinches the tail on a Lake Mille Lacs walleye May 5 to calculate the precise length of the fish. Clerks record length, weight, and gender of the entire catch, contributing to decades-old documentation of off-reservation fishing in the Ceded Territory. Now in her seventh season working Mille Lacs boat landings, Boyd takes leave from two other jobs to help monitor the spring harvest. "It's such a great time of the year. Everyone is in such high spirits," she said. (C. Rasmussen photo)*

## Last group of omashkoozoog arrive in Wis. Ceded Territory

By Bizhikiins Jennings, Staff Writer & Travis Bartnick, GLIFWC Wildlife Biologist

The sound of the drum rang out across the forests in northern Wisconsin on a cold, yet sunny April morning. Mezinaanakwad (Dennis White) loaded his ceremonial pipe and spoke an old language that everything in creation could understand—even omashkooz (elk).

In Ojibwemowin, Dennis acknowledged the trees, plants, animals, and all of the spirit caretakers. He also petitioned the manidoog (spirits) to watch over the omashkoozoog so that one-day they can be plentiful in these areas again.



*Dylan Jennings GLIFWC public information office director, Mic Isham, GLIFWC executive director and Dennis and Cleo White stand at the head of the group and assist with ceremonies moments before the April omashkoozoog release. (T. Bartnick photo)*

This was one of multiple ceremonies conducted by Ojibwe spiritual leaders over the years, in partnership with Wisconsin DNR, GLIFWC, Rocky Mountain Elk Foundation, United States Forest Service, University of Wisconsin, Ho-Chunk Nation, County Forests & Parks, and other partners. These agencies and partners have worked diligently for over 20 years to re-establish elk populations within Wisconsin, and within the ceded territory.

"It's a beautiful thing to see people of various background, all praying for the same thing—for these elk to survive and thrive in northern Wisconsin," said GLIFWC Executive Administrator Mic Isham. "The tribes have been active partners in this process since the beginning and I'm always grateful that we start off in a good way and utilize our ceremonies to ask for help and guidance."

As the ceremony completed, agency reps and attendees were ushered to a fenced-in unit next to the seven-acre quarantine area. Everyone was instructed to be as still and silent as possible, so as not to spook the already alert animals after their long journey from Kentucky. Participants found a small hole in the black fence liner and watched as omashkoozoog ran through the Wisconsin forested terrain. Some elk were curious or confused, while others headed straight for cover in the wooded areas.

These particular elk were captured in Kentucky in early 2019 and held in a quarantine pen until health and disease testing allowed for them to be transported all the way to northern Wisconsin by trailer.

Forty-eight individual elk were released at the beginning of April into a holding pen, which will allow the animals the proper time to become acclimated to their new surroundings and food sources. DNR staff (see Omashkoozoog, page 23)

## Early summer Wildlife Road Trips

Birthing & breeding seasons bring many wildlife species onto north country roadways

Take it slow & scan the road



Does crossing roads are often followed by fawns



Annual nesting migrations require turtles to cross highways especially near creeks and wetlands

Think it in Ojibwemowin  
odaabaan (an automobile)  
ziibiins (a creek)  
mikinaak (a snapping turtle)  
miskwaadesi (a painted turtle)



# In a time of transition, GLIFWC maintains its focus

*By Michael J Isham  
GLIFWC Executive Administrator*

A completed circle is sometimes viewed as an ending point. But at Great Lakes Indian Fish & Wildlife Commission over the past year, the full revolution of two distinct career arcs is less noteworthy as a capstone of individual achievements as it is a sound transition at the executive administrator position.

Following a 31-year career at GLIFWC—the last eleven as executive administrator—James E Zorn resigned in spring 2018, moving on to work in the halls of academia.

During approximately the same period I started as a GLIFWC wild rice intern, then onto seasonal fisheries and wildlife jobs for the Commission setting up more than three decades in natural resources work. For most of that time, I served on the Lac Courte Oreilles Tribal Governing Board as well as elected leadership positions at GLIFWC.

I consider Zorn both a peer and mentor, and we consistently made decisions to elevate the Commission into a top natural resources management agency.

Transitions in environmental leadership extend beyond GLIFWC as well. All three states within the Ojibwe Ceded Territory witnessed the arrival of new Departments of Natural Resources heads following the 2018 November elections. During this first full year of my tenure, I've traveled extensively—both within



*Michael J Isham. (C. Rasmussen photo)*

the Ojibwe Ceded Territory and to the seaboard of the United States to meet with those in natural resources policy.

In the Pacific Northwest I was pleased to meet with the heads of our sister-agencies: Jaime Pinkham at Columbia River Inter-Tribal Fisheries Commission and Justin Parker with Northwest Indian Fisheries Commission.

Closer to home, I've sat down with new Wisconsin Governor Tony Evers and Department of Natural Resources Secretary Preston Cole. Additional meetings are slated for later this year in Washington DC, where I have engaged with legislative leaders on a range of

topics including funding priorities for resource programs like Great Lakes Regional Initiative.

And with these transitions at the highest levels, GLIFWC staff and myself remain focused on fulfilling the vital work under Bureau of Indian Affairs Self Determination contracts.

Our mission to monitor, enhance, and protect Ceded Territory natural resources, provide appropriate law enforcement services, promote the Ojibwe language, and educate native youth continues unabated despite funding delays and budget uncertainties. To its core, GLIFWC remains committed to providing the unique services of scientific analysis, interwoven with Ojibwe culture, for all 11 member tribes.

Finally, at the deputy administrator (DA) position, the Commission welcomed Keith Rolof to the position in 2018. A Keweenaw Bay member, Keith worked his way up through the division, becoming a valuable budget expert and thoughtful advisor. With skill and diligence, Rose Wilmer and Wayne LaBine served as DA in interim capacities, helping keep the Commission on course.

Over the past year or so, we see that some names have changed, but the fundamentals of soundly executing our treaty obligations and contracts with the United States government remained steadfast—a bedrock of GLIFWC's past, present and future. The good work of the Commission in building scientific knowledge, cultural resiliency, and environmental stewardship is poised to continue seamlessly into the future.

# Share your views on wild foods at community roundtables

On a Ceded Territory tour to gather input on developing tribal food codes, GLIFWC staff is scheduling visits to each member-tribe reservation through this summer. The investigative trips to meet with community members are designed to help determine which traditional foods are most important to tribal members.

“Roundtable discussions with community members, especially those responsible for programs like Head Start meal preparation and elder nutrition, is an essential part of establishing codes for wild foods like venison,” said LaTisha Coffin, coordinator for the GLIFWC initiative supported by an Administration for Native Americans, Social & Economic Development Strategies grant.

Although wild-sourced fish, wildlife, and plants are interwoven into Ojibwe culture and diets, federal food regulations pose challenges for the incorporation

of traditional foods in federally-funded programs, such as Head Start and Food Distribution, and also make it challenging to offer these foods in retail markets and restaurants. Coffin said establishing guidelines for acquiring and processing foods like manoomin and maple syrup is a major first step toward improving menu options for tribal nutrition managers.

“Some people might feel food is already overregulated,” Coffin said. “But through tribal food codes, we can actually expand nutrition to include healthier, more culturally appropriate options.”

First up on the community roundtable road trips is a meeting at Bad River Reservation May 23 with tribal program representatives including Food Sovereignty staff. For more information contact Coffin at 715.685.2128. —**CO Rasmussen**



*Wild rice, hominy, whitefish and venison. (L. Coffin photos)*



*Made up of elders from across Ojibwe Country, the GAAGIGE advisory group convened at Northern Great Lakes Visitor Center in April to review progress on GLIFWC programs including traditional foods, Ojibwemowin, and climate change adaptation. The group meets as a whole twice annually and provides input and recommendations to GLIFWC staff.*

*GLIFWC originally created GAAGIGE (GLIFWC Advisory And Guidance Input Group of Elders) some 17 years ago to help in language preservation and record traditional ecological knowledge. An Ojibwemowin word, gaagige translates to “forever” in English. (CO Rasmussen photo)*

## On the cover

**Turtles are on the move from late spring into summer on migrations to nesting sites. Reduce your speed and keep a careful eye out for turtles near culverts, bridges, and areas where roads cut through waterways. (M. Kniskern photo)**



## Ceded Territory news briefs

### Wildlife officials set quotas for 2019 elk hunt following rule change

Following the first elk hunting season in the Wisconsin Ceded Territory last autumn, wildlife managers now have more flexibility to establish harvest quotas for future hunts. In a move supported by Great Lakes Indian Fish & Wildlife Commission last March, Wisconsin legislators lifted a rule that pegged harvest at 5% of the elk population, allowing interagency wildlife managers to base the omashkooz take on current science and research rather than a static number.

For the upcoming 2019 season, state and tribal officials set the harvest limit at 10 bull elk. Like last year, the hunt is restricted to the Clam Lake elk management unit where Ojibwe treaty hunters and state-licensed hunters will evenly split the quota at five bull tags apiece. The Clam Lake herd is expected to number around 225 animals entering the fall season. —CO Rasmussen

### Extended sap runs yield good maple syrup returns

Maple syrup producers enjoyed a strong season in many regions of the Ceded Territory in 2019. From tapping trees in the deep snows of mid-March to the very last boils of late April, sugar maples supplied both large manufacturers and home-use harvesters generous flows when conditions were right.

“Favorable weather for good sap runs seemed to run a bit longer this year,” said Alex Wrobel, GLIFWC forest ecologist. “The catch is that even though the season may be longer, changes in sugar content and flavor from the early season to the late season alter the overall quality of the sap”

The freeze-thaw cycle of late winter and early spring is key to maple sap flow. Below freezing nighttime temperatures and warm sunny days into the 40s F produce ideal conditions to get tree sap “running” in red and sugar maples. —CO Rasmussen

### Researchers review Great Lakes fisheries health, climate impacts

**Ypsilanti, Mich.**—Over 100 scientists convened this past March to discuss topics of common concern within the Great Lakes Basin as part of the Upper Lakes Committee meeting hosted by the Great Lakes Fishery Commission. In Gichigami (Lake Superior), giigoonhwens (prey fish) were a topic of concern. Dr. Mark Vinson of US Geological Survey explained how prey fish biomass (weight by area) since the early 2000s is about the same as compared to that seen prior to the mid-1980s. During the 1990s prey fish biomass was much higher mainly due to large numbers (high recruitment) of cisco (lake herring) and bloater (chubs).

Vinson further looked at the conditions in Lake Superior that may have led to high, medium, and low cisco recruitment years. Ice cover and spring water temperature are two factors that explain success or failure for cisco survival up to one year old. January ice cover greater than 15% and July water temperatures less than 45.5 degrees look to be determining factors in cisco success or failure. Unfortunately, the number of years when ice cover forms by early January is declining as well as the number of years when July water temperatures are less than 45.5 degrees.

In another presentation, all giigoon (fish) captured in a long-running standard assessment done by the USGS were looked at by Dr. Owen Gorman. He showed how chinamegos (lake trout) collapse and recovery appears tied to many responses in all fish in the lake. For example, adikameg (lake whitefish) numbers increased only after wild lake trout numbers began to increase in the early 1980s and the non-native rainbow smelt, a common fish found in lake trout stomachs, declined after lake trout numbers increased.

These presentations conclude that the current state of fish in Lake Superior is good but the continued health of the lake is uncertain in the face of a changing climate. All the presentations can be viewed at [www.glfwc.org/2019-lake-committee-videos.php](http://www.glfwc.org/2019-lake-committee-videos.php) —B. Mattes

### Lake trout limit at one on Grand Traverse Bay following angler overharvests

**Grand Traverse Bay, Mich.**—Following three consecutive years of sport fishing overharvests, Michigan natural resources authorities announced a one lake trout daily bag limit on Grand Traverse Bay for 2019. The previous daily possession limit was two fish measuring at least 15-inches. In addition, biologists are encouraging anglers to limit how many lake trout they handle, especially fish reeled to the surface from deep water.

“We would encourage anglers to keep the first lake trout they catch and then shift to targeting other species,” said Department of Natural Resources Fisheries Biologist Heather Hettinger. “Lake trout are not good targets of catch-and-release fishing because about 40% of those that are caught and released won’t survive to be caught again.”

The Bay, located in the 1836 Ceded Territory of Lower Michigan, is part of the Grand Traverse Band of Ottawa and Chippewa Indians’ homeland. Lake trout harvest limits on Michigan’s Great Lakes waters are governed by the 2000 Consent Decree, a formal agreement between the state and five treaty tribes including Bay Mills Indian Community. —CO Rasmussen

## Ogichidaa Storytellers presents Ginoozhekaaning: Place of the Pike



By Bizhikiins Jennings, Staff Writer

GLIFWC has released another video in a series of short films known as the “Ogichidaa Storytellers” project. Ogichidaa is an Ojibwe word that refers to our warriors, ceremonial headmen or individuals that have seen or partaken in events that protect and further the prosperity of their people. In essence, this one Ojibwe word embodies the very mindset of indigenous leadership and the actions that are taken in order to protect every aspect of their lifeway.

In modern context, these ogichidaag exist in many forms. History tends to highlight the accomplishments of past presidents, inventors, diplomats, and war heroes, often negating the leadership of the many tribal communities that make up the very threadwork of this nation. The Ogichidaa Storyteller project aimed its sight at inspiring educators and the general public to understand local history and the regional leadership that paved the way for protection of Ojibwe treaty rights—which is essentially, protecting a lifeway.

One of these protectors was A.B. LeBlanc from the Bay Mills Indian Community in present day northern Michigan. In 1971, A.B. LeBlanc set a gill net in Pendills Bay on Lake Superior. The Michigan DNR arrested LeBlanc and he was later convicted of fishing commercially without a license and for fishing with an illegal device. This story highlights the treaty challenge and struggle for Ojibwe communities to maintain their identity through treaty reserved rights asserted in the signing of the 1836 treaty with the United States.

A.B. LeBlanc would later see a successful ruling from the Michigan Court of Appeals in 1974, which sent rippling impacts across the community and throughout Ojibwe country. Tribal harvesters could continue century long practices of harvesting the very fish and medicines crucial to the survival of their culture.

Furthermore, generations to come would know the trials and tribulations that ogichidaag like A.B. LeBlanc and so many others had to overcome so that their descendants could engage with their traditional practices, and be proud of their Anishinaabeg heritage.

(see *Place of the Pike*, page 19)



Sixth-graders at Baraga School recently got hands-on experience in hunter education—including gun safety—through a course taught by GLIFWC Conservation Officers Steven Amsler and Heather Naigus Bliss. More than half of the 22 students that earned certifications were from Keweenaw Bay Indian Community. Photo: Warden Amsler discusses safe gun handling with KBIC’s Ethin Awonohopay. (H. Naigus Bliss photo)

# With paper birch struggling, researchers look to TEK & science to counter decline

By Alexandra Wrobel  
GLIFWC Forest Ecologist

Concern for the future of wiigwaasaatigoog (paper birch trees) within the Ceded Territories continues to lead GLIFWC member tribes to take a closer look at this culturally important species.

In recent years, harvesters and Traditional Ecological Knowledge (TEK) holders have reported fewer wiigwaasaatigoog on the landscape, an observation that has also been detected by analysis of forest inventory data by other agencies.

Details on population trend data are available in published technical reports and discussed in the 2017 Mazina'igan article *Wiigwaas: A Status Report*. In summary, there are nearly half as many wiigwaasaatigoog in the Ceded Territories as there were in 1980.

Many factors are contributing to the decline including silvicultural practices that seemingly manage against wiigwaasaatigoog, the changing climate, over-harvesting of the small diameter classes (birch poles, twigs and other decorative products), overall forest health, and changes to disturbance regimes.

Wiigwaas (paper birch bark) isn't used for any singular purpose. Everything from baskets and medicines, all the way to lodge coverings and canoes are crafted from wiigwaas. Depending on the intended purpose, bark is sought from trees that vary in size and quality.

Wiigwaasi-jiimaan (birch bark canoes) require very specific, large-diameter, relatively flawless wiigwaas. Something that is becoming a rarity. This begs the question, what kind of site can support a canoe-quality wiigwaas-aatig?



Sky Isham (above), GLIFWC wiigwaas intern, assisted in sampling sites with large-diameter wiigwaasaatigoog in 2018. Thirty sites were sampled in 2018 and additional sampling is scheduled for 2019. (A. Wrobel photo)

GLIFWC member tribes, in collaboration with TEK holders, the USFS Northern Research Station, and Michigan Technological University developed a project to analyze site characteristics where potential "canoe-birch" are currently growing.

In 2018, 30 sites with large-diameter wiigwaasaatigoog were sampled using a protocol that measures habitat type, species composition, heights and diameters of focal trees, "bark quality," and other forestry measurements. This year (2019) marks the second year of sampling to increase our dataset. The more data we are able to analyze, the more confidence we will have in the results.

Once we better understand suitable site characteristics, we will be able to model potential habitat for wiigwaasaatigoog that produces desired bark qualities.

Eventual model verification and identification of potential suitable habitat can lead to silvicultural recommendations at these locations or to work on re-establishing birch in locations where they could, or should be, growing. Incorporating different climate scenarios in the modeling process can also help inform which areas might be potential refuges for climate-related stressors. For example, a suitable birch location that also happens to be resilient to drought or protected from extreme events could be considered for cultural preservation.

Research projects that incorporate TEK can help property managers better understand the cultural value of a species and strengthen the goals and objectives to accommodate traditional Anishinaabe lifeways.



# Tribes, US Forest Service share climate adaption strategies at regional training

By Rob Croll, GLIFWC Climate Change Coordinator and Melonee Montano, GLIFWC TEK Outreach Specialist

**Ashland, Wis.**—Climate Change Coordinators from all over the USDA Forest Service's Eastern Region along with staff from GLIFWC, Apostle Islands National Lakeshore, and Red Cliff and Bad River Natural Resources Divisions, converged at the Northern Great Lakes Visitor Center on April 9 and 10 for the first USDA Forest Service Region 9 Climate Change Coordinators Meeting. Originally scheduled for three days, the meeting, ironically, was cut short due to a late season snow storm, forcing the cancellation of a highly-anticipated field trip to Copper Falls, Morgan Falls and a local iskgamizigan (sugar bush).

Staff from the Northern Institute of Applied Climate Science (NIACS) facilitated the training. Participants attended sessions including addressing climate change and carbon emissions in the National Environmental Policy Act (NEPA) process, demonstrations of new resilience mapping tools from the Nature Conservancy, discussion of a new vulnerability assessment for the Apostle Islands National Lakeshore, and presentations on climate change impacts and adaptation actions at each National Forest in the region. The Forest Service's Eastern Region includes the New England, Mid-Atlantic and Midwest states.

