Mazina'igan

A Chronicle of the Lake Superior Ojibwe

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Waawaashkeshi harvest up by a third in Ojibwe Ceded Territory

By Travis Bartnick
GLIFWC Wildlife Biologist

Look for more whitetail wiiyaas at feasts, family gatherings, and ceremonies this ziigwan. Over the 2024 off-reservation tribal hunt, Ojibwe hunters registered 831 deer from the 1836, 1837, and 1842 Ceded Territories. The harvest total marks a significant uptick—about 35% higher compared to the 616 deer registered in 2023—in white-tailed deer treaty hunting success in the territory spanning portions of Minnesota, Wisconsin, and Michigan.

As in past years, most of the deer tallied over the off-reservation hunting season were registered during the month of November, accounting for 62% of all deer. Antlerless deer accounted for 44% of the kill and bucks accounted for 56% of the deer registered over the 2024 season. Ojibwe hunters took deer from 43 counties within the 1836, 1837, and 1842 Ceded Territories (Figure 1). This included 23 counties in Wisconsin, 14 counties in Michigan, and six counties in Minnesota. Hunting success in six counties in Wisconsin accounted for over half (58%) of the total off-reservation deer harvest. Those counties included Bayfield Co. (18%), Burnett Co. (15%), Douglas Co. (9%), Forest Co. (6%), Sawyer Co., (6%) and Vilas Co. accounting for 4% of the total harvest.

Online registrations accounted for 424 (51%) of the total, while 259 (31%) deer were registered using the phone option. The remaining 148 (18%) deer were registered in-person at tribal registration stations. All GLIFWC member bands provide walk-in registration services where treaty harvesters access harvest permits, printed materials, and may get their deer sampled for chronic wasting disease testing. Note: off-reservation harvest totals exclude deer registered at Keweenaw Bay Indian Community as tribal officials finalize their figures.

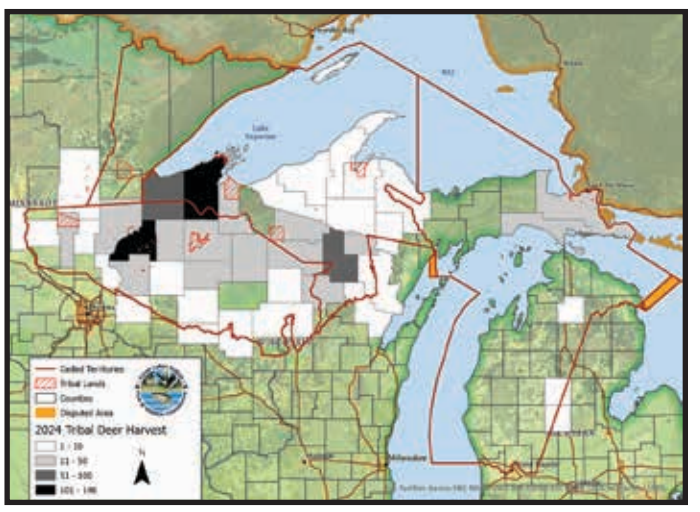


Figure 1. Distribution of waawaashkeshi registered by GLIFWC-member tribes in the 1836, 1837, and 1842 Ceded Territories during the 2024 off-reservation tribal hunting season, summarized by deer registrations in each county. Deer harvest data from the Keweenaw Bay Indian Community were not available at the time this article was submitted. *The boundaries are representations and may not be the legally binding boundary.

(see Tribal off-reservation harvest, page 3)

Ice spearing culture camp lures in school of grown-ups

By Jenny Van Sickle, Staff Writer

On the eve of the Sucker Moon, a log cabin style multi-purpose building in Lac du Flambeau, Wis. came alive for a second night of carving and painting fish decoys as the aromas of warm bread and wild rice soup filtered through the air.

Voigt Intertribal Task Force representatives Gerry Mann and Lyle Chapman organized the three-day camp with Lac du Flambeau's special events committee member, Charlene Theobald to encourage beginner, adult carvers to learn crafting skills and to ultimately test their spearfishing decoys under the ice on a nearby lake.

Around the room, tribal members and descendants worked basswood rounds down until they were the size of small bricks. Organizers explained that larger tree limbs/branches can be plenty for decoy carving, rather than taking the whole tree.

"Basswood dries well and it's sturdy," said Arthur LaBarge, an instructor and longtime carver from the Oneida Nation. Instructors also noted that birch and pine are good options too because they're light and can last long time. "Pine is real soft and easy to carve with a knife if you just want to sit down and give it a try," said Lac du Flambeau President John Johnson, who developed the idea for the adult-focused decoy workshop and fishing camp with Mann and Chapman last winter.

At the Lac du Flambeau adult ice spearfishing class, Kyrian LaBarge admires his decoy after a few touch-ups with a paintbrush. (JVS photo)

Once carvers had their blocks in hand, they decided-which giigoonh template to go with. Tracing a template might not seem too involved but this is a critical point in re-shaping their block into its end purpose.

"The wood retains its character, its being," said Duane "Dewey" Poupart. He explained that understanding wood's grain will help carvers learn more about how the decoy will behave, turn, and 'muskie dance' in the water.

At Poupart's table, he explained to first time carver, Robyn Cobb that details such as fin placement and tending to the distance from the metal weight up to the nose are important elements that help decoys balance. Generally, making a decoy follows a specific process. Many carvers burn the scales before inserting the fins, and pour the weight after the fins are in place.

Lac du Flambeau's Brooks Big John also helped students capture their creativity in front of a vast array of decoys, acrylic paint, and brushes. "Brooks and I have been carving for years. There's a fair amount to learn

(see Ice spearing, page 7)

How did amik get that ozow?

M. Wiggins photo

Baby Leo already heard the *tail*!

Stories from Ojibwe elders provide traditional insights into the origins of beaver's tail and many more.

For research or pelts, BMPs illuminate the good path to humane trapping

By Charlie Otto Rasmussen, Editor

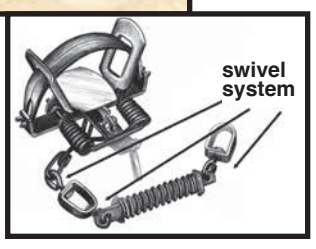
Ashland, Wis—At first glance through a door window, the space conjured the trappings of so many police procedurals, forever streaming on network television, as men and women dressed in matching aprons pored over examination tables. Inside, overhead lights illuminated a series of white polymer tables, while the clinking of scalpels and forceps on stainless steel pans accented low murmurings about trauma and tissue samples.

But there was no crime to investigate, no cops or attorneys waiting in the wing to build a legal case. Closer inspection of this pop-up laboratory revealed a collection of talented veterinarians and biologists who gathered last summer to evaluate the safety, efficiency, and ultimately the humaneness of traps employed to catch furbearers like red fox, racoon, bobcat, and coyote.

"People understand that if we want to continue regulated fur trapping into the future, we need to do things ethically and respectfully," said John Olson, retired furbearer specialist with Wisconsin Department of Natural Resources (DNR). Olson served as a lead organizer, bringing together more than three dozen scientists to the DNR's far northern field office in Ashland. Over three days, the group handled 210 furbearers trapped from all over the United States.

As they've done since 1998, wildlife professionals from state, federal, and tribal agencies allied with the Association of Fish and Wildlife Agencies (AFWA)—plus trained volunteer trappers—engaged in the ongoing nationwide study to evaluate trapping gear afield. The list includes foothold traps, cage traps, cable restraints, snares, and body grip-traps commonly called Conibears. Wildlife veterinarians performed necropsies on the catch to document the presence or absence injuries. The work is meticulous and thoroughly documented, supplying data for the ever-refined guide "Best Management Practices for Trapping Furbearers in the United States," which covers the full range of traps in use. Each trap studied has a specific furbearer species correlation under the BMP system. It is these BMPs that provide assurances to a global public that fur purchased from the North American marketplace are acquired in a good way.

"Trappers want the most effective, most humane tools available," said Kelly Straka, Division of Fish & Wildlife director for Minnesota Department of Natural Resources who made the trip to Ashland.



Tennessee Wildlife Resources Agency Veterinarian Dan Grove inspects a red fox trapped in Pennsylvania. (CO Rasmussen photo) Inset: A foothold trap equipped with a swivel system minimizes potential injury to a captured animal. (AFWA image)

An accredited veterinarian and wildlife biologist, Straka has expereince in multiple states through mid-America. "They're here today, from WTA [Wisconsin Trapper's Association], helping work up the animals. Nobody wants to inflict more pain and trauma."

Seeing's believing

Wildlife experts from multiple organizations including GLIFWC all have a role to play in informing trapping BMPs. Individual trappers and researchers collaborate to gather information on trap efficiency, selectivity, and how practical various techniques are for capturing animals. Traps are used to harvest furbearers, as part of mark-and-recapture research, damage control, and animal reintroductions programs.

In the Wisconsin Ceded Territory, Red Cliff Band Ojibwe trappers Mike Gustafson and Kurt Basina captured fishers in northern Wisconsin for translocation to Tennessee in a reintroduction program GLIFWC helped coordinate. The Red Cliff duo also assisted in BMP research on their Northwoods trapline.

For veterinary specialists, their responsibility centers on assessing any trap-related injuries. Wildlife Veterinarian Dan Grove from Tennessee Wildlife Resources Agency said evaluating trap damage requires careful examination and a clear understanding of what might cause trouble for a released animal. The work involves inspecting a whole furbearer carcass, followed by a second review after the pelt has been removed.