Many participants listed the afternoon of April 9 as the highlight of their training. The afternoon consisted of a "tribal session," which featured presentations from GLIFWC Climate Change and Northeast Climate Adaptation Science Center (NECASC) staff and ended with an interactive panel discussion with representatives from Bad River, Red Cliff and GLIFWC. Presenters included NECASC Tribal Liaison Sara Smith and GLIFWC Climate Change Program Coordinator Rob Croll who introduced the recently published first edition of *Dibaginjigaadeg Anishinaabe Ezhitwaad: A Tribal Climate Adaptation Menu* and GLIFWC Climate Scientist Hannah Panci discussing the first version of GLIFWC's Climate Change Vulnerability Assessment.

Participants in the panel discussion included Bad River Tribal Historic Preservation Officer (THPO) Edith Leoso, Red Cliff THPO Marvin DeFoe, GLIFWC Climate Change/Furbearer Biologist Tanya Aldred, and GLIFWC Forest Ecologist Alex Wrobel. Panel members shared their views on climate change and how it is already affecting the Ceded Territory and the Anishinaabe way of life.



Tribal Historic Preservation Officer for Bad River Band, Edith Leoso, addresses climate change program coordinators. (GLIFWC photo)

Afterwards many of the Forest Service staff said they were excited to learn how to use the new Tribal Climate Adaptation Menu to assess projects within the National Forests they work in, and help improve their close relationships with tribal partners in their region.

Learn more about the Tribal Climate Adaptation Menu at: <http://glifwc.org/ClimateChange/TribalAdaptationMenuV1.pdf>.



# Expanded route for 2019 Healing Circle Run



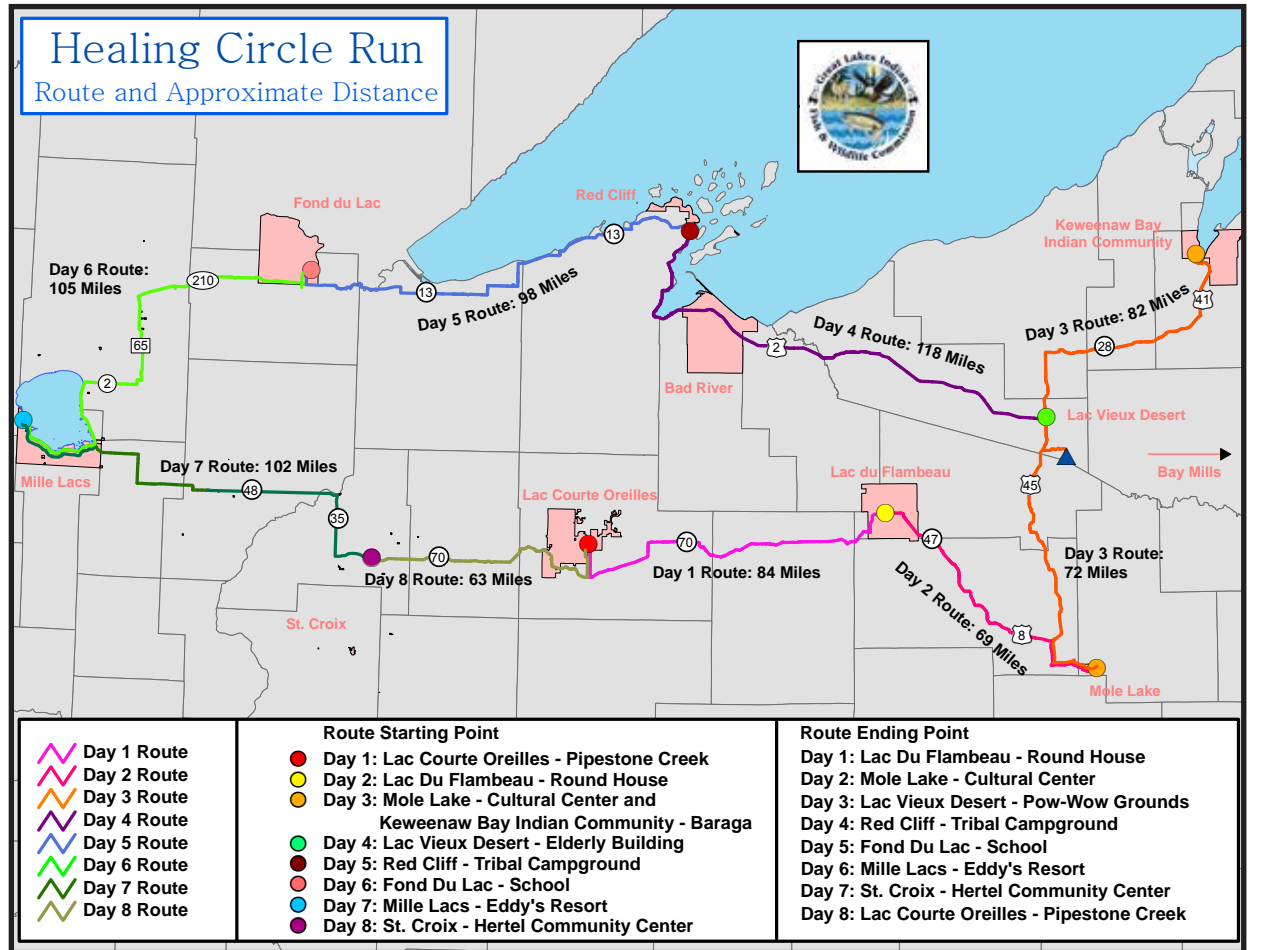
The 2019 Healing Circle Run is in the final planning stages. The committee is very excited for a few new additions to the walk/run this year, and would also like to extend an invite to everyone to come and participate.

This year, it has been decided to add a day to the event and make an iconic stop in the Mille Lacs community. In an effort to involve more Ojibwe communities, the committee unanimously agreed to work towards even more inclusiveness. Instead of seven days the event will now be eight days from July 13-20.

Commissioner of Mille Lacs DNR Bradley Harrington remarked "These types of events are positive strides toward health, sobriety and overall nation building. We are excited to host the Healing Circle Run this year and for many years to come."

For more information or if you are interested in participating as a core runner or group of runners, please contact Jenny Krueger-Bear at GLIFWC at [jkrueger@glifwc.org](mailto:jkrueger@glifwc.org).

Be on the lookout for Healing Circle Run advertising and also the much anticipated release of the Healing Circle Run short video, which will air online on May 28th, 2019.



## Mikwendaagoziwag ceremonies at Sandy Lake July 31



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, the 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.

# Onji-Akiing (From the Earth)

Natural Resource Cultural Summer Camp  
 July 15-19, 2019  
 Lake Nesbit Environmental Center  
 Sidnaw, Michigan

GLIFWC is excited to announce our 2019 cultural summer camp program: Onji-Akiing (From the Earth) for students entering grades 5-8 in the fall! A collaborative effort between GLIFWC and the USDA-Forest Service, Onji-Akiing 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, and social skills, as well as respect and responsibility to self and community. Hands-on experiential activities include a group obstacle course, bandolier bag construction, copper bowls utilizing Seven Grandfathers' teachings, fire science, ash basket cooking, drumming, Eagle Staff teachings, fishing, archery, swimming, Canoeing safety, animal and plant wisdom, Warrior Games, cultural exploration and cooperative games. Centered on the Medicine Wheel, this camp explores Native American traditional ways and traditional ecological knowledge, and campers also learn about 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 10, 2019. This camp fills up fast so early applications are welcomed. Applications postmarked after the deadline will not be accepted.

### Onji-Akiing Registration Form

Participant Name \_\_\_\_\_  
 Address \_\_\_\_\_  
 City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
 Email \_\_\_\_\_ Phone # ( ) \_\_\_\_\_  
 Grade \_\_\_\_\_ Age \_\_\_\_\_ Gender \_\_\_\_\_ T-Shirt Size \_\_\_\_\_ (Adult)  
 Tribe Affiliation \_\_\_\_\_ (if none, leave blank)  
 Special Concerns \_\_\_\_\_  
 Known Allergies \_\_\_\_\_

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.

Students entering 5th-8th grade in the fall are accepted on the basis of their essays 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. Parents/guardians will have to complete and sign health and permission forms for all camp activities.

**For questions or concerns, please contact:**  
 Heather Bliss 906-458-3778 [hnaigus@glifwc.org](mailto:hnaigus@glifwc.org)  
 Christina Dzwonkowski 715-892-0874 [cdzwonkowski@glifwc.org](mailto:cdzwonkowski@glifwc.org)

**Mail application and essay to:**  
 GLIFWC, Attn: Onji Akiing, PO Box 9, Odanah, WI 54861 or email to [hnaigus@glifwc.org](mailto:hnaigus@glifwc.org). No late applications will be accepted!

**Deadline for accepting applications is June 10, 2019**



# USFWS proposes to delist gray wolves

By Peter David, GLIFWC Wildlife Biologist

On March 15 the US Fish & Wildlife Service published a proposal to delist Gray Wolves everywhere in the Lower 48 states—where they had not been previously delisted—from all protections under the Endangered Species Act, or ESA.

This proposal raises great concern for many Anishinaabe people, who hold that their fate and the fate of ma'iingan (wolf) are intertwined. Many Anishinaabe feel that the delisting proposal threatens their communities, as well as ma'iingan's.

Wolves were once found throughout most of the country. But decades of publicly-funded wolf persecution—like cash bounties—resulted in gray wolves (sometimes referred to as timber wolves in the Midwest) being extirpated from the entire “Lower 48” with the exception of a small area in northern Minnesota. Under the protection of the ESA, that population grew in recent decades to recover some historic range in northern Wisconsin and the Upper Peninsula of Michigan. A combination of translocation and natural expansion has also led to wolves recovering in parts of the northern Rocky Mountains.

This most recent proposal would leave wolves without ESA protections in many areas where suitable habitat still exists, but recovery has yet to take place, including the northern Lower Peninsula of Michigan.

The USFWS's justification for removing protections in states that range from California to Maine rests entirely upon the status of wolves in Minnesota, Wisconsin and the UP of Michigan. In this most recent delisting proposal federal authorities use a novel interpretation of what the ESA meant when it used the term “a significant portion of a species range.” The Service contends it applies only the range the animal is currently occupying; conservationists contend the historic range of the plant or animal must also be considered. They note that under this interpretation, a species that was once found throughout the entire county would still not merit ESA protections as long as a single population existed, no matter how small, as long as it appeared unlikely to go extinct in the foreseeable future.



Ma'iingan: Brother Wolf, a Wisconsin Public Television documentary (see below). (Rabbett Before Horses Strickland artwork)

If the delisting proposal is implemented, it would also lead to a return to the sport hunting and trapping seasons that occurred in the Midwest states from 2012-2014, following a previous delisting effort that was eventually overturned in the courts. The return of these seasons could be particularly significant in Wisconsin, which still has a population goal of just 350 animals, while the current wolf population numbers about 900.

That goal was established in a plan that is now 20 years old, and which has not been updated to reflect all that has been learned about wolves in the state and the region in the last 20 years. Reducing the wolf population could have important impacts on the exercise of treaty rights. Ma'iingan helps protect the populations of some important medicinal plants, and likely helps reduce the impacts of Chronic Wasting Disease on deer in the Ceded Territory—just a couple examples of how the fate of ma'iingan and the fate of the Anishinaabe are intertwined.

The delisting proposal can be found at: [www.regulations.gov/document?D=FWS-HQ-ES-2018-0097-0001](http://www.regulations.gov/document?D=FWS-HQ-ES-2018-0097-0001).

## Vulnerability of ma'iingan to climate change



Ma'iingan (Gray Wolf)

*Canis lupus*

Less Vulnerable  
(Confidence Level: High)



Figure 1. Range map of ma'iingan.

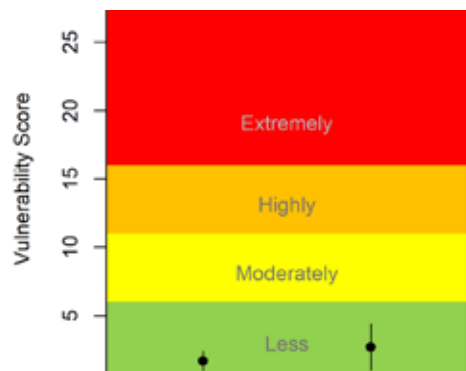


Figure 2. Climate change vulnerability scores for ma'iingan on a scale of 0 (lowest vulnerability) to 30 (highest vulnerability). Dots indicate average score; lines indicate possible range of scores for each warming scenario.

**General Description:**

The Anishinaabeg (first or original people) believe that during the time of creation, all was created and placed on the earth before them. After the Anishinaabeg were placed, they were instructed by the Creator to travel around and name all of the plant and animal beings, as well as places. While carrying out this responsibility, they observed that all the animals placed before them had partners, the animals came in pairs. As a result, the Anishinaabeg developed a feeling of loneliness and decided to consult the Creator to relay their observations and feelings. The Creator took pity on the Anishinaabeg and decided to send them a companion, the ma'iingan.

As the Anishinaabeg continued to travel the earth naming the various beings, the ma'iingan traveled with them. During these travels their relationship with each other became so strong as partners that they developed a brotherhood to each other and with the rest of creation.

Once the task of naming all of the plants, animals, and places was completed, the Creator instructed the Anishinaabeg to separate from the ma'iingan and to go on their own paths with their futures still being intertwined. They were then sent on their way with an important warning. Both the Anishinaabeg and the ma'iingan will be misunderstood and feared by the other humans that would later be placed on the earth to join them. They were told that what shall happen to the ma'iingan will also happen to the Anishinaabeg.

This perception of the ma'iingan still exists among the Anishinaabeg today. Ma'iingan is a main being in many of the traditional stories and serves as one of the clan animals. The ma'iingan is considered a relative, serves as a teacher, and one who shows the Anishinaabe how to live in their often harsh environment, raise families, and how to survive persecution. Due to their intertwined destinies, the Anishinaabeg have always been concerned about the survival and fate of the ma'iingan which is why their observed decline among knowledge holders was mentioned as a concern during traditional ecological knowledge interviews.

**“We see the wolf as a predictor of our future. And what happens to wolf happens to Anishinaabe...whether other people see it or not, the same will happen to them...”**

—Joe Rose, Bad River Ojibwe Elder

(see Ma'iingan, page 19)

# Ma'iingan makes its way to WPT

By Bizhikiins Jennings, Staff Writer

Wisconsin Public Television (WPT), in collaboration with GLIFWC, released the much anticipated “Ma'iingan: Brother Wolf” documentary in late February. After nearly two years of planning, filming, and editing, all parties involved were satisfied with the final production.

The documentary begins in a storytelling format with an up close and personal interview with GLIFWC Voigt Intertribal Task Force representative and Bad River elder Joe Rose Sr. He highlights the original creation story from the Anishinaabe perspective, which sets the scene for the entire documentary.

Members of the planning committee all agreed that the Anishinaabe perspective should be the foundation for telling this story. The biological attributes of both humans and ma'iinganag as well as the social characteristics were also identified as crucial pieces of interest.

Interviews with biologists, Ojibwe elders, community leadership and local tribal artists all played integral roles in sharing the unique history and relationship that ma'iingan and Anishinaabeg share with one another.

The documentary comes at an interesting point in time where the tribes continue to assert that delisting ma'iingan can have negative impacts all around. GLIFWC member tribes in particular, continue to be in staunch opposition to the delisting of ma'iingan. “What happens to one of us, will happen to the other,” says Red Cliff Tribal Historic Preservation Officer and Documentary Advisor Marvin Defoe. “We need to work together to protect ma'iingan and to remember that we encroach upon their territory.”

“Ma'iingan: Brother Wolf” also reiterates the biological significance of wolves and the work that they do to keep population genetics strong within local deer herds, simply by harvesting weak or sick deer. Much like other species, ma'iingan has a critical role to play in the health of the environment.

Whether you are a wildlife advocate or simply yearning for more information, watch “Ma'iingan: Brother Wolf.” It's guaranteed to leave you with some thought-provoking perspectives and emotions. The full-length documentary and WPT pledge drive information can be accessed here: <https://wpt4.org/wpt-video/wpt-documentaries/maiiingan-brother-wolf-9apsy7/>.

# Soo Locks replacement project gains traction after 30+ years

*Ballast water discharge and aquatic invasive species a concern for Great Lakes biologists*



*Soo Locks. (Richard Macdonald photo, source U.S. Army Corps of Engineers website [www.lre.usace.army.mil/Media/Images/igphoto/2001708166/](http://www.lre.usace.army.mil/Media/Images/igphoto/2001708166/))*



*Inset: Bloody red shrimp is an aquatic invasive species found in 2006 in the Great Lakes after foreign ship ballast water containing live shrimp was discharged. It has been found in Lakes Michigan, Huron, Erie, and Ontario, as well as inland waters within the Lake Ontario watershed. (NOAA/GLERL photo, source Great Lakes Fishery Commission website [www.glfcc.org/photos.php?category=Other&keywords=](http://www.glfcc.org/photos.php?category=Other&keywords=))*

*By Paula Maday, Staff Writer*

**Detroit, Mich.**—The State of Michigan and the U.S. Army Corps of Engineers, Detroit District, signed a memorandum of understanding May 2018 officially committing up to \$52 million for construction of a new lock at the Soo Locks facility at Sault Ste. Marie. The commitment comes 32 years after Congress authorized the project, though funding never followed, and the project has been stalemated ever since.

Appropriated funds will be used to initiate deepening of the upstream approach channel and complete design work for the construction of a second Poe-sized lock (110' x 1,200')

on the site of the existing Davis and Sabin Locks. A Final Environmental Impact Statement (FEIS) for the replacement lock was completed in 1985 and a Record of Decision was signed in 2009.

According to a public notice issued by the U.S. Army Corps of Engineers on December 22, 2016, the potential environmental effects of constructing the replacement lock have been reviewed and compared to those described in the 1985 FEIS. It was determined that no new conditions would warrant supplementing existing National Environmental Policy Act documentation, and that current conditions would be documented in an internal memo for the record, including any considerations or comments provided in response to the public notice.

The Soo Locks are the largest waterway traffic system in the country, providing means to import and export iron ore, agricultural products and other goods. It is reported that if the Soo Locks were to stop working, production of almost all North American appliances, automobiles, railcars, and construction, farm, and mining equipment would cease within weeks.