"An injury might not seem like much. Say there's a small skin laceration," Grove said. "But if it went down into the joint, that's actually a fairly severe thing, even if it's a really tiny lesion. So there's that, versus a hemorrhage running all the way across [a foot] because the blood vessels ruptured. But that may be just a bruise."

Through the necropsy process, veterinarians record any trap damage into a standardized number system ranging from 0-100. Grove said a trap that racks up points is going to receive a failing grade. Oftentimes no injury, or very mild injuries are all that can be detected. The system has provided wildlife managers and fur trappers reliable information for selecting the right trap to capture any one of 23 managed wild furbearer species in North America. Virtually anyone, including overseas consumers from the European Union to China, are able to follow online the processes behind the modern-day fur trade.

"Every year trap manufactures come up with a new design, a little tweak to existing traps," Olson said. "That's something we're always looking at testing. And all that information is shared with the public."

Olson said BMP-approved traps are used more than 80% of the time by licensed trappers in the US. Being a generational pursuit, oftentimes passed down within families, there are still some older, less-humane traps in use.

"With continued education and research, we believe volunteer compliance in BMP trapping will continue to increase," Olson said.

Learn more about trapping, furbearers, and BMPs at *fishwildlife.org/afwa-inspires/furbearer-management*.

Weweni amwaadaanig ogaawag

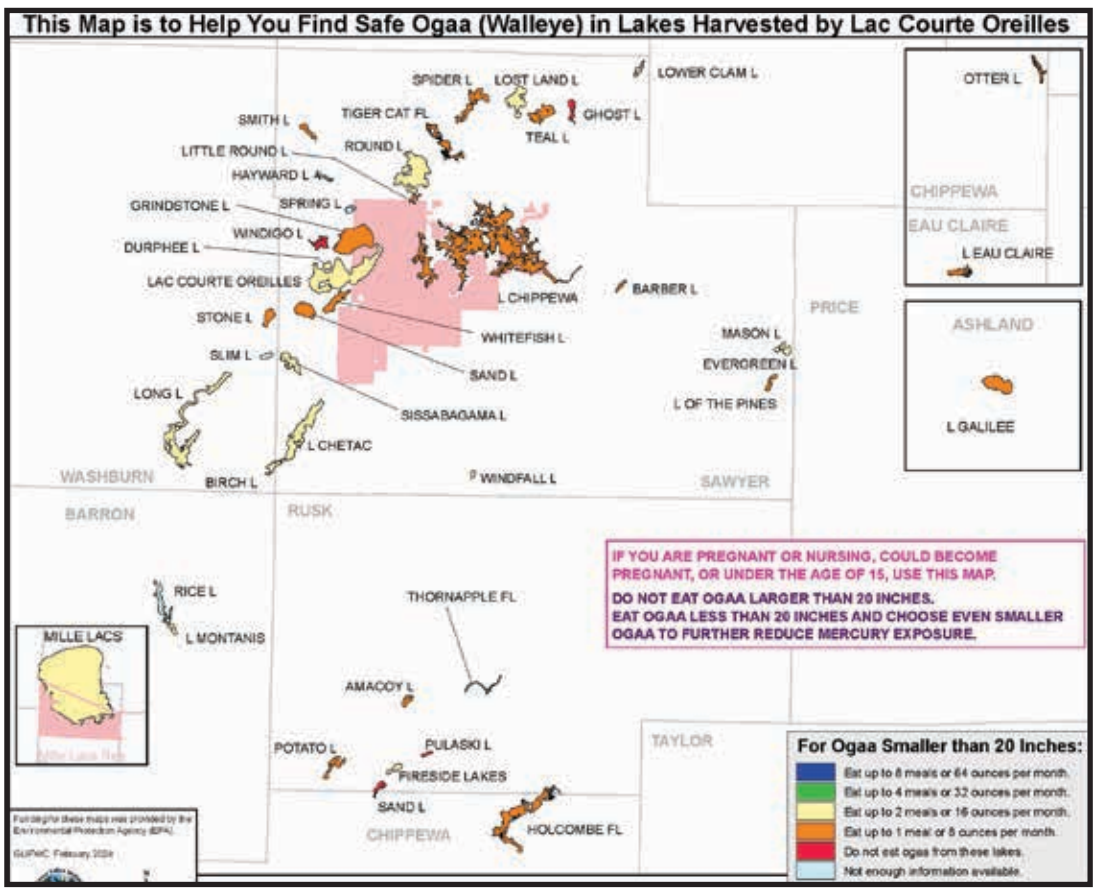
(Let's eat walleye safely)

The return of extended sunshine after a long cold winter means spring ogaa (walleye) spearing season is on the horizon. As families begin to prepare for spring harvest activities, food safety is a top priority. GLIFWC's Mercury Maps can help you and your family make informed decisions about where to harvest ogaa and how much is safe to eat.

Like all fish species, ogaawag contain mercury, a contaminant that can have negative health impacts, particularly for developing fetuses and young children, if exposure becomes too high. If you are pregnant or nursing, are able to become pregnant, or are under 15 years of age, you are considered a sensitive population.

GLIFWC's Mercury Maps provide fish consumption guidance for over 350 lakes across the Ceded Territories of Minnesota, Wisconsin, and Michigan. These maps detail the safe number of meals you can eat per month from each lake. To reduce exposure to mercury, choose lakes with lower levels of mercury. Ogaa less than 20 inches and other species of fish lower on the food chain tend to have lower mercury levels. Mercury Maps are available online at *tinyurl.com/yc6m4444* at tribal registrations stations and other GLIFWC outreach events throughout the year.

Treaty rights support tribal members' ability to hunt, fish and gather off-reservation to provide their families and communities with high quality foods. Spring spearing and netting are an integral part of the Anishinaabe bimaadiziwin (tribal lifeway), and each harvest reaffirms tribal members' treaty rights. We wish everyone a safe and abundant spring harvest season! **—C. Ackley**



Ceded Territory News Briefs

Tribes, commercial fishers complete safety program

Brimley, Mich.—GLIFWC specialists and university partners in food safety convened an Association of Food and Drug Officials (AFDO) Seafood HACCP (Hazard Analysis and Critical Control Points) certification training on the Bay Mills Reservation December 10-12, 2024.

Tribal members working in commercial food production from Lac du Flambeau, Sokaogon, and Bay Mills Bands, along with two Indian Health Services inspectors, attended the training and earned AFDO Seafood HACCP Certification. A nationally recognized program, HACCP sets guidelines for ensuring seafood safety. Obtaining this certification enhances the reputation and credibility of tribal commercial fishermen and associated workers, guaranteeing safe and high-quality seafood to wholesalers and consumers.

Michigan State University (MSU) and GLIFWC maintain a long-standing partnership of over 35 years collaborating on food safety education through a comprehensive three-day AFDO Seafood HACCP program training. Industry experts with extensive knowledge and practical experience include Jim Thannum, GLIFWC, and Ron Kinnunen, MSU, who specialize in threats to Great Lakes aquatic vertebrate animals and safety regulations, and Dr. Lauren Jescovitch, who brings expertise in aquaculture and curriculum instruction. The collaboration between organizations creates a rich and dynamic learning environment with diverse perspectives. Upcoming HACCP certification trainings are scheduled for later this year at Keweenaw Bay Indian Community in Upper Michigan. Keep an eye on glifwc.org and social media for future updates. **—L. White**

Manoomin stewardship is focus of interagency effort

GLIFWC, Lac Courte Oreilles Band, Menominee Tribe, and Wisconsin Department of Natural Resources (WDNR) are working together by way of the National Fish and Wildlife Foundation's America the Beautiful Challenge grant with a multi-faceted goal centered around manoomin stewardship. One of the primary objectives is to build new and strengthen existing relationships between manoomin and human beings as well as between grant partners. Other goals include education and outreach, capacity building, and strategic research. Additional partners, including universities in Wisconsin and Minnesota, will also be contributing to the work.

Project staff are now meeting on a regular basis, outlining strategic research development including: amik (beaver) hydrological impacts on manoomin; remote sensing technology using geospatial information from satellites; resiliency and non-resiliency of manoomin waters backed by traditional ecological data; and herbivory impacts on manoomin by animals such as waabiziig (swans), agwaagwaabikizi-ashaageshiinh (rusty crayfish), and wazhashkwag (muskrats).

As part of this initiative, project partners have made new hires to implement grant objectives. Among these new hires, Cherie Thunder of the Omāēqnomenew eskōnekan (Menominee), is working as Tribal Wild Rice Research Coordinator to help educate her community on efforts to restore manoomin (manōmaeh in omāēqnomenew) on their reservation. The WDNR has hired Cheyanne Nakutih, also a member of the Omāēqnomenew eskōnekan and graduate student at UW-Madison in the Department of Geoscience. Nakutih's role is to facilitate contracts, reporting, and to ensure funding is distributed as directed by tribal partners and GLIFWC. For my part as Manoomin Wiidookaage at GLIFWC, I'll be helping to implement Ceded Territory manoomin stewardship and grant administration. **—E. Parent**

Missing snowmobiler recovered in Lake Superior

The Ashland-Bayfield Emergency Communication Center received a call January 19 at 12:16 A.M. from a friend reporting an overdue 20-year-old male from Ashland, Wisconsin, who was late joining them while ice fishing on Chequamegon Bay. The missing 20-year-old male was reported to be on a snowmobile. The last known communication from the subject was at 9:03 P.M. on January 18. Members of the U.S. Coast Guard, Great Lakes Indian Fish & Wildlife Commission, Wisconsin Department of Natural Resources, Ashland Fire Department, Ashland Police Department, and Ashland County Sheriff's Office responded and began searching for the subject.