A report from the U.S. Department of Homeland Security estimates that closure of the Poe Lock would create a \$160 million economic impact within 30 days. Repair and upgrade for the locks will help to maintain infrastructure for U.S. manufacturing and National Security. (see *Soo Locks*, page 14)

# Diet study yielding insights into whitefish preferences, food webs

*By Bill Mattes, GLIFWC Great Lakes Biologist*

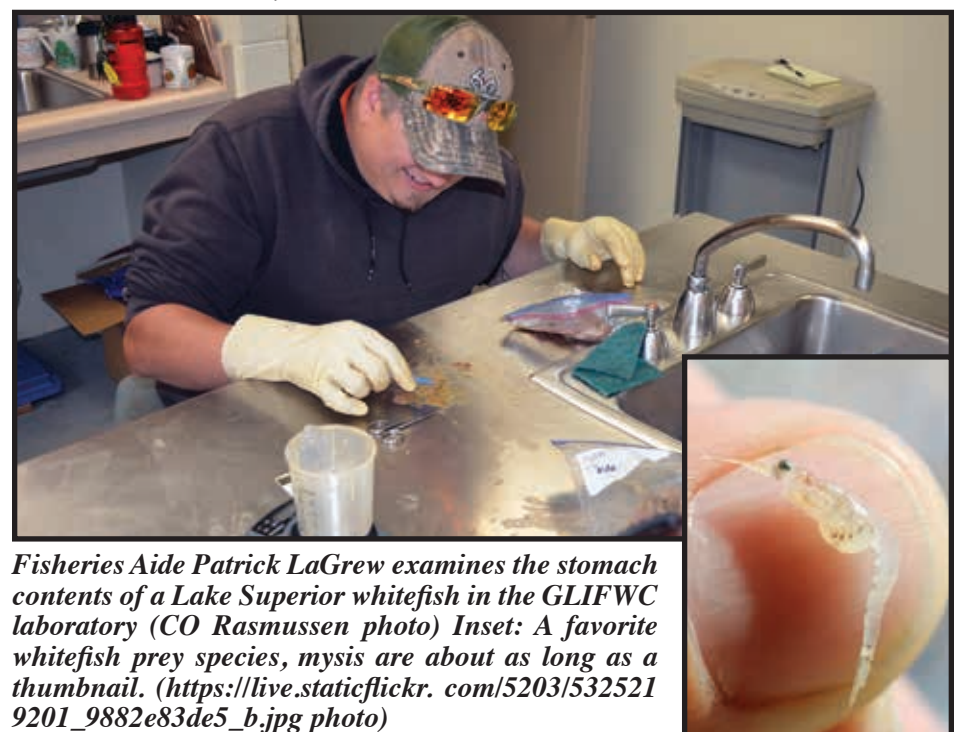
Over the winter months, GLIFWC Great Lakes Section collaborated with the Quantitative Fisheries Center in the Department of Fisheries and Wildlife at Michigan State University (QFC) to have undergraduate student Grant Woodard and his advisor Dr. Travis Brenden analyze the first three years of adikameg (lake whitefish) diet data.

These data were collected under GLIFWC's Climate Change-Lake Superior Fish Diet Study by Fisheries Technician Ron Parisien, Jr. Parisien, in cooperation with commercial fishermen from the Red Cliff Band, Bad River Band and Keweenaw Bay Indian Community traveled aboard fishing tugs and collected stomachs, length, weight and age data from the fish. Back at the GLIFWC lab in New Odanah, Wis Parisien and Fisheries Aid Patrick LaGrew, with assistance from seasonal interns, categorized the diet items and keyed the data into a database.

Preliminary results from the study indicate:

- Lake whitefish weight, as a function of length, has declined in recent years relative to the 1980s, 1990s and early 2000s (the highest predicted weights at length occurred in the 90s).
- Lake whitefish whether young (immature) or older (mature) eat the same food.
- Lake whitefish gradually transition to different foods between spring, summer and fall with the diets being most different between spring and fall.
  - Diporeia are eaten in the spring and mysis in the fall.
  - Clams are eaten more in the summer while diporeia are eaten less; mysis are eaten more often but in lesser numbers.
- Lake whitefish feeding is highly specialized, with most fish generally eating only a couple of prey types (as opposed to a stomach containing a wide variety of prey types).

This data provides contemporary baseline data on diets for lake whitefish in Lake Superior. Diet data are used to link current food web models based on stable



*Fisheries Aide Patrick LaGrew examines the stomach contents of a Lake Superior whitefish in the GLIFWC laboratory (CO Rasmussen photo) Inset: A favorite whitefish prey species, mysis are about as long as a thumbnail. ([https://live.staticflickr.com/5203/5325219201\\_9882e83de5\\_b.jpg](https://live.staticflickr.com/5203/5325219201_9882e83de5_b.jpg) photo)*

isotope analysis to bioenergetics models, which are then linked to modeling the long-term sustainability of fish communities.

Diet information being collected will help scientists to evaluate and understand conditions that threaten to alter food webs and negatively affect treaty resources. The diet study is part of a holistic approach being used to assess the impacts of (see *Whitefish diet*, page 19)



# Ceded Territory SCIENCE

## Why are small mammals important to waabizheshiwag?

By Tanya Aldred, GLIFWC Furbearer/Climate Change Biologist

The Biboon 2018-2019 issue of *Mazina'igan* detailed a project being conducted with GLIFWC/UW-Madison to look at small mammal populations during the summer and winter in known waabizheshi (marten) habitat within the Chequamegon-Nicolet National Forest.

Some people may ask “Why do we trap and count small mammals?” Wildlife biologists conduct live-trapping of various mammal species throughout the Ceded Territories for multiple reasons. These types of studies help us determine small mammal population estimates, species diversity, small mammal movement, health, and prey availability in a given habitat type.

Waabizheshiwag (American martens) are mid-sized carnivores within the Ceded Territories. They represent the Warrior Clan and are an important clan member for Ojibwe tribes of the region. They were extirpated from the area due to habitat loss through logging and over-harvest and are currently on the Wisconsin Endangered Species list.

Over 40 years of multiple reintroduction and restocking efforts have taken place, however, they are still endangered within Wisconsin even though they are

Some studies have shown that the success or failure of a reintroduction project depends on the suitability of not only the habitat, but also small mammal prey populations.

annually harvested within their range in both northern Michigan and northern Minnesota. GLIFWC has been conducting research on martens and their habitat for decades. One area of research includes looking at small mammal populations (prey availability), as they relate to martens.

Live-trapping small mammals includes setting up transects in different types of habitat, like hardwood versus conifer sites. Next, we bait small aluminum traps with sunflower seeds, and also place a piece of synthetic batting so the mammals can use this as bedding once they are in the trap. We set them along the transects at various locations, leave them overnight, and check them in the morning. When an animal is trapped, we record the species type, sex, weight, ear length, tail length, hind foot length and we mark it with ear tags or a non-toxic permanent marker. Once all this information is recorded we release the animals back into their habitat.

Some species that are caught include white-footed mice, deer mice, jumping mice, red-backed voles, chipmunks, flying squirrels, red squirrels, and multiple species of shrews. White-footed mice and deer mice are terrestrial (living on the ground) species, but are also excellent climbers and will nest and forage above ground. They usually nest in hollow logs and stumps, underground burrows and among rock piles. Mice like to eat seeds, insects, fruits and green vegetation. Jumping mice live in wet cool woods in areas of mixed conifers and hardwoods. They can make spectacular leaps anywhere from 3-10 feet in distance. They also like to eat seeds, berries, fungus and insects. Red-backed voles travel through the leaf litter and live within burrows or under logs and like to eat seeds, berries, fungus and insects.

Chipmunks live in elaborate burrow tunnels with multiple entrances. They eat a variety of seeds, fruits and fungi. They gather and store large quantities of acorns, seeds and nuts in their burrows during the



Allison Scott (UW-Madison Graduate Student) about to release a northern short-tailed shrew (*Blarina brevicauda*) in the Chequamegon-Nicolet National Forest. (T. Aldred photo)

fall. Flying squirrels are arboreal (living in trees) and nest within tree cavities. Flying squirrels eat seeds, tree sap, fungus and lichens, but are more carnivorous than other squirrels and will eat bird's eggs, nestlings, mice and carrion. Red squirrels live mainly in coniferous forests and prefer to nest in tree cavities but will also nest in branches or within underground burrows, (see *Waabizheshiwag*, page 11)



Northern flying squirrel (*Glaucomys sabrinus*) (Illustration credit: www.animalspot.net)

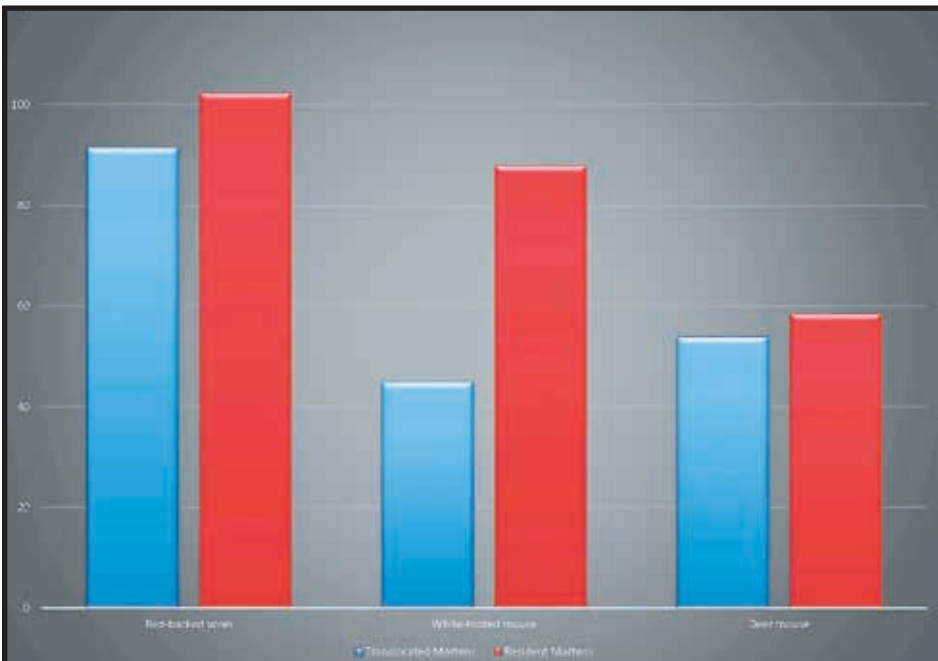


Figure 1. Total population estimates per 100 trap nights of three mammal species at locations where translocated and resident martens hunt/kill small mammal prey.

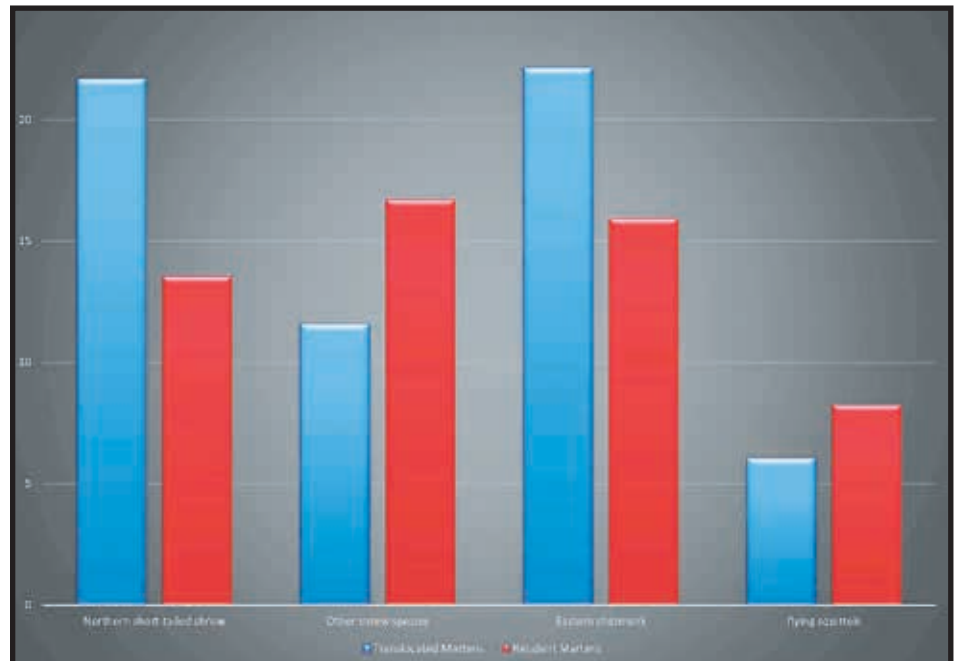


Figure 2. Total population estimates per 100 trap nights of four mammal species at locations where translocated and resident martens hunt/kill small mammal prey.





# 15th annual GLIFWC AIS survey just around the corner

**Goal is to slow the spread of aquatic invasive species and protect treaty resources**

By Steve Garske, GLIFWC Invasive Species Coordinator

Over the last couple of centuries the lakes, rivers, ponds and wetlands of the Ceded Territories have accumulated quite an assortment of plants and animals from around the world.

Readers are no doubt familiar with many of them: Eurasian water milfoil, curly-leaf pondweed, non-native phragmites, Chinese and banded mysterysnails, spiny waterfleas, and zebra mussels. Then there are the less familiar, more recent



GLIFWC Wildlife Tech José Estrada treating a patch of non-native phragmites on the St. Louis River. This tall grass is an aggressive invader of shores, wetlands, and even moist uplands, turning diverse native plant communities into nearly pure stands of phragmites. (S. Garske photo)



*New Zealand mud snails are tiny, but they can reach half a million snails per square yard of lake or river bottom! They're tough and hard to kill, and can survive out of water in cool, damp environments for nearly a month. They have the bad habit of becoming imbedded in the bottoms of felt-soled waders, where they're easily spread to the next lake or stream. They've become established in Idaho, Montana, and more recently in the St. Louis River between Duluth and Superior. (M. El Damir, Bugwood.org)*

arrivals like starry stonewort, Asian clam, bloody red shrimp, Heterosporis (a microscopic fish parasite), European faucet snail and New Zealand mud snail. And the list unfortunately keeps growing.

These plants and animals clog waterways, short-circuit food webs, displace native species, and disrupt native ecosystems. They also interfere with the use and enjoyment of northwoods lakes, ultimately putting the full exercise of treaty-reserved rights at risk.

None of these plants and animals got here on their own. Many arrived in shipping ballast water transported from overseas and discharged into the Great Lakes. Some like flowering rush were brought over as garden plants. Others such as Brazilian waterweed and hydrilla (both established in the eastern and southern United States) were introduced by the aquarium trade. Once here, they hitched rides on boats, trailers, anchors, duck decoys, fishing gear and other equipment, impacting an ever-expanding number of lakes, streams and wetlands.

This summer GLIFWC staff will again be surveying some of the region's lakes (and at least one river) for invasive plants and animals. These surveys can reveal the presence of Eurasian water milfoil, spiny waterfleas and other troublesome invasives. When recently-established populations of plants are found, GLIFWC and partners may be able to initiate control work. (Once established, animal invaders are often very difficult to impossible to control.)

We also inform boaters and others through boat landing signage and by posting the information online (see below). The best control method, though, is to avoid spreading these invasives to uninfested lakes, rivers and streams.

The Minnesota DNR\* recommends three simple steps every time you leave a lake or river, whether or not it's known to be infested:

**Clean** all aquatic plant, animals and debris from boats, trailers, nets and other equipment.

**Drain** water from your boat, motor, and live well or bait container. Remove drain plug(s) and leave them out while transporting equipment.

**Dispose** of unwanted bait in the trash (or well away from water). To keep live bait, drain the water and refill the bait container with bottled or unchlorinated tap water.

The information gathered during these aquatic invasive species surveys can help to alert lake users to the presence of invasive species. The rest is up to everyone who puts a boat on these lakes. Please remember to **Clean, Drain and Dispose!**

\*<https://www.dnr.state.mn.us/invasives/ais/infested.html>

## Tribal prosecutor trial skills training

### Dates and times:

Tuesday, June 11, 2019

Wednesday, June 12, 2019

Thursday, June 13, 2019

Training sessions will begin at 8:00 AM each day, ending after 5:00 PM. Participants will be expected to actively participate in mock courtroom exercises, with homework assigned on Tuesday and Wednesday.

### Location:

BLACK BEAR CASINO RESORT  
1785 MN-210  
Carlton, MN 55718

### Details:

Free and open to tribal prosecutors, judges, defenders and other court personnel. Travel support and meals will not be provided. For more information email Kendra [kkiepke@judicare.org](mailto:kkiepke@judicare.org).

Event sponsored by Tribal Justice Support (TJS)  
in participation with  
Great Lakes Indian Fish  
& Wildlife Commission (GLIFWC)



### For info on the invasives found in Ceded Territory lakes, check out these resources!

GLIFWC invasive species website: <http://maps.glifwc.org/>

- This site has lots of information on where invasives have been found. Click the "INVASIVE SPECIES" folder on the left to get started!

Wisconsin DNR Find a Lake! site: <https://dnr.wi.gov/lakes/lakepages/Search.aspx?show=search>

- Type in a lake name and county, and then click "Facts and Figures" for information on your favorite lake, including known invasives.

Minnesota DNR LakeFinder site: <https://www.dnr.state.mn.us/lakefind/index.html>

- Type in a lake name and county for the invasives known from each lake.



# Gii'igoshimowin (fasting)

*Gaa-anishinaabemod: Lee Obizaan Staples and  
Gaa-anishinaabewibii'ang: Chato Ombishkebines Gonzales*

Mii iko ingiw Anishinaabeg mewinzha gaa-izhichigewaad, azhigwa gii-moonenimind a'aw gwiiwizens ani-oshki-ininiwid, naa gaye a'aw ikwezans ani-ikwewid, mii iwidi bagwaj gii-izhiwinindwaa gii-o-gii'igoshimowaad ezhiwiinjigaadeg. Mii iwidi wiigiwaam gii-ozhichigaadenig imaa bagwaj. Mii dash imaa gii-asind a'aw waa-kii'igoshimod maagizhaa ingo-dibik, gemaa gaye niizho-dibik, gemaa gaye niso-dibik miinawaa gemaa gaye niyo-dibik gii-ayaad iwidi.

What Anishinaabe did as soon as they realized that a boy was becoming a young man and a girl was becoming a woman they took them out into the woods to fast. A wigwam was built for them out in the woods. It was within there that they placed the one who was to fast for a night, maybe two nights, maybe three nights, or even four nights.

Ishke dash megwaa iwidi gii-ayaawaad, gaawiin ogii-minikwesii-naawaa gegoo, biinish gaye gemaa gaawiin gii-wiisiniisiiwag. Mii dash i'iw gaa-onji-izhichigewaad, mii imaa gii-waabanda'iwewaad ezhi-apatiendamowaad gaa-izhi-gikinoo'amaagooyang anishinaabewiyang. Dibishkoo imaa waabanda'iwewag ezhi-apiitenimaawaad iniw Manidoon imaa ani-mamoosigwaa da-gii-minikwewaapan naa gaye da-gii-wiisiniwaapan.

While they were out there they did not drink anything and possibly they did not even eat out there. The reason they did this was that they were showing their respect for what we were taught to do as Anishinaabe. It was as they were showing their appreciation for the Manidoog by not taking anything to drink or to eat.

Ishke dash mii imaa gaa-onjikaamagadinig gii-shawenimigowaad iniw Manidoon, mii dash imaa gaa-onjikaamagadinig gii-pi-naazikaagowaad iniw Manidoon gii-pi-wiindamaagowaad i'iw akeyaa ge-ni-naadamaagowaad oniigaaniimiwaang. Ishke mii imaa gaa-onjikaawaad ingiw Anishinaabeg gaa-wenda-manidoowaadizijig miinawaa gaa-nanaandawi'ijewig naa-go gaye gaa-chiisakijig.

It is from there that the Manidoog showed their compassion for them. It is from there that the Manidoog approached them and told them how they would help them in their future. That is where our Anishinaabe who were really gifted as medicine men and wigwam shakers came from.

Ishke ani-minikwesig awiya miinawaa ani-wiisinisig megwaa iwidi gii'igoshimod mii iwapii dibishkoo ani-wiindamawaad inow Manidoon, "Ishke mii i'iw waa-poonitooyaan, mii dash imaa aazhitaa inendamaan Manidoogod da-naadamawiyeg da-miizhiyeg wenjida ge-naadamaagoyaan niniigaaniiming."

When a person does not drink and does not eat while they are fasting it is as if they are telling the Manidoog during that time, "I am not going to eat or drink and in return I am hoping you all as Manidoog will help me and give me what will help me in my future."



*Lee Obizaan Staples (right) and Chato Ombishkebines Gonzales. (COR photo)*

Mii dash dibishkoo eni-izhichiged a'aw Anishinaabe ani-atood i'iw wiisiniwin maagizhaa gaye imaa zagaswe'idid gemaa gaye ani-biindigadood endazhi-niimi'idiiked a'aw Anishinaabe. Mii imaa eni-gaagiigidod ani-wiindamaaged, "Ishke i'iw wiisiniwin a'aw gaa-pi-biindigadood da-gii-ashamoonspan, awashime dash omaa inendang wii-pi-biindigadood inini-mawaad inow Manidoon. Mii imaa ge-onjikaamagadinig da-ni-naadamaagod inow Manidoon."

It is very similar to when Anishinaabe brings in food into a feast, or maybe a ceremonial dance. The one speaking for his offering says, "The food that so and so brought in could have been used to feed himself and his family, but instead he thought to bring it in here and offer it up to the Manidoog. It is from there that he will be helped by the Manidoog."

Mii-go gaye dibishkoo a'aw Anishinaabe bi-biindigadood inow maamandoogwaasanan imaa atood okosijiged imaa Anishinaabe endazhi-niimi'idiiked. Ishke a'aw gaa-kashkigwaasod anooj da-gii-paa-izhichigepan, awashime dash imaa inendang ginwenzh inendaagwadinig gii-lnanaamidabid gii-kashkigwaadang i'iw waabooyaan waa-ininamawaad inow Manidoon. Mii gaye imaa wenjikaamagadinig a'aw Anishinaabe da-naadamawind.

It is the same thing when Anishinaabe brings in handmade quilts as an offering for the bundle at a ceremonial dance. See the one that did the sewing could (see *Gii'igoshimowin*, page 18)

## Lake sturgeon (name) in the Ceded Territories

*Mark Luehring  
GLIFWC Inland Fisheries Biologist*

### Part one

Name (lake sturgeon) is considered sacred in Ojibwe culture, the protector and patron of the Sturgeon Clan. Name once provided a significant source of food for Ojibwe people, and was harvested respectfully and used fully (see *Masinaigan Spring Supplement*, 1998).

Formerly, lake sturgeon were prevalent throughout the Great Lakes region, but they declined in abundance and range in the late 19th and early 20th centuries due to loss of habitat and overfishing brought on by development.

The long-lived, slow growing, lake sturgeon are particularly vulnerable to overharvest and habitat destruction because of their life history. Recent efforts in much of the Great Lakes region are beginning to restore lake sturgeon, but their range and abundance remain much lower than historical levels.

Lake Sturgeon are the largest freshwater fish in the Great Lakes region, with some recorded over 7 ft and 200 pounds. Despite their large size, sturgeon are not aggressive sharp-toothed predators. Rather, they typically feed on invertebrates near the bottom of the lakes and rivers where they live.



*Lake Sturgeon. (NOAA, Great Lakes Environmental Research Laboratory)*

Sturgeon are often the oldest fish in their waters with some living over 100 years. Sturgeon live in rivers and lakes, spawning in upstream portions of rivers and tributaries. Since sturgeon are long-lived, they mature later in life than most fish, and do not spawn annually. Females mature at 20-30 years of age and spawn every 3-7 years, while males mature at 15-20 years of age and spawn every 1-4 years.

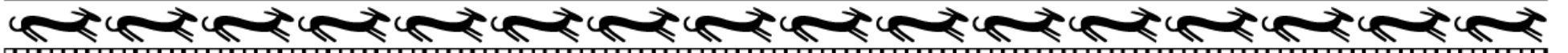
When sturgeon fry hatch, they drift downstream to begin their juvenile life stage in calmer waters. Sturgeon grow quickly at first, reaching a length of around 30 inches by age 3, but growth slows considerably as they get older. Mature sturgeon often grow less than an inch per year in length, instead adding weight.

In the late 19th century, lake sturgeon declines began because they were caught as bycatch in other growing commercial fisheries. When European demand for caviar made from sturgeon eggs reached the U.S., targeted sturgeon fisheries quickly depleted populations through much of their range.

Barriers created by the construction of dams prevented many sturgeon populations from migrating to their historic spawning grounds and sedimentation onto other available spawning habitat caused by unsustainable logging practices further reduced sturgeon populations. By the early 20th century, most of the commercial fisheries for lake sturgeon had collapsed throughout the region, and states began to implement more restrictive harvest regulations. But since the lake sturgeon matures late in life and doesn't spawn every year, populations have been slow to recover. Rehabilitation efforts are now common throughout the region.

Despite a history of overharvest and habitat destruction, some lake sturgeon populations remain healthy and naturally sustaining. The Lake Winnebago system outside the Ceded Territory in southeast Wisconsin is well known for its sturgeon population and annual winter harvest season. Two Lake Superior tributary streams in U.S. waters, the Bad River in Odanah, Wisconsin, and the Sturgeon River in the Upper Peninsula of Michigan have also maintained naturally reproducing populations.

In the inland waters of the Ceded Territory, Yellow Lake (Burnett Co.) also has a naturally sustained population. This population is the only inland population in the 1842 and 1837 Ceded Territories with an annual quota set for harvest. In the next edition, we will talk about the history and status of name in Yellow Lake.



# With regulations, outreach GLIFWC tribes push back against fatal deer disease

By Travis Bartnick, GLIFWC Wildlife Biologist

How do you stop a disease that is neither virus nor bacteria, easily spreads across the landscape, persists in the environment for years, is resistant to disinfection procedures, incubates in healthy looking individuals for at least a year and a half, and always results in death of the animal? Many researchers have been grappling with these difficult questions as chronic wasting disease (CWD) continues to spread across North America over the past few decades.

To date, CWD has been detected in 26 US states and three Canadian provinces in free-ranging cervid populations and/or captive deer facilities. More recently, the disease has been detected in deer within or near the Ojibwe Ceded Territories.

CWD can infect members of the Cervidae (deer) family, including waawaashkeshi (white-tailed deer), omashkooz (elk), and mooz (moose). Experts believe the disease is caused by a misshapen protein known as a prion.

There is still much to learn about prion diseases, but researchers believe that once certain prions enter the body, they tend to trigger other naturally occurring proteins to replicate the abnormal shape. These misshapen proteins clump together and eventually accumulate and create sponge-like holes in the nervous tissue of the infected animals, leading to brain damage. Some have described the advanced stages of a prion infection as turning the brain into Swiss cheese.



A whitetail buck infected with CWD shows a lack of fear of humans and appears listless. Bryan Richards, a leading CWD researcher with US Geological Survey, said it's exceedingly rare for people to observe infected animals presenting clinical symptoms. Neurally incapacitated and sick, these infected deer usually die from predation, hunting, accidents or other diseases before CWD symptoms appear. (K. Klag, district wildlife biologist, Kansas Department of Wildlife, Parks and Tourism)

**The fact that clinical symptoms do not initially appear is one of the reasons CWD is not definitively diagnosed until after death.**

So far, there is no evidence that CWD can infect humans. The current scientific consensus is that humans benefit from a species barrier that prevents human proteins from reacting to CWD prions. However, the Centers for Disease Control and Prevention (CDC) recommends that hunters should not handle or eat meat from any animal that looks sick, acts strangely, or tests positive for CWD.

An infected animal does not initially exhibit symptoms, even though it can shed infectious prions in its bodily secretions during early stages of infection. The fact that clinical symptoms do not initially appear is one of the reasons CWD is not definitively diagnosed until after death.

Clinical symptoms of the infection, including excessive salivation, excessive thirst, loss of appetite, teeth grinding, drooping ears, and a decline in overall body condition, are not usually observable until the animal has been infected for at least 18 months. The clinical stages can last anywhere from a few days to several months. Many infected individuals will develop, and eventually succumb to, a form of pneumonia due to the disease.

Currently, the only tests approved for the diagnosis of CWD require an analysis of the lymph node or the brainstem tissues that can only be collected from a dead animal.

GLIFWC and individual tribal nations have been concerned about the long-term implications of CWD to the deer, moose, and elk populations, and to tribal communities since it was first discovered in southern Wisconsin in 2002. Initially, federal funding was allocated to tribes and tribal organizations to cover the costs associated with CWD detection for things such as testing, outreach, and sampling supplies. However, the availability of that funding ended within the first few years of efforts to combat the disease in Wisconsin. Federal and state funding for CWD control and management decreased for several years, but some states have increased funding within the past couple of years.

In the meantime, the disease has continued to spread both naturally and with the assistance of human activity. New detections in the 2018-2019 season show that the disease is spreading in many areas, and especially within the State of Wisconsin. The spread of CWD and the lack of funding and aggressive preventive measures across North America has led to a growing concern by tribal leaders in the western Great Lakes region.

In the wild white-tailed deer populations of the Great Lakes region, CWD spreads relatively slowly because deer do not typically make long-distance migratory movements. With a few exceptions, wild white-tailed deer herds in this area generally stay within a relatively small range due to the availability (see CWD, page 21)

## Waabizheshiwag Invasive in focus: the grass carp

(continued from page 11)

also known as squirrel middens. They also have a diet that is similar to flying squirrels. The northern short-tailed shrew makes extensive shallow burrow in the soil, under leaf litter or under the snow. This particular shrew species is unique because it has poisonous saliva that will paralyze or kill insects or subdue larger prey such as mice. They also eat worms, snails, and insects. A martens' diet includes all of these species, but also includes snowshoe hares, birds, fish, eggs, carrion, insects and fruit.

By conducting small mammal live-trapping within known marten home-ranges, we learn about the types of species available where martens are living/hunting.

Also, by conducting the trapping at different times of the year (summer vs. winter), we are able to measure the population variations between seasons as well as sites (conifer vs. hardwood). Understanding prey availability helps researchers determine if the habitat is suitable when translocating new martens into the area.

Some studies have shown that the success or failure of a reintroduction project depends on the suitability of not only the habitat, but also small mammal prey populations.

Trapping small mammals can also give us information about the health of those species and whether they are reproducing. Therefore, we need to remember to give thanks to all of the little beings living in the woods because they are such an important indicator of the condition our northern forests. Chi miigwech!



Red-backed vole. (submitted photo)

Grass Carp (*Ctenopharyngodon idella*) are a globally important species to the aquaculture industry. In the United States, they are primarily used as a cost effective means of controlling vegetation in ponds and small lakes.

Grass carp are a sub-tropical to temperate species originally found in large rivers and lakes in eastern Asia, with a range from southern Russia to northern Vietnam. First imported to the U.S. in the early 1960s, these fish have escaped their original stocking locations and aquaculture facilities along the Mississippi River during major flood events. Grass carp have established successfully reproducing populations in the wild within the Mississippi River basin. They are one of several "Asian Carp" that are often referred to in discussions surrounding invasions by carp into the Great Lakes.

Now, many states require sterilization of the fish prior to stocking. Fish are sterilized by subjecting fertilized eggs to extreme heat or extreme cold. The result is a triploid fish rather than a normal diploid fish. However, it may be too little too late.

A March 6 press release by the US Geographic Service confirmed that grass carp reproduction is occurring in the Maumee



Grass carp. (Ryan Hagerty, USFWS photo)

River, a tributary to Lake Erie. USGS personnel found larval, or newly hatched, fish in the summer of 2018. Fish were genetically tested over the winter months and confirmed to be grass carp.

A team of research scientists used multiple machine learning methods to examine potential distribution of grass carp in the Great Lakes, finding suitable predicted habitat in all lakes but Lake Superior. The researchers postulated that the lack of vegetation in the lake might preempt its expansion there ([www.nrcresearchpress.com/doi/10.1139/cjfas-2013-0537#.XMxnN6R7mUk](http://www.nrcresearchpress.com/doi/10.1139/cjfas-2013-0537#.XMxnN6R7mUk)).

—B. Mattes



# We Are Water

## Traveling exhibit explores stories & connections to nibi in MN

By Paula Maday, Staff Writer

Duluth, MN—“What’s my relationship to water, as a woman?” Fond du Lac’s Nikki Crowe repeated the question posed to her. “Women take care of the water. Everyone in this room came from a woman, and started in the womb being carried in water, so for women, it is important for us to take care of the water.”

Crowe’s words resonated with those around her in the room, and were true. We all began surrounded and protected by water as our spirits took form and entered the human realm. As adults, our bodies are composed of roughly 60% water. Our brains and our hearts are said to be about 73% water, our lungs 83%. Other organisms within this world have a body weight made up of 90% water. Nibi is of great importance to all living things.

Our stories and connections to the water are the theme of a traveling exhibit called We Are Water MN now on tour throughout the state. A multi-agency partnership formed to tell Minnesota’s water story collaboratively, the exhibit brings together personal narratives, historical materials, and scientific information in an easy-to-navigate display suitable for both adults and children. I visited the exhibit at the Great Lakes Aquarium, where it was on display March 10-April 22. What I found was great humanity, intimacy, and culture woven throughout scientific data and demonstrations. The exhibit was a star quilt of knowledge and meaning—many pieces and colors intertwined together into one. And in the tradition of Ojibwe star quilts, it was also a gift, a reminder that water is many things to many people, but more than anything, it is its own being, and our relative to take care of in this world, as it takes care of us.



We are Water MN on exhibit in the lobby of Great Lakes Aquarium, Duluth, March 10–April 22, 2019. (P. Maday photo)

### Exhibit Overview

We Are Water MN is organized around four main themes. The first theme—We Are Water—recognizes that water is a large part of the identity of the state and tribes. From the state slogan ‘Land of 10,000 Lakes’ to Mnisota Makhoché—a Dakota phrase translating to ‘Land where the water reflects the sky,’ people from all around the region embrace water as part of who they are.

This section of the exhibit highlights these relationships through listening stations where visitors are encouraged to listen to recorded water stories told by various Minnesotans. Other displays feature printed water stories and photos available to read and look at. Blank cards are on hand for visitors to write their own water stories and display them around a Story Map, marking where their story takes place with a pushpin. These local, handwritten stories were highly engaging and endearing for me; I felt like I was sitting around the kitchen table trading memories and stories with folks I had known my whole life. Many of the details shared are heartfelt and intimate. Activities for children in this section include a puppet station and book basket.



An interactive station at the exhibit encouraged local visitors to share their water stories by writing them down on a card and tacking them up on a map. (P. Maday photos)

### Get Active!

A big part of the initiative for We Are Water MN is to mobilize and inspire community engagement beyond the exhibit. If you can, visit the exhibit at its nearest host site to you. If you can’t visit the exhibit, look for tips within the ‘Get Active!’ sections for ways that you can still get involved, experience parts of the exhibit remotely, and strengthen your relationship with the water. Special thank you to the Minnesota Humanities Center, Minnesota Pollution Control Agency, and other exhibit partners—including the Fond du Lac Band of Lake Superior Chippewa—for providing supplemental information and handouts as part of this exhibit. We are sharing some of those ideas here.

🌊 Visit [www.mnhum.org/water](http://www.mnhum.org/water) to watch and listen to water stories from the people who live and work in Minnesota. Some of the stories share moments of fun or play. Others tell stories of loss or change. How has hearing many perspectives influenced the way you think or feel about water?

🌊 Write your own water story! Take time to consider your personal water story or stories. Are your stories recreational, spiritual, or something else? Is the way you tell your story similar to or different from the stories you heard on the website?

🌊 Interview others within your community about their water stories. The exhibit’s Docent & Educator Handbook contains a guide for interviewing community members, available at: [https://mnhum.org/wp-content/uploads/2017/06/water\\_docent\\_ed\\_guide.pdf](https://mnhum.org/wp-content/uploads/2017/06/water_docent_ed_guide.pdf). The recently produced Dibagin-jigaadeg Anishinaabe Ezhitwaad: A Tribal Climate Adaptation Menu can also provide guidance on conducting interviews or seeking knowledge from indigenous peoples or communities. This document is available at: [www.glifwc.org/ClimateChange/TribalAdaptationMenuV1.pdf](http://www.glifwc.org/ClimateChange/TribalAdaptationMenuV1.pdf). While conducting interviews, do you notice any patterns?

### Upcoming exhibit locations

April 27-June 16	Cedar River Watershed District, Austin
June 20-July 28	Cannon River Watershed Partnership, Northfield
August 4-September 16	Itasca Waters, Grand Rapids
September 25-November 2	Mille Lacs Indian Museum, Onamia

The Minnesota Humanities Center is actively seeking hosts for the next round of the traveling exhibit. Visit <https://mnhum.org/we-are-water-mn/host-exhibit/> if you are interested in serving as a host site.

## Tribal treaty fishing forum

By Paula Maday, Staff Writer

As part of the We Are Water MN exhibit, Duluth host partner Fond du Lac Band of Lake Superior Chippewa organized several public events to explore connections between people and water. Events included a native plants presentation, a food and photo event, and the Fond du Lac Youth Climate Convening. On April 4, the Band and Great Lakes Indian Fish & Wildlife Commission hosted the Tribal Treaty Fishing Forum, intended to help people learn about how tribes in the region manage off-reservation treaty fishing seasons.

To a crowd of 50 attendees, GLIFWC Director of Biological Services Jonathan Gilbert spoke on intertribal co-management in the Minnesota portion of the 1837 Ceded Territory. Fond du Lac Fisheries Program Manager Brian Borkholder followed, presenting on the work that Fond du Lac Band is doing related to water, fisheries, and resource management. Points of interest with the audience included sturgeon-stocking efforts in the upper St. Louis River, and use of the Thermal Optic Habitat Area model as a way of predicting average annual walleye production in lakes.

The second part of the forum featured tribal members Tom Howes (Fond du Lac), Bradley Harrington (Mille Lacs), and Jason Schlender (Lac Courte Oreilles) sharing what it means for them to be able to fish.

For Howes, he sees it as part of who he is as an eagle clan member. “I see it as my job as an eagle clan person to fish and exercise those rights to ensure the continuity of that practice,” he says. Within Ojibwe culture, eagle clan members are recognized as spiritual leaders, intuitive and bearing a sense of knowledge about the future. Members of the clan are often looked to as teachers and keepers of important cultural knowledge.