GLIFWC Sergeant Jim Stone said first responders established a search grid in the early morning darkness. Stone and GLIFWC Warden Dan North combed an area between Washburn and the Ashland Lighthouse aboard the Commission's airboat. Additional ice rescue specialists, including a second airboat crew from Ashland Fire Department and a Coast Guard helicopter, worked the area through sunrise until mid-morning. At approximately 10:00 A.M., the male subject was located in open water, deceased.

—GLIFWC & Ashland County Sheriff

GLIFWC launches new website

GLIFWC is pleased to announce that *glifwc.org* has been fully redesigned with the needs of harvesters, teachers, tribal leaders, agency staff, and the general community to learn more about GLIFWC and treaty rights.

Internally, the multi-disciplinary group known as Web Weavers met regularly to discuss revisions and organizational goals. Two primary objectives in this process were to prioritize tribal harvest guidance and to streamline the online ordering system. The group collaborated closely with division staff and a contractor to build the new website from the ground up.

The redesign improves the search function, clearly presents how GLIFWC's programs and staff are organized, and content is more intuitive so that visitors have a more comprehensive platform to learn about treaty rights, tribal sovereignty, and harvesting in the modern world.

Improvements to our shop site foster a more engaging and user-friendly experience, including access to top-notch educational resources.

GLIFWC's website can be utilized as an independent teaching and professional development space for educators and was developed with thanks to many hands, leadership's support, and key partnerships—miigwech!

Feedback will help us continue to improve our web presence—thank you for helping us honor our duty to cultural preservation, youth education and outreach, and how we can best showcase traditional ecological knowledge and our time-honored approach to caring for Ojibwe homelands on behalf of our member tribes. **—Web Weavers**

Congrats 2024 phenology season observers!

GLIFWC's Climate Change Team recognizes John Jungwirth as the adult winner for the most observations submitted. John and his partner Victoria live off the grid in a remote area near Ishpeming, Michigan, where they make and sell birch bark canoes and herbal products. John has been submitting regular phenology observation over the years.

The youth winner for most observations is Jessica Gagne's 4th grade class at Churchill Elementary in Cloquet, Minnesota. Ms. Gagne's class enjoys phenology lessons every week on "Phenology Friday."

The award for most interesting observation goes to Dylan Hanson, a student in Ms. Gagne's classroom, who recorded the first goose poop sighting of the year on March 11th. Congrats observers!

Please help us document seasonal changes and submit observations from your location here: *glifwc.org/phenology.calendar*. In 2025, classroom prizes will be awarded in April. Youth and adult observer prizes will be awarded in January of next year.

Tribal off-reservation harvest

(continued from page 1)

2024 makwa harvest

Tribal hunters registered a total of 53 black bears from the portions of the 1836, 1837, and 1842 Ceded Territories in Michigan and Wisconsin during the 2024 season. A total of 47 bears were registered in Wisconsin from 12 different counties, and six makwag were registered in Michigan from four different counties. Nearly one-half of all registered bears (47%) were harvested in Bayfield County, Wis. Of the 53 registered bears, 28 (53%) were male and 25 (47%) were female.

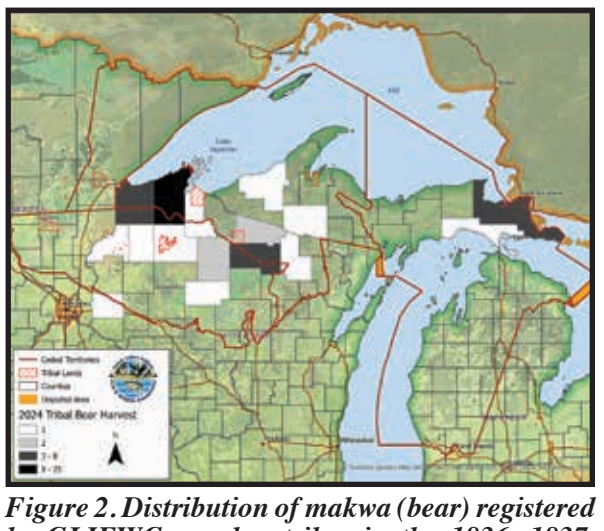


Figure 2. Distribution of makwa (bear) registered by GLIFWC-member tribes in the 1836, 1837, and 1842 Ceded Territories during the 2024 off-reservation tribal hunting season, summarized by bear registrations in each county. *The boundaries are representations and may not be the legally binding boundary.

1836 Treaty omashkooz harvest

Bay Mills Indian Community had five omashkooz tags (two bull elk tags and three cow elk tags) available for the 2024 season. Tag holders filled all five of the available tags in the Lower Michigan portion of the 1836 Ceded Territory. One cow elk was harvested in September 2024. Two bull elk and two cow elk were harvested in the December hunt period.

Elder advisory group reviews GLIFWC programs

GLIFWC is grateful for the wisdom and knowledge we receive from Ojibwe elders that hail from across the Ceded Territory.

Known as GAAGIGE, an acronym that spells "forever" in Ojibwemowin, the (GLIFWC Advisory And Guidance Input Group of Elders) crew contributes advice on everything from GLIFWC cultural programs to interacting with fish, plants, and wildlife.

GAAGIGE elders gathered in Ashland, Wis. last November to share a meal and review GLIFWC projects.

Pictured from left: Joe Nayquonabe Sr. (Mille Lacs Band), Dennis White (Lac Courte Oreilles Band), Wanda McFaggen (St Croix Band), Cleo White (White Earth Band), Val Phernetton (St. Croix), Fran Van Zile (Sokaogon Band), Judy St Arnold (Michigan Ojibwe), Jim St. Arnold (Keweenaw Bay Indian Community), Carrie Conners (Bad River Band), and Dan Powless (Bad River).

—CO Rasmussen

Migizi rule update

The U.S. Fish and Wildlife Service finalized a rule, effective December 31, 2024, revising regulations for migratory bird and eagle stewardship. Authorization for the public has been expanded, allowing individuals to recover and transfer eagle remains (or salvage) without a permit but must immediately contact the National Eagle Repository or a federal, tribal, or state agency.

Additionally, law enforcement, including tribal officers enforcing Migratory Bird Treaty Act/Eagle Act, may now manage, transport, and oversee disposition of eagle remains as part of their official duties without a permit. This rule may support Tribal access to eagle remains for cultural and religious practice and grant flexibility to tribal law enforcement in addressing matters concerning eagle remains.

Anyone discovering eagle remains within the Ceded Territories should contact GLIFWC law enforcement before touching or removing them to help screen for potential illegal conduct (e.g. poaching). Call your local GLIFWC warden or the Enforcement Division at the central office at 715-685-2112.

—B. Paulsen

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MAZINA'IGAN (Talking Paper) is a publication of the Great Lakes Indian Fish & Wildlife Commission, which represents eleven Ojibwe tribes in Michigan, Minnesota and Wisconsin. Subscriptions to the paper are free to United States and Canadian residents. Subscribe online at: *glifwc.org/mazinaigan/subscribe* write **MAZINA'IGAN**, P.O. Box 9, Odanah, WI 54861; phone (715) 682-6619; or e-mail: *pio@glifwc.org*. **MAZINA'IGAN** is also available in electronic format.

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

For more information see GLIFWC's website *glifwc.org,* our *Facebook* page, or *Instagram*.

On the cover

Beavers, trapping, and respect for animal beings figure prominently into the Ziigwan 2025 issue. Surreptitiously, Grand Portage descendent Sam Zimmerman's just released an outstanding piece of original amik artwork, which appears on this issue's cover. Said Zimmerman: *Beavers are such amazing beings. From building dams, their impacts to the ecosystem through creating wetlands and improving water quality are tremendous. I loved when I learned that they are winter landlords often allowing muskrats move into their lodges. I always love when I see the amik in Grand Portage swimming or eating aspen. I pulled out a pelt I was gifted to inspire me*. Title: Gichi-Onigaming Amik / Grand Portage Beaver, 14" x 14", February. 2025. For more information *facebook.com/cranesuperiorstudio*.

New GLIFWC project to bring Ojibwe elders and new maple tappers together

By Melissa Maund Rasmussen
ANA Grant Project Director

As iskigamizigewin season gets underway, GLIFWC is launching a multi-year project to increase the number of maple sap harvesters within GLIFWC's 11 member tribes by teaching, promoting, and providing tools to help sustain the traditional practice of harvesting and processing maple sap.

With funding support from the Administration for Native Americans (ANA), a Social and Economic Development Strategies (SEDS) project entitled "Anishinaabe-zhiiwaagamizigan (maple syrup)" will be implemented over the next three years. Project staff will partner with tribal elders to develop curriculum and enlist community program leaders to host training workshops; skill-building includes traditional harvesting and processing methods, fundamentals of maple syrup production, food safety and food code regulations, locating off-reservation sugar bush sites, identifying sugar bush habitat, and proper use and maintenance of processing equipment.