Harrington explained the spiritual connection that Anishinaabe have to fishing. “Imagine if someone told you that if you go out and gather something, it will give you life. Fish is that, maple, sunlight, water, wild rice. A lot of the things we are given as Anishinaabe people have been given from the manidoog (spirits). They each have a story that they were given to us because a spirit loved us. These things represent an abundance of spiritual energy in another, spiritual world. So this is a cultural, spiritual contract between us—the most pitiful beings on this earth—and everything else that was given to us by Gitchi-Manidoo as a way for us to sustain ourselves.”

For his part, Schlender noted his gratitude at being a “beneficiary of very wise, gifted visionaries.” In speaking this way, he paid tribute to his ancestors who signed the treaties, ensuring that Anishinaabeg could sustain their life and their identities for generations to come.

Ending with many questions and comments, the Tribal Treaty Fishing Forum was a successful event that shared information and stimulated community dialogue about the exercise of treaty rights. Eleven tribes in Minnesota, Wisconsin, and Michigan exercise rights reserved under treaties signed with the U.S. government in the early-mid 1800s.



From left, Tom Howes (Fond du Lac), Bradley Harrington (Mille Lacs), and Jason Schlender (Lac Courte Oreilles) share their personal stories about water and why they fish. (P. Maday photo)



Students use the ‘What’s in the Water?’ light table to learn about common pollutants. (Photo Minnesota Humanities Center)

### How’s the Water?

The second theme of the exhibit asks the question, ‘How’s the Water?’ Minnesota’s waters are headwaters located on a triple, continental-scale water divide. From here, it travels to the Gulf of Mexico, Hudson Bay, and Atlantic Ocean, making the health of the water in Minnesota very important. Currently, 40% of Minnesota’s waters are polluted. This section of the exhibit explores factors that impact the health of the water and how.

Visitors can view a map of altered streams in Minnesota, read informative panels on the condition of lakes, rivers, wetlands, and groundwater by Minnesota region, and learn how infrastructure like lead and old plumbing affects the safety of drinking water. A final multi-panel display details four ways to ensure that the future of Minnesota’s water is fishable, drinkable, and swimmable. Children can keep their hands and minds busy within this section by completing a colorful water cycle puzzle, or by playing at a light table that teaches about common pollutants found in water. There is also a water tower display and activity area showing how private wells are drilled and managed.

### Get Active!

🌊 Model a watershed! This is a great activity for families to do together. Color a watershed on wax paper. Include a headwater, main river channel, tributaries, and human development. Color all the water bodies with washable marker and the rest with pencil and crayon. Crumple the wax paper to create elevation change and spritz it with water. Watch where the water flows!

🌊 Learn about your local watershed. Visit the Minnesota Pollution Control Agency website at <https://www.pca.state.mn.us/water/watersheds> and enter your zip code to learn more about how your watershed is doing.

🌊 Research and share what local tribes are doing to help protect the water. Many tribes develop and adhere to strict water quality standards. In addition, they are often engaged in research and studies that focus on protecting and improving the health of the water.

### People + Water + Choices

The third theme of the exhibit explores the human ability to change water. From climate change and infrastructure change, what people do—matters. So how do people work together to agree upon water issues? What challenges or boundaries do people face when trying to make decisions about a resource that crosses boundaries? This section of the exhibit delves into these difficult questions and more!

Colorful panels illustrate examples of how decisions made by people in the past affect water today. One panel, for example, details the history of the chain of lakes around Minneapolis and how access to those lakes has changed from private to public (see We Are Water, page 21)



# U.S. Steel takes aim at trout waters in the Dark

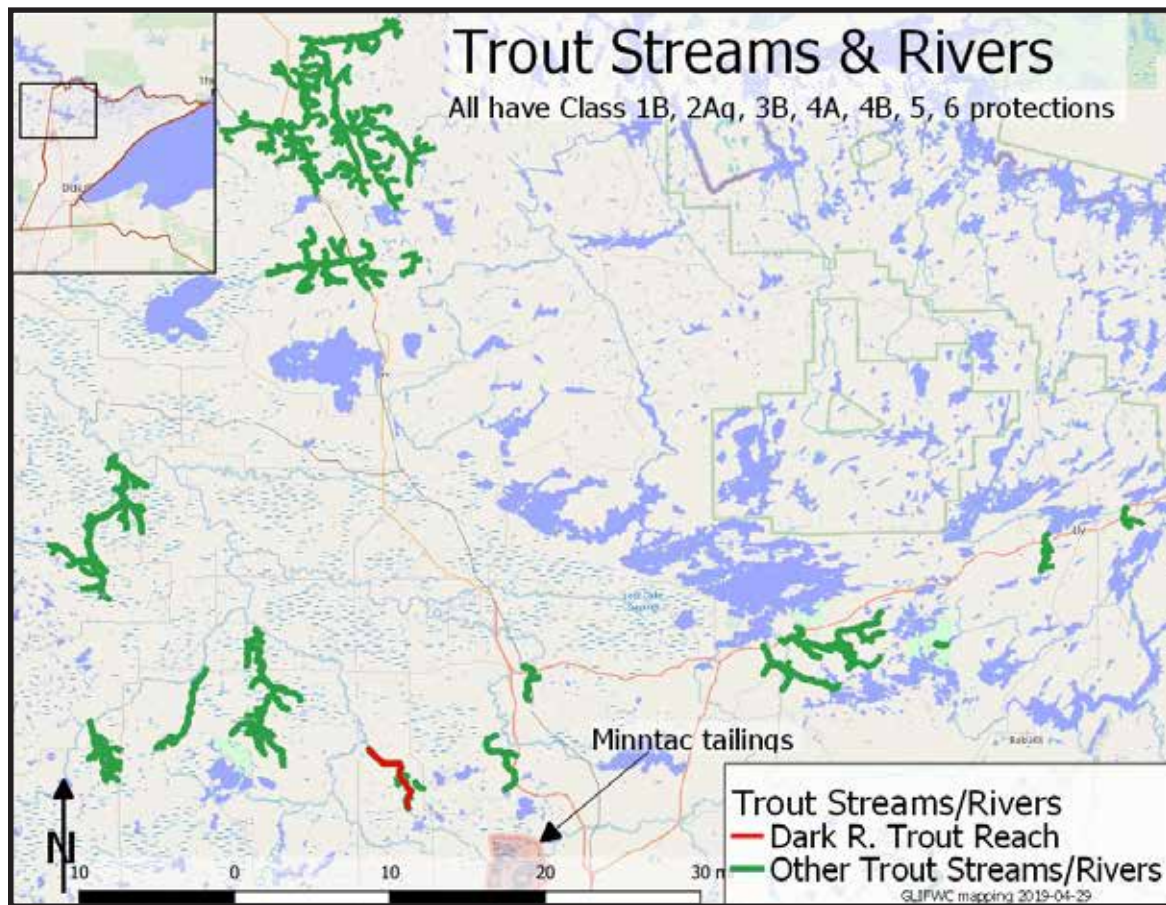
By GLIFWC Staff

U.S. Steel has petitioned the state to declassify a trout segment of the Dark River, which is downstream of its tailings basins. U.S. Steel operates the Minntac iron mine near Virginia, Minnesota and has a history of discharging mine waste

water into streams in the 1854 Ceded Territory. For the past 16 years, the company operated under an expired wastewater discharge permit. As reported in *Mazina'igan* (Fall 2018), discharge from the Minntac tailings basins has destroyed hundreds of acres of wild rice in the Sandy River watershed. The basins also discharge wastewater into the Dark River watershed. A portion of the Dark has been designated as a trout stream by the Minnesota Department of Natural Resources. Trout waters have water standards set by the Minnesota Pollution Control Agency (PCA) that are designed to protect the trout.

In 2018, the PCA finally issued a revised permit that requires U.S. Steel to clean up its discharge to meet water quality standards in the Dark River. In an effort to circumvent the need to clean up its discharge water, U.S. Steel has petitioned the PCA to weaken water protections that apply to the Dark River. Removal of some of the water quality classifications that currently protect the trout reach of the river would reduce the need for U.S. Steel to treat its wastewater. It appears that the trout reach of the Dark River would be the first trout stream to have protective water quality use classes removed, at least in that region of Minnesota (see figure). In what appears to be an attack on water quality protections for trout waters generally, U.S. Steel states: "the water quality parameters associated with these uses requested for removal are not critical to the health of cold water fisheries." Tribal and GLIFWC researchers do not believe that to be true.

In addition to requesting the declassification of the trout reach of the Dark River, U.S. Steel has asked the PCA to weaken the State's Class 3 and Class 4 water quality standards statewide. Those standards also apply to the Dark River. If successful, the declassification of the trout reach and the weakening of the Class 3 and 4 standards would allow U.S. Steel to avoid having to treat its waste water before discharge. The PCA is reviewing the proposals and is considering making changes based on U.S. Steel's requests. Tribal staff have submitted comments on both the proposed weakening of Class 3 and Class 4 water quality standards and on the petition to declassify the trout reach of the Dark River. Those comments are available at: <https://app.box.com/s/2jve89p5x14t5a4d5yfgdkpi8j3zyxxu>.



## Soo Locks replacement project

(continued from page 7)

### Ballast water concerns resurface

According to Great Lakes biologists, there are environmental concerns that need to be considered and addressed with regard to the project, namely, concerns about ballast water management and control of aquatic invasive species.

Water is carried in ships' ballast tanks to improve stability, balance, and safety. It is taken up or discharged when cargo is loaded or unloaded, or when a ship needs extra stability during poor weather conditions.

When ballast water is taken up, however, biological materials such as plants and animals are also introduced into the ballast tanks, many able to survive. When this water is discharged, these materials are then released into new environments. If suitable conditions exist, organisms can survive, reproduce and become invasive species within these new environments. In some cases, an organism may become a dominant species, potentially resulting in the extinction of native species, impacting local and regional biodiversity, public health, and local economies based around fisheries.

Two aquatic invasive species that have entered the Great Lakes through ballast water discharge are the spiny waterflea and bloody red shrimp. The spiny waterflea was first discovered in the Great Lakes in 1982. It negatively affects the ecosystem by competing with native zooplankton and small fish for food. Bloody red shrimp was first found in 2006. It can colonize a new area quickly, and also alter food webs.

According to the Great Lakes Fishery Commission (GLFC), these aquatic invasive species pose big risks to the Great Lakes. In their eForum article "Big Consequences of Small Invaders," GLFC details recent studies that have found that the spiny waterflea and bloody red shrimp are not only able to survive, but also adapt to new environments.

In the first study funded by GLFC and conducted by professors from Michigan State University and the University of Guelph, researchers found that the spiny waterflea can adapt its defensive spine to fend off fish predators. In Lake Michigan, spiny waterfleas detect increasing water temperature as a sign of greater risk of predation by young fish. Spiny waterflea mothers respond to this risk by giving birth to offspring with longer defensive spines, enabling them to outgrow the mouth size of their young fish predators and increase their chance of survival.

In Canadian lakes, researchers found that spiny waterfleas with longer spines survive better, which appears to be leading to evolution of longer spines through time. Because all lakes within the study were invaded less than 20 years ago, this evolution has occurred rapidly.

GLFC also collaborated with U.S. Geological Survey's Great Lakes Science Center and Cornell University on a second study to look at the effect of bloody



Great Lakes and ocean-going ships exchange water in their ballast tanks to improve balance and stability. Ballast water transfers are responsible for the introduction of aquatic invasive species. The combination tug/barge Joseph H Thompson is pictured at Escanaba Harbor, Lake Michigan. (COR photo)

shrimp on the Great Lakes. Through this study, researchers found that when bloody red shrimp reach large numbers, they can easily compete with certain fish species. They also found that the shrimp is an opportunistic feeder of zooplankton, can tolerate a broad range of temperatures and depths, and can reproduce multiple times per season.

According to GLFC Chair Mike Hansen: "Small zooplankton, like the spiny waterflea and bloody red shrimp that exist at the bottom of the food web, are particularly insidious. When the bottom of the food web is disrupted, substantial effects ripple through the lakes. Ecosystem stability and sustainability are often the first casualties."

Fishery agencies with jurisdiction in the Great Lakes have resolved to exercise their full authority and influence in every available area to meet the biological, chemical, and physical needs of desired fish communities. There is concern for additional invasions by new species, as well as parasites or pathogens carried by already introduced species that could cause serious disease for native organisms. Biologists are looking to support development of more sufficient ballast management practices to safeguard aquatic communities, including ballast standards that are not only technologically based, but also biologically meaningful.

For more information on the Soo Locks project, visit [www.michigan.gov/fixthesoolocks](http://www.michigan.gov/fixthesoolocks) or [www.lre.usace.army.mil](http://www.lre.usace.army.mil). For more information on the Great Lakes Fishery Commission, visit: <http://www.glfc.org/>.



# Annual Namekagon youth night brightens the shorelines

By Bizhikiins Jennings, Staff Writer

Once again, the drum rang out across Lake Namekagon and youth participated in the fish dance. A specific song is sung, while the men lined up from old to young in order to reenact the life and story of the local fish. Namekagon in the Ojibwe language refers to the “waterbody of sturgeon, however on this night, ogaawag (walleye) was on the mind of everyone.

Red Cliff Tribal Historic Preservation Officer Marvin DeFoe recalls more heated times. “30-40 years ago we couldn’t come down here and do these dances. We couldn’t even bring our youth to the lakes, for fear that someone would get hurt. Today, we celebrate who we are and teach our young people that they can be proud to be Anishinaabeg.”

DeFoe was referring to the tumultuous Wisconsin treaty protest era in the 1980’s. Local lakes became the hot scene, filled with protestors and angry citizens after the *LCO/Voigt* decision came down in 1983. Today, Ojibwe youth are being brought up with their traditional ways and harvesting practices, while still being taught the history and resiliency factor put forth by generations before them.

Now an annual event, both Red Cliff and Bad River each brought a dozen youth to Lake Namekagon on May 3. The youth became acquainted with both tribal and GLIFWC wardens, learned the permitting system, and then participated in a ceremony and food/tobacco offering.

Every year GLIFWC staff and wardens also prep all youth with some basic boat safety and distribute life jackets. Other experienced harvesters and volunteers spend a few minutes talking about what to expect out on the water.

Some topics that are typically covered are balance, refraction, and water clarity. When the light bends in the water, sometimes it can be difficult for first timers to pin point the fish. Furthermore, waves and other factors can make it difficult to balance or even see any fish.

Once completed, all participants grabbed a bite to eat and then were greeted by their assigned harvesting partner.

Volunteers from both tribes brought boats and equipment for the sole purpose of teaching youth how to properly and safely harvest. Bad River youth Wyatt Nelis recalls “It’s one of my favorite nights to look forward to. Spearfishing is actually a lot harder than you think.”



Red Cliff youth and instructors demonstrate equipment and prepare for a night on the water. (B. Jennings photo)

Paige Turner, Youth Coordinator at Red Cliff Boys and Girls Club also reiterated “These types of events are so exciting to plan, and no matter how many fish are harvested, the kids seem to have a great time.”

A grand total of 14 ogaawag were harvested by the youth. Staff and volunteers were onshore ready to walk them through the creeling process, and then available to teach them how to properly filet their fish. Some finished filets were brought home to families, and others were brought to elderly centers and other community events.

As the spearing headlamps continued to brighten up the lake on Friday evening, volunteers, tribal leadership, and community members couldn’t help but see the metaphor of a brightened and resilient future, taking to the traditions.

## Spring fishing continued

(continued from page 1)

central portion of the 1837 Ceded Territory, is the first productive walleye water to achieve ice-out.

“It’s usually the first Ceded Territory lake to open and usually a good place to fish,” St. John said. But he cautions that ecological changes appear to be underway. “We’re seeing more carp there than ever. Water clarity has gone from around ten feet to two feet. The water is getting really dirty.”

Native to Asia, common carp were introduced into regional waterways in the late 1800s. High density common carp populations can degrade lakes and alter food webs for keystone Anishinaabe resources like walleye as well as manoomin, or wild rice (see p. 20).

After ice-out at Cedar, lakes steadily opened along a broad trajectory running to the northeast, bringing additional treaty tribes into the annual harvest. By the tail-end of the season in early May, treaty fisherman had speared 33,588 walleye and 107 muskies from off-reservation waters in Wisconsin.

In Upper Michigan, Lac Vieux Desert Band spearfishers got their open-water season underway on the Cisco Chain of Lakes April 24. With miles of excellent spawning habit and a large harvest guideline, Lake Gogebic, however would ultimately draw the most participation from tribal members. From a preliminary 1842 Michigan Ceded Territory harvest of 3,101 walleyes, Lake Gogebic fish comprised 2,152 of the total. The walleye fishing mortarium on the LVD Band’s home water,



Mille Lacs Band members Miccha and Niib Aubid retrieve a gillnet at Lake Mille Lacs May 5. (CO Rasmussen photo)

Lake Lac Vieux Desert, continues through 2022 as an interagency team of biologists work to pinpoint factors in the near-universal mortality of young walleye after hatching.

Fishing on the Lake Michigan tributary, Rapid River, produced 34 walleyes for Bay Mills Indian Community fisherman in the 1836 Ceded Territory.

In eastern Minnesota, Fond du Lac Band fishermen traveled to the southern extent of the 1837 Ceded Territory in late April to harvest ogaawag from a pair of Chisago County lakes. Band members brought home 23 walleyes from Chisago Lake and 53 walleyes from Green Lake. Most of the Fond du Lac catch, however, came from more northern waters, including Lake Mille Lacs.

“Band members did very well on Mille Lacs this year,” said Brian Borkholder, Fond du Lac fisheries biologist. The walleye harvest came in around 466 pounds below the band’s quota and totaled 11,386.8 lbs. “People are in pretty good shape, getting the fish they needed.”

In 1854 Treaty waters, Fond du Lac members found success in the east basin of Lake Vermillion with 1,386-pounds of ogaawag. Eagle and Sturgeon Lakes yielded smaller amounts in the territory. But for the most part, the region’s waters remained locked in ice well into May.

“It’s looking like the second consecutive year we won’t have access to most 1854 lakes,” Borkholder said. “These late springs make other lakes like Mille Lacs so important to band members.”

With a walleye population on the upswing, Mille Lacs Lake provided for all eight Ojibwe treaty tribes in 2019. From a quota of 62,200 lbs of ogaawag, tribal members used a combination of evening spearfishing and overnight gillnet-sets to harvest 42,838.3-pounds of walleyes. The catch included 391 northern pike weighing in at 1,819.4 lbs.

All figures are preliminary as of May 9. Look for final harvest figures for the spring season in the next issue of *Mazina’igan*.



GLIFWC Inland Fisheries Section Leader Joe Dan Rose (right) helped creel the tribal harvest at Mille Lacs Lake. Rose is pictured with Creel Clerk Austin Dietz at South Garrison Landing. (COR)



# Ojibwemotaadiwag Anishinaabewakiing. They speak Ojibwe to each other in Indian Country.

Megwaayaak nibimose. Nibiindaakoojige. Nimiigwechiwi'aag ininaatigoog.  
Gaawiin niwaabamaasiig niibowa wiigwaasi-mitigoog. Aabiding ingii-ozhitoomin wiigwaasi-jiimaan.  
Ingii-ozhikozhaanaanig niibowa waaginaag. Zaaga'iganing ingii-pabaamishkaamin. Ayayaa Nagaajiwanaang Tribal & Community Gabe-gikendaasowigamigong. Inashke! Waabanong, waasa niwaabamaag ingiw zhingwaakwag miinawaa apakwanagemagoog. Howah! Wayiiba giwii-minomaandaanaawaa wiingashk. Gidapikaadaan ina? Nindapikaadaan. Izhaadaa agwajiing! Miigwech!"

(In the woods I walk. I offer tobacco. I thank the sugar maples. I don't see many birch trees. Once we made a birch bark canoe. We carved many canoe ribs. On the lake we paddled around. S/he hangs out at Fond du Lac Tribal & Community College. Look! To the east, far off I see those white pines and red pines. Wow! Soon you all will like the smell of sweetgrass. Do you braid it? I braid it. Let's all go outside! Thank you!")

## Bezhiig—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.

### VII: It is... Verbs, Inanimate, Intransitive

**Niiskaakad.**—It's bad weather.  
**Mizhakwad.**—It's good weather.  
**Minotaagwad.**—It sounds good.  
**Maazhipogwad.**—It tastes bad.  
**Wendad.**—It is easy/simple or cheap.  
**Zanagad.**—It is hard to do/difficult.  
**Minwendaagwad.**—It is fun/likeable.  
**Dibikad. Gii-tibikad.**—Wii-tibikad.  
It is night. It was night—It will be night.  
**Dibikak, gaawiin giizhigasiinoo.**—When/If it is night, it is not day.  
**Giizhigad. Gii-kiizhigad. Wii-kiizhigad.**—It is day. It was day. It will be day.  
**Giizhigak, gaawiin dibikasiinoo.**—When it is day, it is not night.

## Niizh—2

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

A. Nibi. Nizaagitoon dakib. Niminwendam bagizoyaan.  
B. Apishimoning, indaa-neshangishin.  
C. Ingichi-baap bakobiigwaashkwaniyaan. Minwendaagwad.  
D. Aandi nebinaadiyan? Oodenaang ina? Gidayaang ina onda'ibaan?  
E. Nindayaamin onda'ibaan. Biinaagamin. Indebizimin.  
F. Naadoobii ziibing. Odoonzaan ikwe.  
G. Bakobiidaa! Bagizog!  
H. Inashke! Miskwaadesi mookibii imaa.

O A O B I  
N P A O O D  
D I J N A A N  
A S K A D K E I  
' H M W O I N I B  
I I A A E B I N A I  
B N I N A S H K E B O  
A P I S H I M O N I N G  
A N A E B E O D G E K A  
N I N G I C H I B A A P  
Z O T M O O K I B I I W

## Niswi—3

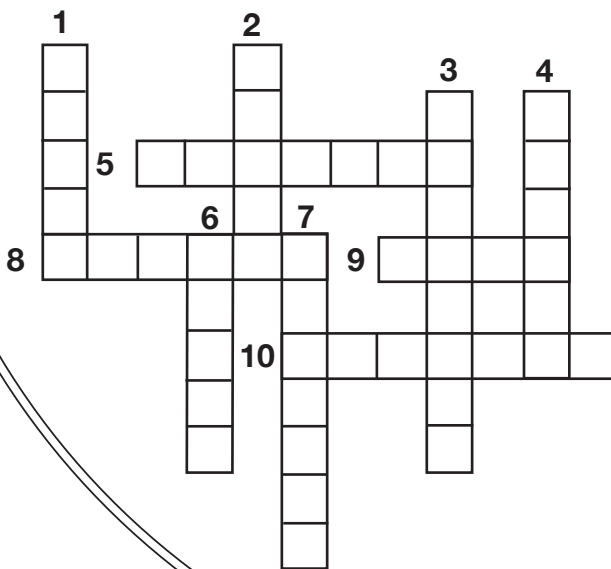
### IKIDOWIN ODAMINOWIN (word play)

#### Down:

- those
- far away
- long ago
- S/he baths/swims.
- cold water
- it is night

#### Across:

- Look! Behold!
- It is easy/cheap.
- water
- hello/greetings



amoo (bee)

**Online Resources**  
ojibwe.lib.umn.edu  
ojibwe.net  
glifwc.org

## Niiwin—4

Awegonenan ezhi-giizhik?—What are those certain days?  
Daso-anama'e-giizhik.—A certain number of weeks.  
Daso-giizhik.—A certain number of days.  
Ishkwaa-anama'e-giizhigad.—  
It is after the church day/Monday.  
Niizho-giizhigad.—It is the second day/Tuesday.  
Aabitoose.—It is Wednesday.  
Niiyo-giizhigad.—It is the fourth day/Thursday.  
Naano-giizhigad.—It is the fifth day/Friday.  
Giziibiigiisaginige-giizhigad.—  
It is floor washing day/Saturday.  
Anama'e-giizhigad.—It is church day/Sunday.  
Aabitooseg.—When/If it is Wednesday.  
Niiyo-giizhigak.—  
When/if it is the Thursday.

- Oodenaang niizho-giizhiga \_\_\_\_\_ indanokii.
- Apane ninemaabii aabitoose \_\_\_\_\_.
- Zanagad \_\_\_\_\_ anokiiyan ningo-anami'e-giizhik?
- Nin \_\_\_\_\_ -minwendaan, \_\_\_\_\_ -anokiiyaan agwajiing.
- Gaye gi \_\_\_\_\_ -minwendaan, anokiiyan agwajiing. Niibing, \_\_\_\_\_ -aabawaa.

d —k  
wii—  
—g  
ina  
gii—

## Translations:

**Niizh—2** A. Water. I love cold water. I am happy as I swim. B. On an air mattress, I can relax. C. I laugh hard when I jump in the water. It is fun. D. Where do you get water? In town? Do you have a well? E. We have a well. It is (liquid) clean. We are lucky. F. She goes to get water at the river. The woman boils it. G. Let's all go in the water. You all swim! H. Look! The painted turtle emerges from the water there.

**Niswi—3** Down: 1. Ingiw 2. Waasa 3. Mewinzha 4. Bagizo 6. Dakib 7. Dibikad Across: 5. Inashke 8. Wendad 9. Nibi 10. Boozhoo

**Niiwin—4** 1. In town when it is 2nd day/Tuesday I work. (d->k) 2. Always I play pool when it is Wednesday. (-g) 3. Is it difficult? when you worked one week? (ina -question marker is 2nd word.) 4. I did like it, as I did work outside. (past tense: gii-) 5. Also you will-like it, when you work outside. When is it summer, it will be warm and mild. (wii-)

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 questions 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 or email [lynn@glifwc.org](mailto:lynn@glifwc.org).  
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Edited by Jennifer Ballinger, Saagajiwe-Gaabawik



# Aamoo

## Taking care of the environment

Manidoons is the Ojibwe word for insect, which refers to a little/small spirited being. An aamoo refers to the small insect that we know as a bee. Our elders always tell us that everything in creation has a purpose and a job, no matter how small. Aamoo oftentimes lives in an aamoo-wadiswan (beehive).

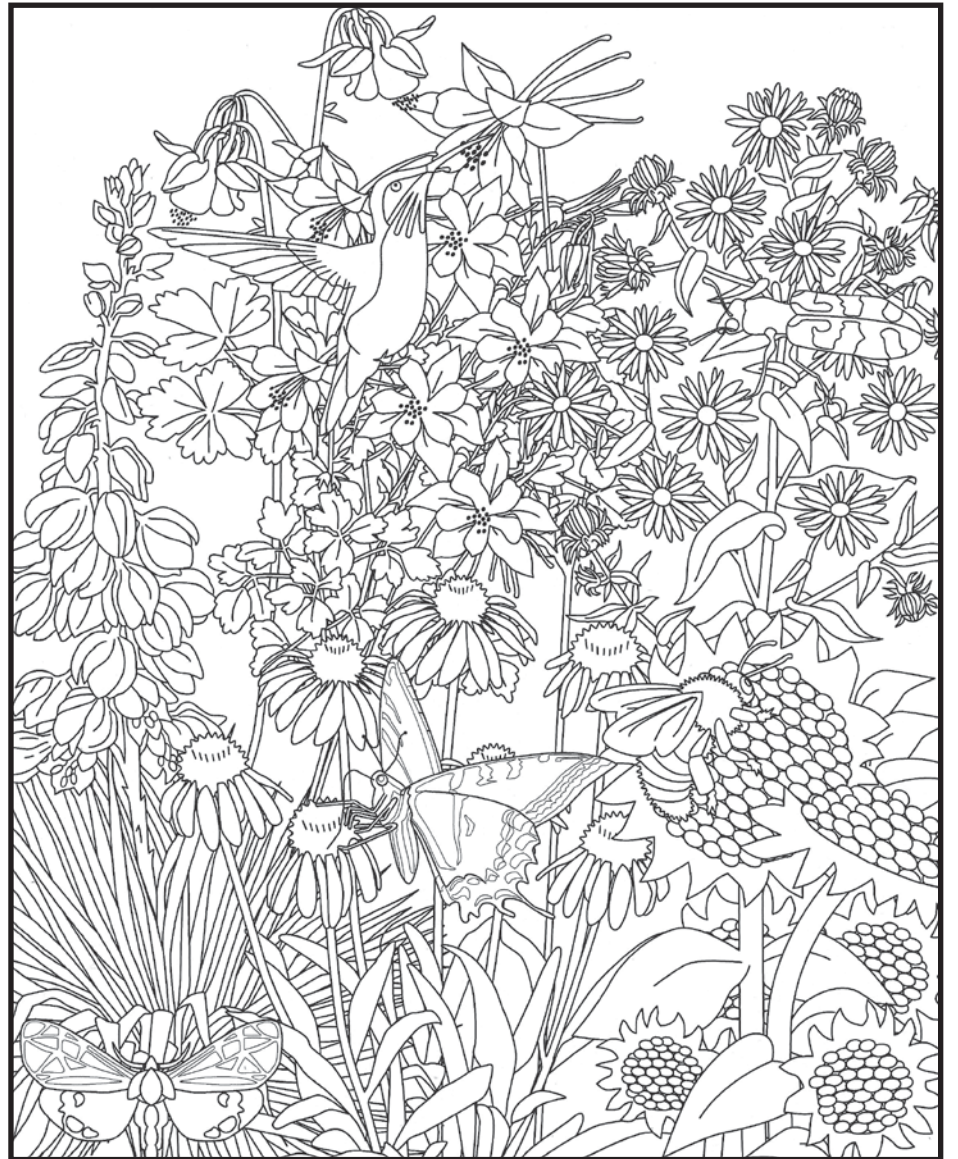
Bees and other small insects have very important roles to play in our communities and in the environment. In the spring and summer months, aamoo works very hard to pollinate plants and trees. This means that aamoo takes pollen from one plant and shares it with another, which helps the plants to grow. As we begin to plant gardens and to grow food, aamoo is very important for the growth of those plants and medicines we will use.

In addition aamoo can also make honey, which is a natural sugar we can eat. Do you know of another source of natural sugar in the environment?

Next time you see aamoo outside, say “miigwech,” for all of the work they do.

**B. Jennings**

Find and color the hidden pollinators.



(reprinted from *Bee Pollen Popular*, USDA Forest Service publication)

### Ojibwe word match

- |                       |                    |
|-----------------------|--------------------|
| <b>aamoo</b>          | <b>thank you</b>   |
| <b>aamoo-wadiswan</b> | <b>hummingbird</b> |
| <b>manidoons</b>      | <b>butterfly</b>   |
| <b>memengwa</b>       | <b>fly</b>         |
| <b>miigwech</b>       | <b>bee</b>         |
| <b>nenookaasi</b>     | <b>beehive</b>     |
| <b>oojiins</b>        | <b>insect</b>      |

Draw a line from the Ojibwe word to the matching English word.

## The Pollinators

Many plants count on pollinators to move the pollen around. These special helpers are called pollinators. Our food crops depend upon these pollinators. No pollination would mean no apples, blueberries, strawberries, or many of the other important foods we love to eat each day.

**Bees**—Bees include bumblebees and honeybees. Did you know there are over 4,000 kinds of native bees? Bees prefer blue or yellow flowers, like sunflowers, and flowers that smell sweet or that have a minty fragrance.

**Hummingbirds**—Hummingbirds are very important in pollinating wild flowers in the United States. Hummingbirds are attracted to orange, yellow, or red flowers, like the color of the red columbine.

**Flies**—Flies can be found on flowers of many colors, usually those that give easy access to nectar. You may find these hovering around trilliums. Flies are not as hairy as bees and as efficient in carrying pollen, but some are good pollinators

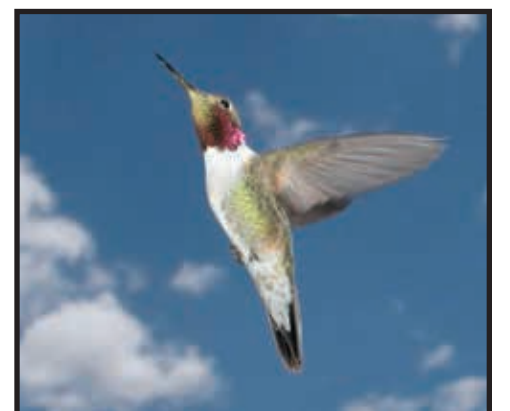
**Butterflies**—Did you know that butterflies taste with their feet? Butterflies like flowers that have bright colors like red, yellow, or orange, like the color of the purple coneflower’s center. Smell doesn’t matter to butterflies; they rely more on seeing than smelling to find nectar.

**Beetles**—Beetles are the oldest pollinators on earth and pollinate many flowering plants, such as the aster. Beetles like flowers that have a strong fruity odor. They also like flowers that are white or green and have wide openings.

Other polinators include ants, wasps, moths, birds and bats. (Information reprinted from [www.fs.fed.us/wildflowers/pollinators](http://www.fs.fed.us/wildflowers/pollinators))



*aamoo* (CC0 Public Domain)



*nenookaasi* (photo by Dr. David W. Inouye, [www.fs.fed.us](http://www.fs.fed.us))



*memengwa* (Joyful butterfly.com)

- aster
- coneflower
- red columbine
- sunflower
- trillium



*manidoons* ([www.fs.fed.us](http://www.fs.fed.us))



*oojiins* (photo by Judy Gallagher [CC BY 2.0 (<https://creativecommons.org/licenses/by/2.0/>)])

Draw a line from each pollinator to flower it likes.





# Omeshkooz provides cultural and community wellness

By Bizhikiins Jennings, Staff Writer

Hunting has always been a crucial part of the Ojibwe lifeway. Giiyosewin (hunting) not only provides the sustenance needed for survival but also the tools and materials needed for a range of cultural practices.

For instance, the hides can be scraped and through a rigorous process, turned into rawhide or tanned buckskin. The various bones from the animal can be used to create punches and bone needles, scraping tools, and gardening tools. The brain of the animal can be used to brain-tan the hides, providing for a softer and suppler material.

In essence, these types of hunts go well beyond the act of hunting and into a realm of cultural revitalization and communal sharing.

In the Ojibwe language, omashkooz refers to the four-legged creature we know as elk. For decades, tribal nations have been integral partners in a region-wide initiative to revitalize elk populations where they once roamed naturally. During the fall hunting season of 2018, GLIFWC member tribes designated community hunters to partake in an intertribal elk hunt, which would ultimately yield five bull elk.

Many of the communities gathered at different points to sit down and discuss the upcoming hunt and even to partake in ceremony. Hunters and traditional knowledge holders and elders gathered to talk about medicinal aspects of omashkooz and respectful methods of harvesting and processing.

Through the *Voigt/LCO* Decision in 1983, the U.S. Court of Appeals for the 7th circuit ruled in favor of the local

Ojibwe tribes, ensuring their treaty rights were protected. This ruling stemmed from negotiations and treaty signing that occurred in the mid 1800's. As the United States looked to expand westward, land, timber, and mineral rights were important necessities at the time for the government.

For the tribes, harvesting and maintaining the traditional life cycles were important—which meant they needed to reserve harvesting rights within the land base they ceded.

Today, the Ceded Territory is approximately 142,000 square miles of land ranging across portions of Minnesota, Wisconsin, and Michigan. In simple terms, the tribes exchanged this large expanse of land to the government for usufructuary rights, or the ability to hunt, fish, and harvest in those lands. The court decision eventually set up a framework for cooperative resource management between the

States and the Ojibwe tribes that were signatory to those particular treaties.

After the actual 2018 elk hunt had ended, it marked just the beginning of the communal sharing aspect of the ceremony. Community feasts and events were held in accordance with local custom. A feast in the Lac du Flambeau community brought together over 70 storytellers, hunters and many youth to spend an evening together sharing elk dishes and old hunting stories. GLIFWC Voigt Intertribal Task Force Vice Chairman John “Goober” Johnson recalls the event was one to remember. “We told the story of the hunt to our community. We brought our drum and sang songs while the hunters were out that day and they could hear that drum from over 4.5 miles away. It was a constant reminder to them of what we were doing and that their community was supportive of them.”

(see Omashkoozooq, page 22)



A racked and dried omashkooz (elk) hide. Once dried rawhide can be stored for years and used for many different things. (B. Jennings photo)

## Gii'igoshimowin



(continued from page 10)

have been out doing whatever, instead they chose to sit long hours sewing the blanket that they are going to offer the Manidoog. It is also from there that the Anishinaabe gets his help.

Mii-go gaye meshkwadoniganan asaad a'aw Anishinaabe. Geget chi-apiitendaagozi a'aw meshkwadonigan. Gaawiin gegoo gidaa-gashkitoosimin da-ni-izhichigeyang noongom ayaawaasiwang. Ishke dash imaa baandiganaad iniw meshkwadoniganan da-gii-aabaji'aapan, mii imaa awashime inendang wii-ininamawaad iniw Manidoon, mii imaa wendinged a'aw Anishinaabe gaye ani-naadamaagoowizid.

The same also applies when Anishinaabe puts money down as an offering. Money is held in high regard. Without money nowadays we would not be able to do a lot of things. So when the money is brought in that could have been used, and instead that person chose to offer it up to the Manidoog, and it is from there that Anishinaabe also gets help.

Mii iw gaa-izhi-gikinoo'amaagoowiziyang anishinaabewiyang, gaawiin debinaak gidaa-doodawaasiwaanaanig ingiw Manidoog. Booch gegoo-go da-ininamawangwaa bagosenimangwaa aazhitaa dash da-naadamoongwaa ingiw Manidoog. Gaawiin i'iw biinizikaa gidaa-inendanziimin da-naadamaagoowiziyang. Mii-go dibishkoo gii'igoshimod awiya gii-minikwesig miinawaa gii-wiisinisig. Mii iw epenimod da-onjikaamagadinig naadamaagoowizid a'aw Anishinaabe.