The project aims to recruit interested sap harvesters with fewer than five years of harvesting experience to participate in the project through an application process. Selected applicants will be supplied with harvesting and processing equipment, participate in training workshops, receive food safety training, and attend educational outreach events to build their maple sap harvesting and processing capacity. Additionally, we will be developing interactive, informational, and educational webpages providing access to maple sap harvesting and processing information.

Project updates will be posted on GLIFWC sites and member-tribe's social media outlets and tribal newsletters. Iskigamizigan translates to English as sugar bush or sugar camp—a tract of forestland populated by mature sugar maple trees where Ojibwe people harvest sap through small taps and produce syrup, sugar, and other products in the late winter and early spring.

View from a Ceded Territory iskigamizigan. GLIFWC's Anishinaabe-zhiiwaagamizigan project is designed to help inexperienced Ojibwe citizens learn how to harvest maple sap and craft traditional foods.

On the Gichigami South Shore, ice hazards multiply as winter melts into spring

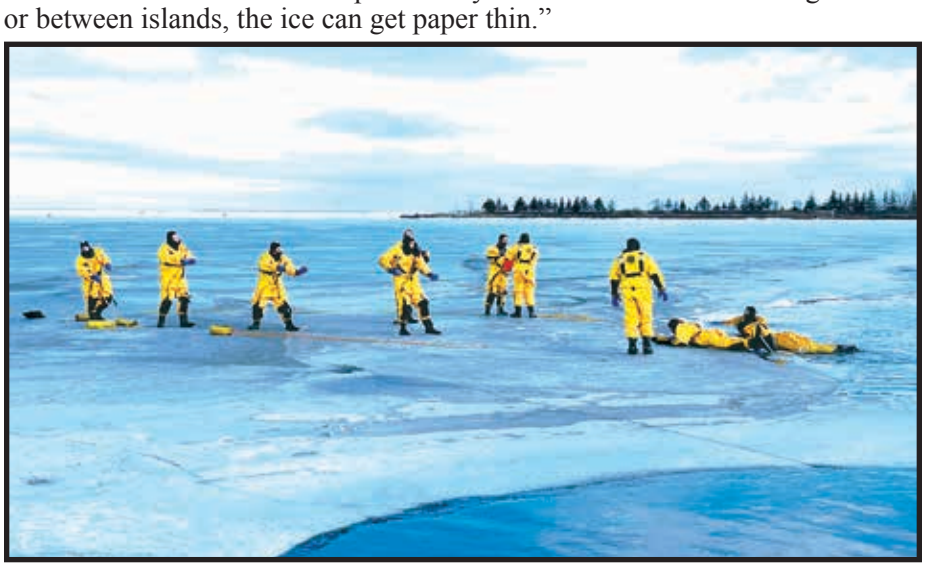
By Charlie Otto Rasmussen, Editor

Chequamegon Bay, Wis.—As late-season ice degrades on Ceded Territory lakes, GLIFWC wardens are stressing caution for fishermen and recreationalists. While navigating atop frozen waterbodies is never considered risk-free, longer sunny days and rising temperatures can rapidly impact lake ice creating hazards for both vehicle operators as well as those on foot.

"Safety on the ice starts before you head out," said GLIFWC Warden Dan North. "Talk to fishermen, folks at the bait shop, about ice conditions. Wear an inflatable life jacket under your coat. Carry ice picks. Have the proper gear."

North's patrol area covers large swaths of the Gichigami south shore, plus inland lakes and forests. Among the varied hard water conditions in the Ceded Territory, he said safely navigating among the Apostle Islands and adjacent Chequamegon Bay might be the trickiest.

"Think about the currents running in between the islands," North said, referencing the subsurface flows of ever-moving lake water. "You can go from 16" of ice to two-inches in a span of 60 yards. Where those currents go around or between islands, the ice can get paper thin."



GLIFWC wardens conduct annual ice rescue training on Chequamegon Bay, Wis. in late February. (B. Paulsen photo)

Other features like concrete and stone breakwaters that protect harbors also funnel lake currents. The tip of a breakwater creates thin ice conditions while also absorbing the sun's heat during the day. Near-shore breakwaters have been installed across the Lake Superior shoreline from the Duluth, Minnesota to Grand Marias, Michigan.

"Anything that'll pull heat, absorb heat, like a breakwater or structures around marinas, is going to make the ice thinner in that area," he said. "With both currents and heat at work in the same place, it creates a really dangerous situation."

Snow depth and the timing of winter precipitation can also obscure features in the ice that pose a hazard to fishers and other recreationalists. Like a layer of insulation, deep snow blanketing frozen water impacts the quality and thickness of ice.

"Snow can hide all sorts of things that affect how strong the ice is. You really have to watch out for pressure cracks. Later in the season, pressure ridges and heaving ice become a bigger issue." he said.

(see Ziigwan ice hazards, page 11)

Of springs, dams, and deadheads

Scattered across the north country landscape by the thousands, smaller waterbodies present many of the same dangers as the Great Lakes in early spring. Warming temperatures, water currents, and snow all impact the durability of ice.

Late season ice fishers venturing out on inland lakes should also evaluate some crucial characteristics of their target waters. GLIFWC Warden Jim Stone offers two questions for inland fishermen drawn by the potential of a hot bite under late season ice. Is the lake spring-fed? And, is it a man-made reservoir, or flowage, with a dam holding the water level in place.

"A natural spring can definitely cause lake ice to thin within a certain proximity," Stone said. "In the case of a flowage, there's going to be the original channel, or channels, where the stream flows, keeping the ice thinner. Old stumps, or deadheads, last a long time after a dam is put in. Those deadheads are going to create warming and impact the ice."

Stone added that dam management and associated water controls can destabilize ice conditions in a short time. "Any little adjustment to water levels is going to break that ice up pretty quickly," he said. "You want to be aware of any activity planned by the dam operator." **—CO Rasmussen**

Sea lamprey control: A collaborative effort in the Great Lakes

By Ben Michaels, GLIFWC Great Lakes Section Leader

The Great Lakes have faced a relentless adversary for decades: the parasitic sea lamprey. This non-native being, a problematic predator, decimated native fish populations and threatened the ecosystem and the region's economic vitality.

Lake trout, a culturally and ecological important species of the Great Lakes ecosystem, was on the brink of extinction by the mid-1950s. The sea lamprey, with its rasping mouth and parasitic lifestyle, had wreaked havoc, causing widespread problems for native fish populations and economic hardship. However, under the leadership of the Great Lakes Fishery Commission, a coalition of state, tribal, federal, and provincial agencies came together to explore solutions to control the lamprey problem.

The control strategy hinges on a multifaceted approach, targeting the sea lamprey at its most vulnerable life stages. Barriers constructed on Great Lakes tributaries prevent adult lampreys from migrating upstream to spawn, and lampricides are deployed to reduce larval populations.

Additionally, juvenile lampreys, migrating downstream to find their first host, are trapped, preventing them from inflicting further damage. Emerging technologies, such as pheromone-based trapping, are also being explored.

Within the 1842 Ceded Territory in northern Wisconsin and Michigan's Upper Peninsula, GLIFWC has long been involved with lamprey control efforts on Lake Superior. Decades of collaboration with the U.S. Fish & Wildlife Service Sea Lamprey Control Station in Marquette (USFWS-SLC), the Keweenaw Bay Indian Community Natural Resources Department, and the Bad River Band Natural Resources Department have yielded significant progress.

These partnerships conduct crucial assessments, including mark/recapture studies to determine lamprey population sizes in various tributaries. Downstream trapping of juvenile lampreys in the fall gauges the effectiveness of lampricide treatments, which are handled by USFWS-SLC, and prevents the lampreys from reaching Lake Superior and preying on native fish. These control efforts are critical. A single lamprey can lay up to 100,000 eggs, and it is estimated that one single lamprey can kill up to 40 lbs of fish within its 12–18-month parasitic feeding phase.

The significance of these control efforts cannot be overstated. The Great Lakes fishery is a vital economic engine, supporting countless jobs and fueling tourism, contributing billions to the regional economy. Agencies that are engaged in sea lamprey control are not only safeguarding fish populations but also protecting the livelihoods of those who depend on the Great Lakes. While lamprey control is an arduous and time-consuming process, the return on investment is undeniable. The relatively small expenditure on control measures has yielded massive dividends in protecting the multi-billion dollar industry that the Great Lakes support.

Adult sea lamprey trapped from the Brule River in northwest Wisconsin are enumerated to generate an estimate of adult spawners present in the river during the spring. When adult lamprey attach to fish to feed, they will rasp away the flesh, leaving a wound which can adversely affect the survival of the host fish (S. Wood photo)

Ceded Territory SCIENCE

Designating critical habitats can help protect juvenile fish

By Kayla Lenz, GLIFWC Research Technician & Aaron Shultz, GLIFWC Inland Fisheries Biologist

Importance

The abundance of adult giigoonyag (fish) in a lake is heavily influenced by survival of juvenile giigoonyag, as they represent the future population that sustains the ecosystem and supports local fisheries. This survival is influenced by several factors, including hatching success, predation, food availability, and the availability of adequate habitat. Ecological factors are often difficult to manage effectively due to their interconnected nature and external pressures such as climate change.

At Minocqua Lake in the 1842 Ceded Territory, fisheries biologists have witnessed a significant decline in natural fish reproduction. Conserving habitat, however, is a realistic and proven goal that can be accomplished through cooperation between stewards, managers, and harvesters.

GLIFWC's approach

To identify critical habitats in Minocqua Lake, the Great Lakes Indian Fish and Wildlife Commission conducted surveys that sought to identify, map, and characterize juvenile giigoonyag habitat, including spawning, nursery, and feeding habitats during the summer of 2024. This involved snorkeling surveys to visually assess habitats and nighttime electrofishing to capture and study fish in deeper or less accessible areas.

Together, these methods provided a holistic view of what areas of the lake were being occupied by juvenile fish through their first two years of life as well as areas used by spawning adults. To adopt a food web and ecosystem-based approach, these surveys included all species. These data may serve as a basis for future habitat conservation and management strategies to ensure the long-term sustainability of giigoonyag populations and the overall health of Minocqua Lake.

Biologists found about 65% of the shoreline of the lake is being used as spawning grounds for fish and about 80% of the shoreline is being used as habitat for age-0 and age-1 fish (Figure 1).

In these surveys, biologists observed juvenile black crappie, bluegill, golden shiners, largemouth bass, muskellunge, northern pike, grass pickerel, pumpkinseed, rock bass, smallmouth bass, walleye, and yellow perch, as well as several minnow species.

Bluegill were the most abundant species observed, with largemouth bass and smallmouth bass also being very abundant. Age-0 giigoonyag were more common than age-1 giigoonyag among all species except bluegill and walleye. Areas with particularly high concentrations of juvenile fish often coincided with the rare areas of little to no shoreline development along the lake and may be acting as refuges.

Collectively, these surveys can be used to support additional protections in nearshore areas for juvenile fish in Minocqua Lake. "High density" areas described here (Figure 1) should be priority areas for habitat protection followed by areas with low densities of young giigoonyag or spawning fish. Even without recording adult observations, fish were observed throughout nearly the entire littoral zone. Surveys of habitat that adult giigoonyag use throughout the year would likely result in even more of the littoral zone being used by species throughout their life cycle.

Conservation implications

In Wisconsin, the state mandates the Department of Natural Resources (DNR) to designate certain areas of important fish and wildlife habitat at risk of riparian development and in-lake activities to be designated as "critical habitat" to protect these habitats and the beings that depend on them. Critical habitat designation provides advanced information to land stewards, managers, and waterfront owners to clarify what regulations will apply for any construction activity or proposed restoration activity planned along shorelines.

For example, these areas may have different permitting jurisdiction or a permitting process that requires collaboration with the DNR to ensure shoreline development and other onshore activities happen in a manner that does not harm these important habitats. Currently, limited information on individual water bodies and minimal staffing to support this program are hindering designations of critical habitat.

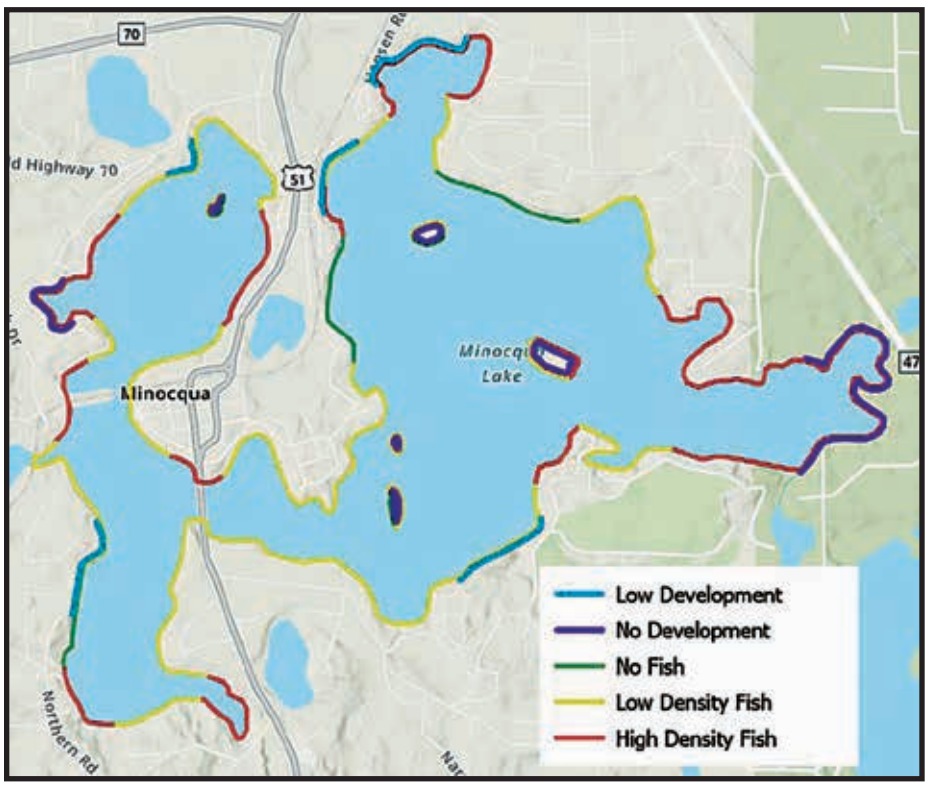


Figure 1. Map of Minocqua Lake with the shoreline of the main body and islands color-coded based on the relative abundance of juvenile fish. Red areas indicate those with particularly high concentrations; yellow areas indicate those with juvenile fish present in relatively low densities; green areas indicate those where no juvenile fish were observed.

Protecting and enhancing juvenile fish habitats can have a cascading effect on all species that use this system, from fish to birds to amphibians, creating a home in which they can thrive. Our findings may also guide future local zoning changes or ordinances to ensure development within a certain distance of the water does not harm important fish habitat.

In summary, designating critical habitats will protect areas that giigoonyag need to complete their life cycle and will have a positive influence on the ecosystem. The critical habitat program in Wisconsin needs to be revived and utilized and similar programs need to be put in place in neighboring states to ensure fisheries remain protected.

Extra helpings: Lake Mille Lacs loads up on biomass for 2025

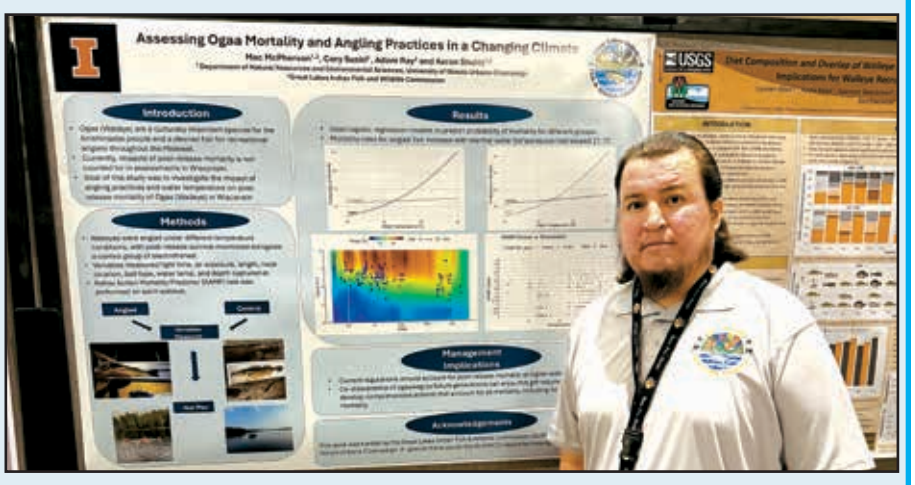
The strange and moody spring of 2024 seemed unlikely to be good for northern lake ecosystems. Early warmth after a mild winter was followed by an early ice out in many waters, with little to no immediate uptick in temperatures. By late April, the waters finally warmed up on Mille Lacs Lake, and walleyes were spawning near the same time that they usually would.

Perhaps unexpectedly, early survey results from Minnesota DNR and GLIFWC showed good hatches of yellow perch, tullibees, and walleye. When things line up just right, young yellow perch and even young tullibee can provide the perfect size food for juvenile walleye, and that appears to be what happened in the summer of 2024.

The age-0 walleye year-class looked strong in MDNR and GLIFWC electrofishing surveys, in addition to the state fall gill net survey. There appeared to be good numbers of them, and they seemed to be large enough to have a good chance of surviving their first winter. The adult walleye joined in on the food bonanza as well and packed on the pounds throughout the summer and into the fall. This resulted in one of the highest recent spawning stock biomass estimates entering the 2025 fishing season. Biologists are optimistic that the new year-class has a good chance to survive and become adults in a few years, but nothing is guaranteed. Fishery researchers will continue to monitor these fish in spring of 2025 and beyond. **—M. Luehring**

GLIFWC fishery staff collaborated with the Town of Plum Lake Lakes Committee, Lake Laura residents, Vilas County, and Wisconsin Department of Natural Resources to construct and site fir tree bundles on January 31. A series of three large balsam bundles located at two sites on Lake Laura will sink at ice-out and rest at the lake bottom. Popularly known in the fish conservation community as "fish sticks," the structures provide habitat for perch and other forage fish. (M. Luehring photo)

GLIFWC biologist, technician, and graduate student present at the Midwest Fish & Wildlife Conference



The conference attracts up to 1,000 biologists and students from state, federal, and tribal natural resources agencies and universities from the Midwest, Great Plains and Canadian provinces for the purposes of sharing technical presentations, poster displays, plenary sessions, and networking opportunities for wildlife professionals. Attendees include professionals in the field of fisheries and wildlife, including; directors, assistant directors, program managers, wildlife and fisheries biologists, as well as college students. Mac McPherson, graduate student at University of Illinois and co-advised by GLIFWC, presented a poster on "Assessing Ogaa Mortality and Angling Practices in a Changing Climate."