We as Anishinaabe were taught not to be half-hearted when asking for help from the Manidoog. We have to have an offering for them as we express our desire of them to help us. We cannot just think that out of the clear blue that we will be helped. That also applies to someone who is fasting, that we make a sacrifice and go without anything to drink or eat. That is what the Anishinaabe relies on that those Manidoog see

those sacrifices, and it is from there that Anishinaabe gets his help from.

Ishke mii i'iw noongom eshkam wenji-bangi-wagiziwaad ingiw Anishinaabeg nenaadawi'iwejjig. Gaawiin geyaabi izhichigaanaasiwag ingiw weshki-bimaadizijig da-gii'igoshimowaad. Ishke mii ingiw wenjida meshkawaadizijig miinawaa wewiingezijig nenaadawi'iwejjig ingiw gaa-miinigoowizijig da-nanaadawi'iwewaad imaa apii gii-kii'igoshimowaad. Mii imaa apii gii-pi-naazikaagowaad iniw Manidoon imaa apii gii-kii'igoshimowaad. Mii imaa apii gii-pi-wiindamaagowaad inow Manidoon da-ni-nanaadawi'iwewaad oniigaaniimiwaang naa gaye mii i'iwapii gii-pi-odisigowaad inow Manidoon waa-naadamaagowaajin da-nanaadawi'aawaad iniw owiiji-anishinaabemiwaan.

That is the reason why we have so few Anishinaabe that are medicine men or traditional healers. We no longer do that for our young people by putting them out to fast as they did long ago. It is those that were given their powers through fasting that were especially powerful and efficient as medicine men. It was while they were fasting that the Manidoog approached them. It was at that time that they were told that the Manidoog would help them to do their doctoring in their future, and it was also at that time that they were approached by those particular Manidoog that were going to help them in doctoring their fellow Anishinaabe.

Nebowa ayaawag noongom biinizikaa nenaadawi'iwejjig. Gaawiin o'ow akeyaa owapii gii-kii'igoshimowaad gii-miinigoowizisiwag da-nanaadawi'iwewaad maagizhaa gaye gaawiin gii-kii'igoshimosiwwag gii-aya'aansiwiwaad. Nindaanawenimaag wiin ingiw biinizikaa dibishkoo nenaadawi'iwejjig noongom.

There are many instant medicine men today. At the time of their fasting they were not given that ability to doctor, or maybe they did not even go out

to fast when they were younger. I have no faith in the abilities of those that are doctoring today who did not get their powers from fasting.

Ishke geget ochi-naadamaagon bagwaj imaa izhaad weshki-bimaadizid. Mii imaa ani-waabanda'igoowizid naa wenda-gikendang iniw Manidoon zhewenimigojin. Ishke noongom nebowa a'aw weshki-bimaadizid inigaawendam miinawaa aanawenindizo.

It is really a lot of help to that young person who goes out to fast. It is at that time that they are shown and really know which Manidoog have compassion for them. Today a lot of our young people are depressed and have low self-esteem.

Ishke bi-zhawenimigod inow Manidoon o'ow akeyaa, geget ochi-naadamaagon. Biinish gaye mii imaa apii ani-wiindamaagoowizid ge-ni-biminizha'ang imaa megwaa bibizhaagiid omaa akiing. Mii i'iw gaye geget wenda-naadamaagod oniigaaniiming.

When the Manidoog come and take pity on the young person at the time of fasting, this is what helps him in his future. It is also at this time the young person is told what he or she is to pursue while on this earth. This is what really helps them in their future.

Ishke dash noongom giwaabandaamin enaadizid a'aw weshki-bimaadizid ani-gaagiiwozhitood inendaagwadinig ani-nishwanaajitood owiiyaw ani-aabajitood enigaa'igod a'aw Anishinaabe. Mii i'iw ge-onji-ayaangwaamitooyang da-bi-azhegiwwemagak da-gii'igoshimod a'aw gidooshki-bimaadiziiminaanig.

Today we see how the young people are carrying their lives. They are wandering with no purpose or clear direction in their life and wasting their lives away by using alcohol and drugs that have been harmful to us as Anishinaabe. That is why we have to strive toward bringing back fasting for our young people.



# Summer ushers in arrival of waawaatesiwag

Waawaatesiwag, or fireflies, are often harbingers of summer, with their flashing lights appearing just after dusk in backyards, grassy areas, and near the edges of water bodies. Their lower abdomens contain specialized light-emitting organs that produce a unique pattern used to attract mates, or sometimes prey.

The females of some firefly species have been found to mimic the light patterns of females of other species in order to attract their males and prey upon them.

There are over 2,000 species of waawaatesiwag, many of which are extremely difficult to identify, and each has a unique habitat and life history.

In general, little scientific information is known about these beings, including the magic of how they communicate through their flashing lights. Unfortunately they are considered to be in decline in many parts of North America. All insects including waawaatesiwag are referred to as manidoonsag by the Ojibwe which translates to "little spirits" and implies just how important these beings are.

However, little is known about waawaatesiwag from a Traditional Ecological Knowledge (TEK) perspective. Few TEK interviews carried out among the GLIFWC member tribes, mentioned waawaatesiwag. However, when they were mentioned, their observed decline was consistently expressed as a concern. The importance of their connection to waawaashkeshi hunting was also talked about.

Traditionally the sight of waawaatesiwag in the summer indicates it is time to start deer hunting. Waawaashkeshi and waawaatesi are also linguistically related. When deer flick their tail to indicate danger, it's described as a flash of light, like that emitted by the firefly, but for a different reason.

So how will waawaatesiwag be affected by climate change? The answer varies depending on the life stage of the waawaatesi. Eggs are laid in moist soil, and when larvae hatch, they live in moist places on the ground, under bark, and near streams. Larvae spend the winter underground and emerge as adults the following summer.



*waawaatesiwag (A. Farmer, Evansville, Indiana photo [CC BY-SA 2.0].)*



*Fireflies light up the night sky. (Unkn4 [CC0].)*

Flooding and drought could both negatively affect conditions required for waawaatesi larvae, and changes in precipitation and increasing temperatures could cause areas to become too dry for waawaatesiwag. Adults are likely to be impacted as well. Light pollution is thought to negatively affect waawaatesiwag by disrupting their flash communication. Waawaatesiwag also have many predators, including ants, bats, birds, centipedes, crustaceans, fish, flies, frogs and toads, mites, snails, spiders, and wasps, some of which are likely to increase in a warmer climate.

Keep your eyes out for their flashing lights and see if you can learn what the waawaatesiwag are telling us. — GLIFWC Climate Change Staff

## Place of the Pike

*(continued from page 3)*

As you harvest this summer, take a moment to remember all of the ogichidaag that both preserved and fought for the Anishinaabe way of life. The co-management between the tribes, and the state that exists today is in place to protect the environment and resources that everyone subsists upon.

These videos are available on the website [www.glifwc.org](http://www.glifwc.org) and also on YouTube at: <https://youtu.be/VBIzPnETBkQ>.

## Whitefish diet study

*(continued from page 7)*

climate change on treaty resources in the Ceded Territories and identify potential threats to Anishinaabe lifeways. Information can be used to develop and implement management strategies to deal with a changing climate and the concurrent impacts climate change has on local ecosystems, species composition, and species distribution.

Additional information will help to improve coordination with states and other co-managers to identify and reduce non-climate stressors as a means of protecting treaty resources. Traditional Ecological Knowledge (TEK) is being incorporated to promote recognition that Anishinaabe knowledge and worldview provides an important and much-needed contribution to resource management, ecosystem protection and climate adaptation strategies.

Adikameg are very important to the tribal commercial fishery, which supports many jobs and provides food to the local area. GLIFWC member bands that fish Gichigami commercially include the Red Cliff Band of Lake Superior Chippewa, Bad River Band of Lake Superior Chippewa, Keweenaw Bay Indian Community, and the Bay Mills Indian Community.



## Ma'iingan vulnerability

*(continued from page 6)*

Ma'iingan is a habitat generalist and occupies territories that can range in size from 20-215 square miles. In the Ceded Territories, habitats chosen by ma'iingan typically contain a mix of forested lands with interspersed open areas.

Ma'iingan was once widespread in the United States. Due to unregulated bounty hunting, it was extirpated from the majority of its range, including Wisconsin, Michigan, and the majority of Minnesota, by the 1950s. Once under protection by the Endangered Species Act, ma'iingan began naturally recolonizing former territory in Wisconsin in the 1970s. In the past 10 years, the ma'iingan population has shown dramatic increases in the Midwest. In 2017, Wisconsin had an estimated population of 925-956 individuals in 232 packs. In 2016, northern Michigan had an estimated population of 618, and Minnesota had an estimated population of 2400. Ma'iingan has been on and off the endangered species list, but is still protected in Minnesota, Wisconsin, and Michigan as of a July 2017 ruling. Ma'iingan numbers in this region are primarily determined by human attitudes and politics, particularly in Wisconsin, where hunting was intensive when allowed. Poaching, vehicle collisions, and lethal depredation control in Minnesota are all population-controlling factors.

### Summary of climate threats:

Ma'iingan was in the 29<sup>th</sup> percentile relative to other mammals in the vulnerability assessment. Relative to other beings/species in the vulnerability assessment, ma'iingan was in the 21<sup>st</sup> percentile. Influences on ma'iingan population mentioned above are likely to have a greater impact on ma'iingan than climate, though it may experience indirect effects via prey availability. Waawaashkeshi (deer) are likely to benefit from climate change, which would also benefit ma'iingan; declines in mooz (moose) or amik (beaver) may negatively affect this being. Ma'iingan can be negatively impacted by human development and agricultural expansion, and may also carry some residual genetic effects from its low numbers in the mid-1900s.

### Factors that increase the vulnerability of ma'iingan to climate change:

- N/SI** **Anthropogenic barriers:** Increased urban and agricultural development may be a barrier to ma'iingan. The I-35 corridor between Duluth and the Twin Cities may become a particularly large barrier, as well as development between central and northern forest in Wisconsin.
- SI** **Historical hydrological niche:** The area ma'iingan occupies has experienced slightly lower than average variation in precipitation in the past 50 years.
- N/SI** **Pathogens or predators:** Ma'iingan is susceptible to mange, particularly in high densities. Mange could increasingly affect populations if abundance grows in the Ceded Territories. Other potential diseases that may affect ma'iingan are heartworm, West Nile virus, ehrlichiosis, and anaplasmosis, though in general, little is known about these.
- N/SI** **Genetic variation:** Ma'iingan was once nearly extirpated from the assessment area and has therefore experienced a genetic bottleneck. Despite bottleneck effects, recent genetic papers suggest ma'iingan populations in the region are healthy and well-connected, and therefore have sufficient genetic variation. However, ma'iingan populations in the Ceded Territories also have a relatively narrow connection to other populations, and the individuals here may be at a higher risk of genetic issues. Isle Royale, on which only two individuals remained in 2016, has significant genetic inbreeding depression issues due to disease and geographic isolation.

Legend	<b>GI</b> <b>Greatly Increase</b> This factor greatly increases vulnerability	<b>I/GI</b> <b>Increase/Greatly Increase</b> This factor may increase or greatly increase vulnerability	<b>I</b> <b>Increase</b> This factor increases vulnerability
	<b>SI/I</b> <b>Somewhat Increase/Increase</b> This factor may somewhat increase or increase vulnerability	<b>SI</b> <b>Somewhat Increase</b> This factor somewhat increases vulnerability	<b>N/SI</b> <b>Neutral/Somewhat Increase</b> This factor may not increase or may somewhat increase vulnerability



# Do common carp like manoomin too?

By Aaron Shultz, GLIFWC Fisheries Biologist & Frank Zomer, Bay Mills Inland Fish & Wildlife Biologist

**Brimley, Mich.**—Manoomin (wild rice) is an important resource to Lake Superior Ojibwe. Manoomin is translated from Ojibwe as the “good berry” and is an integral component to the spiritual and cultural well-being and nutritional requirements of the Ojibwe people.

Ojibwe migrated to and settled in the Lake Superior region as a result of the abundant rice fields.

Manoomin is a persistent annual grass that reproduces from seed stock deposited during the previous fall growing season.

The plant begins to grow in spring immediately after ice-out in shallow to moderate water depths (1–3 feet) in locations with soft, organic substrates. The distribution and success of manoomin is affected by a suite of abiotic factors including turbidity, substrate type, sediment nutrient levels, wave energy, and water level fluctuations.

Common carp (*Cyprinus carpio*) are an introduced species from Asia that is common throughout the Great Lakes basin (Image 1). They inhabit shallow bays where they feed and spawn. Carp spawn in large aggregations in shallow habitats which can result in considerable sediment disturbance and displacement.

Moreover, carp also directly reduce water clarity and nutrient loads by disturbing the bottom while feeding in shallow lakes and rivers. Physical habitat modifications by carp also have strong consequences for the food webs they inhabit. Carp spawning and foraging can reduce weed beds and manoomin stands through uprooting rather than by herbivory.

In the spring and summer of 2019, Bay Mills biologists in collaboration with GLIFWC, Northern Michigan University, and United States Geological Survey will launch a study which directly tests the interaction between carp movement and habitat use with manoomin seeding success in Waishkey Bay (~1500 acres) in the upper St. Marys River, Michigan. Goals of this project include:

1. Determine the seasonal spatial distribution of common carp using an acoustic telemetry array (listening stations) to identify if carp habitat use overlaps significantly with locations that support manoomin (Image 2).



Image 1: Common carp. (R. Hodnett photo [CC BY-SA 4.0])

2. Assess common carp movement patterns to determine the amount of time that common carp spend foraging and spawning in shallow habitats that could support manoomin
3. Use experimental enclosures (pens) to measure the effect of common carp presence and absence on manoomin seeding success (Image 3).
4. Assess the viability of controlling the common carp population in Waishkey Bay by monitoring immigration and emigration from the system with passive acoustic receivers.

Our efforts will provide much needed data to understand and minimize the effects common carp foraging and spawning disturbances may be having on manoomin rehabilitation efforts.

For more information, please contact Frank Zomer, Inland Fish & Wildlife Biologist 906-248-8654 or [fzomer@baymills.org](mailto:fzomer@baymills.org).

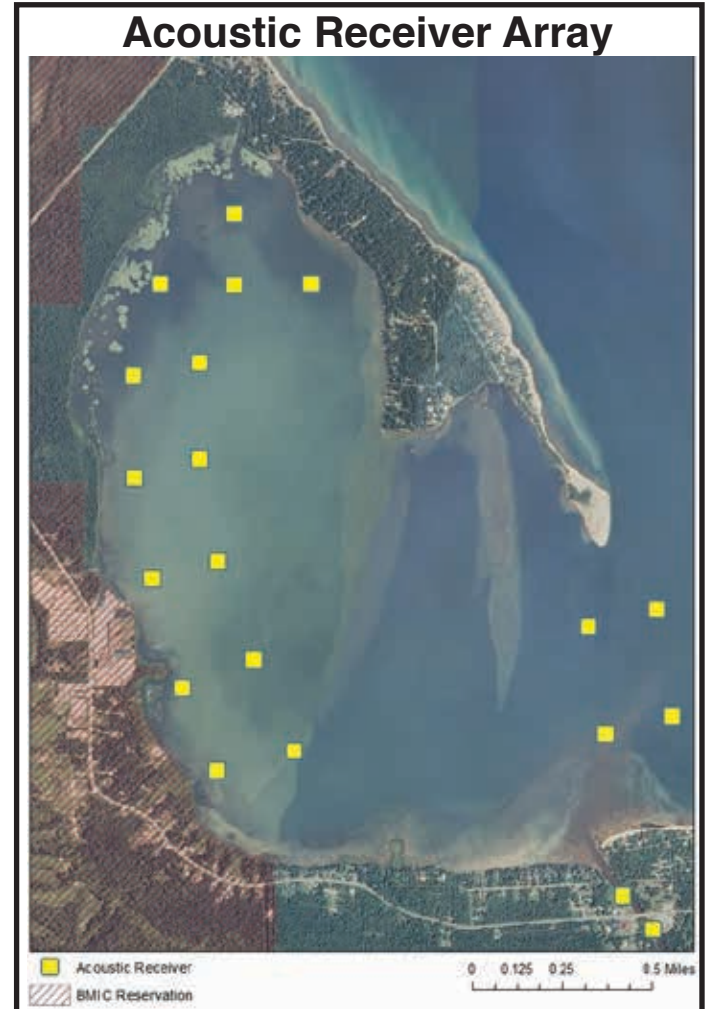


Image 2: Yellow boxes on map denote approximate location for acoustic receivers in Waishkey Bay.



Image 3: Manoomin inside a pen designed to exclude common carp. (J. Johnson, Freshwater Scientific Services photo)

## Mille Lacs Lake fishery in brief

### Walleye population status

After a long-term decline, conservation efforts by Minnesota Department of Natural Resources (MNDNR) and the Tribes have increased the walleye spawning biomass.

The large 2013 year-class has been mostly protected, and has grown to contribute to the spawning population. Continued protection of young walleye and conservative harvest limits could result in additional increases.

### Next surveys

GLIFWC and the Tribes will conduct early summer and fall juvenile walleye electrofishing surveys in 2019 to see how well the 2017 and 2018 year-classes survived the winter.

The MNDNR fall gillnetting survey in September 2019 will provide the next measure of the adult walleye population and other species.

### Other predator fish

Other fish beings appear to be thriving in Mille Lacs as well. The northern pike biomass is close to its 2011 peak, and smallmouth bass are also prevalent. A few muskellunge and burbot can be found roaming the waters of Mille Lacs.



Acoustic receivers appear lined up aboard a survey boat. Biologists studying the Mille Lacs Lake fishery submerged individual receivers down to the lake bed, creating a grid to track the movements of fish that have been implanted with a transmitter. (A. Shultz photo)

### Forage Fish

Yellow perch and tullibees are some of the primary forage species for walleye and other predators in the lake. Survey data from the fall of 2018 showed low population levels for both species. They will be surveyed again in fall 2019.

### Walleye population goals

The MNDNR assessment gill nets caught over 27 lbs per net of spawning age walleye in 2018. The Minnesota 1837 Ceded Territory Fisheries Committee has set a goal of maintaining the spawner biomass above 20 lbs per net. Therefore, the harvestable surplus for

2019 was set at 150,000 lbs to allow the spawner biomass to maintain itself while the 2016-2018 year-classes age and mature.

### Northern pike population goals

The northern pike population biomass is estimated to be about 240,000 lbs. This population remains near peak abundance. Because of this, the overall harvest cap for 2019 remains at 100,000 lbs. State anglers and tribal harvesters are encouraged to make use of this bonus opportunity.