Ogaa regulation changes proposed in Upper Michigan

Walleye abundance in many Ojibwe Ceded Territory lakes has declined over time. In some lakes, natural reproduction and/or recruitment (young fish becoming adults) has become an issue. Lakes are facing a variety of stressors that include but are not limited to shoreline development, introduction of non-native species, aquatic habitat degradation, changes in the fish community, warmer water, and the application of pesticides, herbicides, and fertilizers.

In response, the Michigan Department of Natural Resources recently held two public meetings regarding walleye regulations in Gogebic, Iron, and Dickinson Counties. A proposed regulation would add a protected slot between 18-23-inches and reduce the daily possession limit to three ogaawag in Lake Antoine, Lake Emily, Hagerman Lake, Lake Mary, Lake Ottawa, Stanley Lake, and Winslow Lake. The same 18-23-inch protected slot is also being proposed for Lake Gogebic, but it would continue to have a five fish daily possession limit.

State officials are also proposing a similar regulation at two eastern Upper Peninsula lakes in the 1836 Ceded Territory: Big Manistique Lake and Milakokia Lake. Contact your local Michigan DNR office for more information and to comment on these proposed regulation changes. **—A. Shultz**

GLIFWC's Wardens lead ATV & snowmobile safety training, help bring new instructors to the Northwoods

By Bay Paulsen, Staff Writer

GLIFWC Sergeant Jonas Moermond and Warden Riley Brooks hosted their annual All-Terrain Vehicle (ATV) and Snowmobile Combined Safety Course February 7-8, for use on Wisconsin public lands, teaching kids how to safely and legally operate these fun, but sometimes dangerous, off-road vehicles.

This year's six participants gathered at the Lac du Flambeau Youth Center, eager to earn their safety certifications, which are required before anyone can operate one of these vehicles on Wisconsin's public ATV/snowmobile routes or trails. Students learned many different essential skills, such as trail/route signage identification, safe loading and unloading of the vehicles, and the rules and etiquette of driving on public trails, which often cross private property.

While the use of snowmobiles and ATVs on public land falls under state jurisdiction with tribal members needing a state certification to legally operate in these areas, safe and legal recreational vehicle use offers tribal members more access to the outdoors and aids in safe and successful treaty harvests. In that spirit, GLIFWC's enforcement division hosts classes like these throughout the year, including hunter and boater safety courses.

"My goal is to teach [the kids] how to operate these machines so they can enjoy them safely and responsibly for the rest of their lives," said Warden Brooks.
(see Building local capacity, page 10)

Ice spearing culture camp

(continued from page 1)

in the process, but it's important that students know their decoys are unique to them. They'll develop their own carving and painting style," said Poupart.

Instructor Kevin Decota, acknowledged that there have been many people over the years who have influenced and supported his path in this this art and becoming a small business owner: "Bob Williams, Nick Hockings, Ray Labarge, Dr. Mike, my uncle—people who were willing to spend time teaching. That's an important part of why I'm here," he said.

After all the decoys were painted and weighted, students packed up for the night. Poupart advised that it's good practice, but not necessary, to soak decoys a couple hours, before fishing with them: "The wood will swell up and fill in any gaps around the fins and weights," he said.

Time for a swim

On the ice by 8:00 A.M., Decota laid out a layer of balsam boughs around a hole cut in the ice, followed by a rubber mat and wool blankets. Above, alder poles are tied together, and more wool blankets are draped around the structure to make a teepee or belly tent.

"This set up is really comfortable," Decota said. "You just Army crawl right in and use a shorter style of spear," explained Decota.

Other spearfishers choose to set up a more common ice shack. Then the group commenced unpacking a variety of colorful decoys and prepared to take them for a swim.

"This one is called Mr. Ugly, but has pretty good luck in the water," said LaBarge, looking over a decoy. As he went through his box of decoys, each wrapped in their own towel, he shared the collection's nicknames and their own unique battle stories. Each decoy seemed to have a personality and LaBarge delighted in retelling the adventures they'd take together or with family members over the years.

Sean Meshigaud III, age 2, holds up two perch during Lac du Flambeau's ice spearing class. (JVS photo)

A few feet away, Cobb and Devon DeVerney patiently jigged more than two hours when a muskie finally made a lightning-fast appearance through the window in the ice. This time though, Cobb's excitement got the best of her and the muskie got away.

During lunch Cobb endured some gentle teasing as the group enjoyed hot food and some laughs. Sean Christianson, III tended a fishing pole where he bagged a few perch.

"When there's too many perch it can mean the muskie aren't in the immediate area," said Chapman, grandson of "Walleye Warrior" Tom Maulson Sr. "Part of what you're watching for in the water is when the little fish get skittish all of
(see Akwa'waa, page 10)

Bazhiba'igewin!

Ani-ziigwan! It's starting to be spring! Do you know what that means? It's almost the spring spearing season!

Spearing for ogaawag when the ice has just melted is one of many ways that tribal members have re-affirmed their treaty rights.

Even when angry crowds gathered to protest against them, many brave Anishinaabeg speared ogaawag to show the United States that they still needed to honor the promise they made: that they couldn't stop the Ojibwe people from practicing their way of life.

Ogaa painting by Timothy Knepp

Ojibwemowin

bazhiba'ige—he/she spears
bazhiba'igan—a spear
ogaa(wag)—walleye(s)
ginoozhe(g)—northern pike(s)
maashkinoozhe(g)—musky(s)

Ogaawag, Ginoozheg, and Maashkinoozheg like clean, cold water. They also like the wilderness, without too many houses, docks, or other modern development around their shorelines.

ginoozhe

Lots of tribes raise baby ogaawag and maashkinoozheg from tiny eggs in specialized buildings called "hatcheries" and release them back into lakes and streams when they're big enough, both on and off-reservation.

This gives them a better chance to survive the difficulties and dangers of growing up as a baby fish.

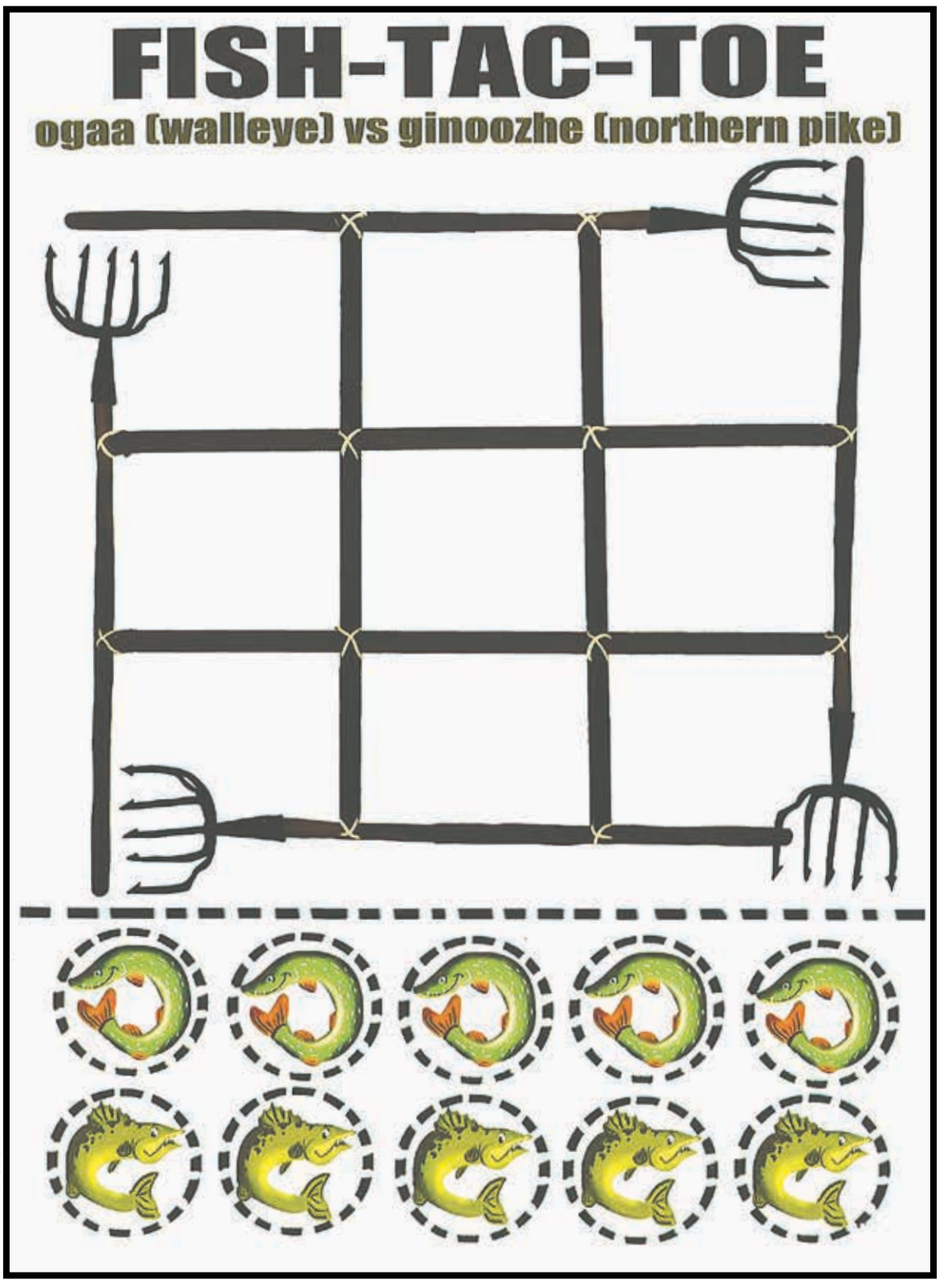
Activity: with the help of an adult, cut out each ogaa and ginoozhe token on the circular dotted lines. Choose which fish you want to play as, then use them to play tic-tac-toe!

You and another player will take turns placing a fish token into a square on the grid, and the first to get three in a row wins! If all the squares are filled without anyone getting three in a row, the game ends in a tie.

USFWS graphic

maashkinoozhe

Find this activity and more in the Tommy Sky Coloring and Activity Book at *glifwc.org/store*.



Zaasijiwan
•It Ripples•

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

Aaniin, Boozhoo! Aaniin ezhi-ayaayan? Gaye niin, niminwendam. Aandi ezhaayan?
Niin, nindizhaa awakaanigamigong. Inga-gagwedoomig. Inga-babaamoomig. Niminwendaan.
Giwii-gagwedoomig ina? Ambe! Bebezhigooganzhiig, miikawaadiziwag. Mino-izhiwebiziwag.
Gaawiin ina? Eya' ina? Ditibiwebishkiganag ina ganabaj? Nindaa-ditibiwebishkigemin.
Niminwendam ziigwang omaa Akiing. Ojibwemodaa Anishinaabeg! Mii'iw, gichi-miigwech.

(Greetings, Hello! How are you? Also me, I am well. Where are you going? Me, I am going to the barn.
I will go to practice horseback riding. I will ride about on horseback. I like it. You want to practice riding?
Come on! Horses, they are beautiful. They behave well. No? Yes? Bicycle? maybe? We should/could pedal.
I am happy as it is spring here on Earth. Let's all speak Ojibwe language, Native people! That's all, great thanks.)

Bezhig—1 OJIBWEMOWIN (Ojibwe Language)

Double vowel system of writing Ojibwemowin.
—Long vowels: AA, E, II, OO
W**aa**booz—as in f**a**ther
Miigw**e**ch—as in j**ay**
Aan**ii**n—as in s**ee**n
M**oo**z—as in m**oo**n

—Short Vowels: A, I, O
D**a**sh—as in **a**bout
B**i**ne—as in t**i**n
Niizh**o**—as in **o**nly

—A glottal stop is a voiceless nasal sound as in A'aw.

—Respectfully enlist an elder for help in pronunciation and dialect differences.

—English can lose its natural flow in language translations.

Numbers

bezhig, niizh, niswi,
niiwin, naanan, ingodwaaswi,
niizhwaaswi, ishwaaswi, zhaangaswi,
midaaswi—1 to 10

ashi-bezhig, ashi-niizh, ashi-niswi, ashi-niiwin, ashi-naanan, ashi-ingodwaaswi, ashi-niizhwaaswi, ashi-ishwaaswi, ashi-zhaangaswi, niishtana—11 to 20

Agindaaso.—S/he counts.
Nindagindaas.—I count.
Agim!—Count him/her!
Nindagimaa.—I count him/her.
Agindan!—Count it!
Nindagindaan.—I count it.
Gidagindaan.—You count it.
Aandaginzo.—S/he counts someone over.
Aandagindan!—Count something over!
Mii'iw.—That's it.

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

A. Zoogipon agwajiing! Zhooshkobidewan nimakizinan.

B. Gego bookojaaneshiniken! Gego baapiken noongom!

C. Bimosedaa! Naanaagadawaabandan bimoseyan omaa.

D. Nindede, gii-piimiskonikeshin. Gii-bimose jiigi-awakaanigamigong.

E. Ginitaawaada'e na? Eya'! Ninzhooshkwaada'e.

F. Ningide noongom!

G. Waa! Nindozhaashise.

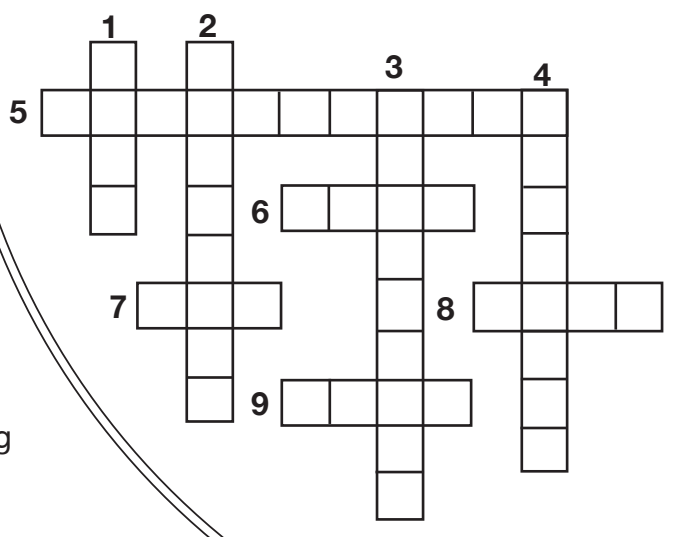
H. Gisinaa na?

E	Y	A	‘	B							
N	S	B	N	A	G						
I	K	I	Z	‘	I	G	E				
M	H	M	Y	N	S	W	A				
A	Z	O	O	G	I	P	O	N			
K	I	S	Z	H	N	N	N	G	M		
I	G	E	O	I	A	T	D	O	E	K	
Z	T	D	M	Y	A	‘	S	E	K	G	E
I	B	A	A	P	I	K	E	N	D	A	O
N	K	A	O	N	M	P	Z	A	B	E	‘
A	W	I	O	E	S	O	D	H	W	I	O’
N	M	A	N	N	O	O	N	G	O	M	E


makwa
Diginatur, CC BY-SA 3.0

Niswi—3

IKIDOWIN ODAMINOWIN (word play)



Down:
1. I, Me
2. when it's spring
3. twenty
4. ten

Across:
5. I am happy
6. count him/her
7. here, exclamation
8. also, too, and
9. yes


makoons
(bear cub)
USFWS photo

Online Resources
ojibwe.lib.umn.edu
ojibwe.net
glifwc.org
glifwc-inwe.com

Niiwin—4

Eya'! Agwajiing Izhaadaa!—Yes! Outside Let's All Go!
Endaso-giizhik Nimbimose agwajiing.
—Every day I walk outside.
Eya'—Yes!
Gibimose na agwajiing?—You walk outside?
Giga-bimosemin ina?—We all will walk?
Gii-pimosewag ina zaaga'iganing?
—Did they walk to the lake?
Gaawiin!—No!
Gaawiin bimibatoosii miikanaang.
—No s/he does not run on the road.
Bima'adoo.—S/he follows a trail.
Nimbima'adoo omaa gaye
—I follow a trail here also.
Endaso-giizhik—Daily
Ojibwemodaa!
—Let's all speak Ojibwe!

Migizi(wag)

Maang(wag)

Giigoo(yag)

Ajijaak(wag)

Makwa(g)

1. Bakadewag noongom ingiw_____.
2. _____ ina? Aaniin minik noongom?
3. Inashke! _____, ginwaabiigigwewag.
4. Waabamag _____, nimbiindaakoonaa.
5. Niminotawaa _____ noondaagoziwaad.
6. Ani-ziigwang, apegish menoseyeg megwaayaak.

Translations:

Niizh—2 **A.** It is snowing outside. They slip, my shoes. **B.** Don't fall down and break your nose! Don't laugh now. **C.** Let's all walk! Watch it carefully when you walk here! **D.** My Dad he fell and twisted his arm. He was walking by the barn. **E.** Do you know how to skate? Yes! I skate. **F.** It is melting now! **G.** Wow! I am slipping. **H.** It is cold?
Niswi—3 ***Down:*** **1.** niin **2.** ziigwang **3.** niishtana **4.** midaaswi ***Across:*** **5.** niminwendam **7.** waa **8.** gaye **9.** eya'
Niiwin-4 **1.** They are hungry now those **bears**. (Makwag) **2. Fish?** How many today/now? (Giigoonyag). **3.** Look! **Cranes**, they have thin long necks. (Ajijaakwag) **4.** When I see him/her, **eagle**, I make a tobacco offering to him/her. (Migizi) **5.** I like hearing them **loons** when they call out. (Maangwag). **6.** As spring approaches, I hope you all have good luck/happenings in the woods.

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 *pio@glifwc.org*.

Edited by Michael Waasegiizhig Price

Is common barberry making a comeback?

A prickly "plant out of place" shows up in northern Wis.

By Steve Garske, Invasive Species Coordinator

Readers may be familiar with Japanese barberry, a prickly low shrub that (before regulators prohibited its sale in Wisconsin and Minnesota) was commonly planted around buildings and yards, frequently escaping to forests and other natural habitats. But Japanese barberry has another, much less well-known cousin from overseas, with a long and interesting history in the United States.