### Invasive species

Zebra mussels and spiny waterfleas are recent invaders to Mille Lacs. Zebra mussels, filter feeders on algae, were detected in 2005, and density peaked at 1,200 per square foot in 2012. Since then they have declined to about 600 per square foot.

Spiny waterflea, detected in 2009, is a large zooplankton species that feeds on algae and smaller zoo-plankton. Biologists will continue to monitor both of these species and their effects on the Mille Lacs fish community.

—GLIFWC Inland Fisheries Section



# CWD in the Ceded Territory

(continued from page 11)

of plentiful food and suitable habitat. The rapid spread of CWD across greater distances within our region is likely due to the assistance of human activity. One of the most well-documented ways in which the disease spreads by human activity has been through the transport of live deer between captive deer facilities.

Captive deer facilities are regulated by state agencies (generally the agricultural or natural resources agency). States like Wisconsin require captive deer facilities to test a certain percentage of deer that die, or are killed, for CWD. In the event that CWD is detected in a facility, state agencies are often required to perform trace-back investigations to help determine the source of infected deer or whether the captive deer facilities have shipped potentially infected deer elsewhere.

In several cases, CWD infections within captive deer facilities have been linked to other facilities also holding deer infected with the disease. Due to inadequate federal and state funds to compensate facility owners, many captive deer facilities with CWD detections continue to operate.

Humans can also contribute to the spread of CWD through the transportation of high-risk deer carcass parts, such as the head, spinal column, and lymph nodes, and disposal of these carcasses in new locations. Ideally, hunters would test every carcass and dispose of CWD-infected carcasses within approved landfills, or through other means of inactivating CWD prions.

Because hunters are not able to test every deer, tribal and state agencies have set up CWD management areas where the likelihood of harvesting a deer infected with CWD is higher. Due to the higher risk, regulatory agencies have enacted deer carcass transport bans to encourage hunters to keep higher risk carcasses from moving to areas where the disease has not been detected.

With the discovery of three CWD-infected deer within a localized area of northern Wisconsin since 2018, the Voigt Intertribal Task Force approved the establishment of a tribal CWD management area in portions of Tribal Deer Management Areas 37, 38, 42 and 52 (the area surrounding the location of wild CWD-positive deer near Rhinelander, Wisconsin).

Tribal regulations associated with the tribal CWD management area restrict the transport of deer carcasses from that area and address carcass disposal and registration of deer harvested within the tribal CWD management area. These regulations were established to prevent the transportation of infectious matter back to tribal communities or other parts of the Ceded Territories. This is just one way that tribal communities have shown that they are willing to take measures into their own hands and lead by example when it comes to protecting the future of deer hunting in the Ceded Territory.

## Recent detections in or near the Ceded Territory

**Wisconsin:** Three CWD-positive deer were found in Lincoln and Oneida counties in northern Wisconsin in 2018. These three infected deer were located within 30 miles of two Ojibwe communities (Lac du Flambeau and Mole Lake). Two CWD-positive deer were detected just outside of the Ceded Territory in western Eau Claire County. CWD-infected deer have been found just inside the Ceded Territory in Portage County. The Eau Claire and Portage County CWD-positive deer locations are in areas with very little tribal deer harvest, historically.

# We are Water

(continued from page 13)

lic over time. The information provided here provokes thought about the types of boundaries involved with water management, including political and cultural considerations.

## You + Me + Water

The fourth and final theme of the exhibit focuses on efforts to protect and preserve the water in Minnesota. From individual efforts to organizational work, this section puts forth a call to action on what we can all do to pitch in and help our relative stay healthy.

What you Flush Matters' is an interactive kiosk that teaches about the impact of contaminants entering our water through household drains. In this section, visitors can also pledge a water protection idea by writing it on a raindrop and then hanging it on a board for others to read.

## Water Walks

The Minnesota Humanities Center has partnered with the Nibi Walk program of the Indigenous Peoples Task Force and Sharon Day to host three water walks in conjunction with the exhibit. Visit <https://mnhum.org/we-are-water-mn/nibi-walks/> for more information or to register.

### Cannon River Nibi Walk

Orientation: June 30, 2019, 1:00-4:00 pm

Nibi Walk: July 12-15, 2019

### Pokegama Lake Nibi Walk

Orientation: August 9, 2019, 1:00-4:00 pm

Nibi Walk: September 13-14, 2019



**Michigan:** Montcalm County, in the far southern portion of the 1836 Ceded Territory, has been a hot spot for recent wild CWD detections. In addition to Montcalm County, one of the biggest stories about CWD coming out of Michigan within the last year was the detection of a wild CWD-infected deer in Dickinson County in Michigan's Upper Peninsula. Although the infected deer was found 10 miles outside of the Ceded Territory boundary, it has raised many concerns for being the first detection within Michigan's Upper Peninsula despite a recent campaign by Michigan's DNR, conservationists, and sportsman's groups to "Keep the U.P. CWD Free."

**Minnesota:** Prior to 2019, all CWD-positive wild deer had been detected in the far southeastern portion of Minnesota. However, a CWD-positive wild deer was found in Crow Wing County in north central Minnesota in early 2019. The deer was found dead along a road within a half mile of a captive deer facility that has had several deer test positive for CWD since late 2016. This CWD-positive wild deer was located about 18 miles north of the 1837 Ceded Territory boundary in Minnesota.

## What have the tribes been doing about this disease?

- Tribal leaders continue to advocate for more stringent regulation of deer facilities by state and federal agencies.
- GLIFWC and various tribes throughout the Great Lakes region have offered free testing for deer harvested by tribal members: all elk harvested in the 2018 tribal elk hunt in the Wisconsin Ceded Territory were tested for CWD and GLIFWC tested deer harvested for the Red Cliff elder's deer hunt event in 2018.
- GLIFWC has worked with Great Lakes Ojibwe tribes to raise awareness of the disease by creating informational brochures, a website with answers to frequently asked questions, and the establishment of the tribal CWD management area in the Rhinelander, Wis area.
- GLIFWC has worked with tribes to hold meetings in tribal communities to present information and to get feedback from tribal community members.
- GLIFWC biologists participate in various interagency working groups that discuss developing and improving response plans, increasing testing efforts, and providing tribal natural resources staff opportunities to receive training in CWD sample extraction from harvested deer.
- GLIFWC staff have prepared formal comments to state and federal natural resource and agricultural agencies on CWD, advocating for their consideration of the implications to tribal communities when making decisions on CWD.

## Walleye assessments on 17 lakes



*Electrofishing crews from GLIFWC, Mole Lake Band, St. Croix Band and US Fish & Wildlife Service joined together to conduct adult walleye assessments on 17 lakes in the Ceded Territories of Wisconsin and Upper Michigan this past spring.*

*The survey work was intense because the peak walleye spawning occurred over a short time. Data collected from these surveys help biologists assess the health of adult walleye populations: healthy populations generally have adult densities of above three walleyes per acre, and have multiple year-classes contributing to the spawning population. Photo: GLIFWC Crew Leader Ed White captured this image of fisheries aides collecting data from walleyes on Pomeroy Lake, Michigan. All fish examined during surveys are returned to the water in good condition. (E. White photo)*



# “Celebrate Birch” in June with events & classes

**Washburn, Wis.**—During the month of June, the Washburn Cultural Center will host many activities celebrating the art and science of birch trees. All across the northern latitudes of the globe, wherever birch trees exist, people have always used the bark, sap, wood, branches, roots and fungus for utilitarian and artistic purposes.

Locally, the Anishinaabeg have historically used birch bark for wigwams, canoes, baskets, and writing on birch scrolls to name only a few of many uses.

Birch trees are a major source of wood for a variety of industries. County, state, and national forestry programs manage the birch tree resource carefully. At a time when the changing climate affects many species, birch trees have new challenges that must be considered by scientists, resource managers, and the public.

The “Celebrate Birch” event will begin June 4 with a month-long exhibit of art made from birch trees internationally. Over 100 amazing works of art from birch bark and birch trees have been collected from around the world including Sweden, Finland, Russia, Mongolia, as well as from numerous local and regional artists. It is surprising how many different ways there are to create utilitarian crafts and expressive art from birch trees as shown in this international art show. The exhibit includes both historic and contemporary pieces. Some are as large

as a birch bark canoe and some as tiny as birch bark baby shoes.

There will be a public reception to meet artists and organizers of the exhibit on Thursday, June 20, from 4:00–6:00 p.m. at the Washburn Cultural Center main floor galleries. Some of the works will be for sale and refreshments will be served.

That evening, June 20, there will be two expert presentations starting at 6:00 p.m.: Retired US Forest Service birch expert, John Zasada, from Grand Rapids, Minnesota, will speak on birch art from around the world and the science of this unique tree.

Marvin Defoe, Tribal Historic Preservation Officer and renowned birch bark artist of the Red Cliff Band of Lake Superior Chippewa, will be speaking on the Anishinaabe historical and cultural significance of birch. These two presentations are free and open to the public and will take place in the upstairs classroom



Blueberry basket



Bad River Band of Lake Superior Ojibwe is graciously loaning to the exhibit their birch bark canoe crafted by Marvin Defoe. (CO Rasmussen photo)

“Celebrate Birch” Calendar	
June 4-30	International Birch Bark art exhibit, Washburn Cultural Center
June 20 (Thursday)	Artist Reception 4-6pm, Washburn Cultural Center
June 20 (Thursday)	Expert Presentations: Marvin Defoe and John Zasada, 6:00 p.m. Washburn Cultural Center
June 21 (Friday):	Youth Birch Art class (ages 5–8) 9:00 a.m.–noon
June 21 (Friday):	Youth Birch Art class (ages 9–16) 1:00 p.m.–4:00 p.m.
June 21 (Friday):	Field Trip for adults demonstrating harvesting birch bark best practices 9:00 a.m.–noon.
June 21 (Friday):	Expert Presentations: Alex Wroebel and Colleen Matula, 7:00 p.m. Washburn Cultural Center
June 22 (Saturday):	Adult Birch Bark Art class 10:00 a.m.–4:00 p.m.

of the Washburn Cultural Center on Thursday June 20 starting at 6:00 p.m.

On Friday, June 21, the Washburn Cultural Center will host two free youth classes on making birch bark art with master basket artist Tina FungHolder, who has been teaching both children and adults for over 45 years. She has participated in Artist In Residence programs in both Illinois and Wisconsin.

Currently, she teaches at North House Folk School and conducts an After-school Arts & Crafts program at the Washburn Public Library. Youth ages

5-8 years old will be making a birch bark woven fish from 9:00 a.m.–noon. Youth ages 9-16 years old will be making a birch bark pendant necklace or medalion from 1:00 p.m.–4:00 p.m.

These classes are free on a first come first serve basis with pre-registration by June 14 by calling the Washburn Cultural Center at 715-373-5591 or by emailing [washburnculturalcenter@gmail.com](mailto:washburnculturalcenter@gmail.com). Parents do not need to accompany youth during the classes and supplies are provided.

(see “Celebrate Birch,” page 23)

## Omeshkoozoog and the Ojibwe

(continued from page 18)

An hour northwest, the Bad River tribe hosted a weekend of cultural programming all centered on the platform of wellness. The weekend of February 8th 2019, the tribe hosted the annual bibooni-gabeshewin (winter camp), which explored the interconnectivity of traditional Ojibwe harvesting practices, crafting, and traditional foods. The

crowd then grew to approximately 400 people as the feast began. Various elk dishes were placed on the feast line and participants both young and old laughed and shared stories. Bad River Tribal Chairman Mike Wiggins recounts, “It was absolutely amazing to see such a great turnout and for our people to taste a little bit of omashkooz. Our spirit craves traditional foods and it’s exciting when

these old animals return. We are taught that as the animals eat medicines from the landscape, we absorb those medicines when we eat them.”

Once all the food and medicines had been digested, the community center gym was transformed into a dance arena. Tables were placed in the middle and hand drums constructed from various animal hides, including elk hide, were placed in the center. An announcer encouraged people to come out and dance to the sound of the drums and to celebrate life.

An hour northwest in the community of Nagaajiwanaang, the Fond du Lac Tribe procured a hide from one of the harvested elk and has made plans to scrape it and eventually make a drum that can be used in the community. The band also plans to continue to teach youth and their membership the hide tanning process and how to work with animal hides in a respectful manner.

Fond du Lac Band Natural Resources Program Manager Thomas Howes reflected upon the recent hunt and its impact on their tribal membership: “The omashkoozoog hunt was obviously a welcomed opportunity for harvesters, but it was also very helpful in maintaining band member interest in FDL Resource Management efforts to restore omashkookoog to 1837 and

1854 treaty areas in Minnesota. We look forward to a future where omashkoozoog are even more broadly available for treaty harvest.”

Tribes have been involved in elk reintroduction even prior to the elk arrival in the Ceded Territory. GLIFWC Director of Biological Services Jonathan Gilbert worked with Wisconsin DNR in the development of a habitat suitability model that would eventually aid in locating suitable habitat for reintroduction efforts.

In addition, tribes have contributed nearly \$1 million, plus staffing and resources towards elk research, management, and the overall reintroduction program. Gilbert states: “This has been a great example of tribal/state co-management efforts and demonstrates when the tribes and state work together on projects, great things can happen.”

It was a great year for all elk restoration partners involved, which entailed over twenty years of working together and pooling resources to make a joint hunting venture possible. The five elk harvested by the tribal communities not only fed hundreds of community members, but also fed a deeply rooted fire of cultural revitalization.

(Jonathan Gilbert, Director of Biological Services, contributed to this article.)



Participants at the Bad River Bibooni-gabeshewin (winter camp) learn how to make moccasins and other traditional crafts made from both deer and elk hides. (B. Jennings photo)



# GLIFWC staff recognitions

As Executive Administrator Mic Isham noted in his column (p2), the past year or so has ushered in a number of changes for natural resources professionals in the Ceded Territory including GLIFWC staff.

Central Office Receptionist Sue Lemieux retired after 15 years. A Bad River member, Lemieux shared traditional teachings, especially in relation to nibi, or water. As she explained to both staff and visitors to the Commission, women are charged with protecting water in addition to encouraging others to recognize that water is both precious and sacred.

Keith Rolof is settling into the Deputy Administrator position after seven years working primarily as budget analyst. The Keweenaw Bay Indian Community member brings a keen eye to overseeing finances and a staff of some 80 full-time employees.

Also in the Division of Administration, Kristen Thannum is moving to property & procurement officer. Thannum, a Bad River member, will manage the procurement process, physical inventory of GLIFWC operations, and handle related insurance needs.

In the Division of Enforcement, Matt Kniskern was promoted to director of training. The Iraq War veteran started as a GLIFWC warden in 2011 and is charged with running year-round training programs for GLIFWC wardens along with implementing the division's Field Training Officer program. —CO Rasmussen



Among the longest-serving employees, Accountant Annette Crowe completed 30 years at GLIFWC while Fisheries Technician Henry "Butch" Mieloszyk, and Biologist Jonathan Gilbert both reach 35 years in 2019.



Accountant Missy Berlin received a Pendleton blanket from Executive Administrator Mic Isham, marking 25 years at GLIFWC. Environmental Biologist John Coleman (not pictured) later received a quilt recognizing his 25 years of service.



For the past 20 years, Red Cliff member Mike Soulier (left) served as a conservation officer. At five years with GLIFWC, Web Designer Melissa Rasmussen, Wildlife Technician Adam Oja, and Enforcement Division Contract Compliance Administrator Stephen Ante. Policy Analyst Philomena Kebec is missing from the photo; she was also recognized for five years of service. (CO Rasmussen photos)

## Omeshkoozoog

(continued from page 1)

will evaluate individual health of the elk throughout the quarantine time before releasing them into the wild.

The quarantine period is important so that these omashkoozoog can pass all of the required health and disease standards prior to being released onto the landscape. The pen will also offer the pregnant cows protection when they give birth to their calves in their new home in northern Wisconsin. The goal of this translocation effort is to increase the genetic richness and increase the rate of population growth.



Elk relocated from a herd in Kentucky are released into a quarantine pen on a sunny yet brisk April afternoon in northern Wisconsin. (B. Jennings photo)

Some participants had never experienced quite an event. GLIFWC Voigt Intertribal Task Force Rep and Lac du Flambeau tribal member Lyle Chapman recalled: "It was my first time participating in the elk release ceremony and it was great to see so many people from different agencies work together to bring back elk. I was impressed at how thorough the biologists were with testing each elk and making sure they were healthy."

As participants looked upon the beautiful creatures, a deep sense of hope and excitement could be felt. A young cow leapt up a small hill and stood atop, majestically scanning her surroundings. She took a deep breath and trotted into the brush. As chi-giizis (sun) warmed the backs of each individual onlooker, an elk bugle could be heard from the wooded area of the pen a sure sign that omashkoozoog would expand their presence here in northern Wisconsin once again.

## "Celebrate Birch"

(continued from page 22)

In addition, on Friday, June 21, there will be a field trip to forest land near Washburn to learn best practices for harvesting birch bark as taught and demonstrated by Marvin Defoe from 9-12 am. This field trip is free and open to anyone age 16 years or older, with their own transportation on a first come first serve basis, and requires pre-registration by June 14 by calling 715-373-5591 or by emailing [washburnculturalcenter@gmail.com](mailto:washburnculturalcenter@gmail.com).

On Friday evening, June 21, there will be two more expert presentations starting at 7pm. Colleen Matula, Wisconsin DNR forest ecologist/silviculturist stationed in Ashland, will present, "The Giving Tree—Birch and It's Multiple Gifts." As well, Alex Wrobel, GLIFWC forest ecologist, will be speaking on "Bridging the Gap—Traditional Ecological Knowledge, Western Science and Practical Application." These presentations are free and open to the public at 7:00 p.m., June 21, at the Washburn Cultural Center and refreshments will be served.

On Saturday, June 22, from 10:00 a.m.—4:00 p.m. there will be a free adult birch bark art class entitled, "Jewels from the Forest—Birch Bark Beads and Jewelry," taught by master artist, Tina Fungholder, from 10:00 a.m.—5:00 p.m. This is a free class for anyone 18 years + and materials will be supplied. Pre-registration is required and there are a limited number of places in the class available. Call 715-373-5591 or email [washburnculturalcenter@gmail.com](mailto:washburnculturalcenter@gmail.com) to pre-register by June 14.

This month-long event, "Celebrate Birch," is funded by the Chequamegon Bay Arts Council's Jim Ramsdell Soaring Spirit Award, and the Washburn Cultural Center. Lorraine Norrgard is the guest curator and organizer. Contact Norrgard at 218-428-4918d or [Lnorrgard@aol.com](mailto:Lnorrgard@aol.com). For more information please contact: [washburnculturalcenter@gmail.com](mailto:washburnculturalcenter@gmail.com).

For groups visiting the birch bark art exhibit, please call ahead to the Washburn Cultural Center and make a reservation to be sure of the visiting hours and that staff are available.