Large Japanese barberry plant, Oneida County, Wisconsin. Japanese barberry shrubs are usually under 6 ft tall. (SG photo)

Like Japanese barberry (*Berberis thunbergii*), common barberry (*Berberis vulgaris*) has attractive foliage and small, bright red berries. Common barberry is native to eastern and central Europe, where it has long been grown in gardens and hedgerows, and used medicinally and for its edible fruit.

Introduced to North America by European colonists as early as the mid-1600s, common barberry was widely planted and soon began to escape. By the 1700s it had become so abundant across much of the northeastern United States that in 1726 the British colony of Connecticut passed legislation to control it, followed by Massachusetts in 1755 and Rhode Island in 1772. By then it was already spreading west, aided by birds and people.

Along with its invasive tendencies, common barberry has another characteristic that led to early efforts to eradicate it. Wheat crops in areas with barberry were often decimated by black stem disease, which sometimes destroyed whole fields of wheat.

Since at least the mid-1600s British farmers had blamed this disease on common barberry shrubs growing nearby, an idea that was often ridiculed by agricultural writers of the day. But by the mid-1800's the connection between black stem disease and common barberry had become more widely accepted, and in 1865 a researcher showed that the barberry rust fungus could indeed infect wheat.

Today we know that common barberry is the alternate host of the rust fungus *Puccinia graminis f. sp. tritici*, which causes this highly destructive disease of wheat and barley. (Black stem disease also attacks native grasses including "bottlebrush grass" and brome species.) One large common barberry shrub can support enough rust fungus to produce billions of microscopic spores, which may be blown in the wind for dozens or even hundreds of miles.

By the early 1900s, millions of common barberry shrubs grew in "native timber and in swampy areas, in groves, wooded pastures, and orchards, along fence rows, stream banks, and irrigation ditches" across the Midwest (Hutton 1928). The widespread and often severe damage being caused to wheat crops by the rust fungus led to a massive effort to eradicate common barberry from the landscape. In 1918 the US Department of Agriculture and 13 midwestern states (including Michigan, Wisconsin and Minnesota) initiated a decades-long effort to eradicate it. This effort was largely successful. By the time the federal eradication program formally ended in the early 1980s, common barberry was a rare plant across most of its introduced range.

Today, only isolated pockets of common barberry remain. But in some parts of northern US and adjacent Canada, it seems to be making a comeback. Last summer GLIFWC staff even found several common barberry plants along the Bad River floodplain, south of the Bad River Reservation in Copper Falls State Park! Given the huge amount of time and effort over many decades to reduce common barberry to low levels, it seems ill-advised to let this plant rebound. As the old saying goes, those who forget the lessons of the past may just end up reliving it.

Large common barberry plant, on the Bad River floodplain in Ashland County, Wisconsin. Common barberry can reach 10-12 ft tall. (SG photo)

Toothed leaves and elongate berries of common barberry help distinguish it from Japanese barberry. (SG photo)

You can help!

Have you seen common barberry? If so, we'd really like to hear about it. Contact Travis Bartnick (*tbartnick@glifwc.org*, 715.682.6619 x 2166) or Steve Garske (*steveg@glifwc.org*).

For more information:

Washington State University Extension has a nice 6-page fact sheet on common barberry and wheat stem rust. You can download it for free at *pubs.extension.wsu.edu/download/sample/3465 pubs.extension.wsu.edu/control-of-common-barberry-to-reduce-stem-rust-in-wheat-and-barley*.

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Building local capacity in safety training

(continued from page 7)

This year, Moermond and Brooks seized on an opportunity to aid the local Northern Hornshoe Trails Snowmobile Club who had been working with the statewide sled group—the Association of Wisconsin Snowmobile Clubs (AWSC)—to designate the area as "snowmobile friendly." A major gap that the club had been facing in the initiative was the lack of qualified safety instructors. Full certification from the DNR requires prospective instructors, after passing an exam, to assist in teaching at least two safety courses. This is when Hornshoe club member Matt Lindberg noticed GLIFWC's flyer advertising the safety course. After meeting with GLIFWC wardens, Lindberg took the reins on teaching early chapters of the course, covering parts of the machine, hand signals, riding positions, and signage.

"This class really reflected the importance of education and the tight connection that so many riders feel when we're enjoying the outdoors," said Lindberg. "I hope that we can keep working together to stress the importance of safety, asking questions, and taking the time to be trained."

Lindberg said he appreciated the opportunity to learn from Moermond's and Brooks' teaching style and comradery that came from the collaboration. At the end of the class everyone gave high marks to the delicious homecooked meal that one student's mother brought for the entire class. It was a true community-building event. **—J. Van Sickle contributed to this article**

Akwa'waa

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a sudden. It usually means a muskie is lurking closer than you think."

In the end, Lac du Flambeau organizers were pleased with camp and discussed plans to add more skill-building, such as demonstrating how to fillet a muskie which can be intimidating because of the Y-bones; Another opportunity could be learning the difference in walleye, muskie, and sturgeon spears and how to make each of them. Johnson spoke about the importance of teaching and that it brought happiness to his heart to see Mann and Chapman's camp be such a success: "We spend a lot of time working with our youth—that's a responsibility we have to our kids, to our culture but we also need to remember there are parents and relatives who missed some of these teachings and want to learn too."

Trapping for beaver remains a time-honored tradition

By Bay Paulsen, Staff Writer

It only took a few minutes of walking away from the rural parking spot to reach a space where "civilization" melted away, where the only sound of the unnatural world was the faint buzz of trucks and commuters driving along the nearby highway. The snow on the ground, several inches to a foot in depth, and the soft clumps clinging to the trees helped to dampen the fading noise. Ojibwe fur trapper, GLIFWC's Travis Swanson, led the way through the winter woods past chattering coveys of birds as the ever-present "swish" of his sled carrying a bundle of trapping supplies traced our progress.

Travis Swanson, Ojibwe fur trapper and GLIFWC's forest ecology program coordinator, pulls a sled full of beaver trapping supplies through the snow. Inset: Swanson examines a body grip beaver trap before lowering it into the hole in the ice. A green branch is tied to the bottom as bait. (B. Paulsen photos)

The pelts of many animals have been used to make warm clothing for people in the Great Lakes region far before the time Europeans arrived, but the arrival of the French and the demand for furs overseas sparked a new economy, and even society, of trapping and trading within the territory.

The French set up their own trading towns but quickly learned to work within the existing structures of trade in the region, becoming friendly and welcome guests, even overwintering with Ojibwe families and finding love among the women, according to *The Story of the Chippewa Indians* by Dr. Gregory O. Gagnon, Bad River Band citizen. The resulting mixed-heritage children became valued communicators and "cultural brokers" as visitors began to gather more frequently at fur trading posts located at major Ojibwe communities.

The price of pelts fluctuated depending on the time of year the beaver was harvested, the quality of the fur, and demand overseas. Reports vary, but from the year 1700 to 1800, the price of a single beaver pelt from North America rose from roughly $30 USD to about $95 USD (adjusted for today's value) according to the State Historical Society of North Dakota.

This high price was thanks to the exploding popularity of the felt hat in Europe, made from the underfur of the beaver and highly valued for the way the hairs locked together and held their shape even when wet. But when felt fell out of fashion and was replaced with silk, the price of beaver fell again. General fur trapping remained a valued tradition among communities, both native and non-native, with many people continuing to make a living on it. Today, trapping doesn't yield the financial bounty it once did, with the vast majority of modern trappers taking part as a hobby or for supplemental income.

Back in the woods with Swanson, as he trudged out of the dense trees and onto a bright, ice and snow-covered pond and stream system, towards a distant beaver lodge, he explained that his great-grandfather and even grandfather in his early life used to make their living from it, but with the high expenses of today, it's impossible to make ends meet with trapping alone. Prices peaked again in the 1980's, but the income was still not enough to live on.

Swanson, who serves as GLIFWC's forest ecology program coordinator and is a tribal member of Bad River, noted that prices had been higher the last few years, averaging $40-50 for a good, large beaver pelt. He chuckled explaining that today's market is not only driven by regular consumers in China and Russia; in the United States the popularity of felt cowboy hats has increased since the television show "Yellowstone" gained a widespread audience.

"I wanted to learn it because of tradition and family heritage, and just to know how to do it," said Swanson. "Nowadays, I trap to pass the tradition on to my kids."

He also explained that he traps "nuisance animals," clarifying that they only become "nuisances" because we, as people, decided to live near or construct our infrastructure in places the animals were already existing. Swanson does not generally sell the furs he harvests. Instead, he keeps and tans them as gifts for his friends or family who may need them for projects, such as items for traditional regalia. No matter what the trapping motivation comes down to, beavers deserve the same respect, gratefulness, and ceremony that any other harvested plant or animal would receive.

Trapping season reminder

For most furbearer species, the season wraps up March 31 in the 1837 and 1842 Ceded Territories of Wisconsin and Minnesota. Two exceptions in the Wisconsin Ceded Territory: nigig (otter) and amik (beaver) close a month later on April 30.

Ziigwan ice hazards

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As ice expands and contracts through air temperature fluctuations, pressure cracks form, creating pockets of open water. Ongoing ice movement causes dangerous ice ridges that can rise above the lake surface from a few inches up to ten feet. And as the clock moves closer to ice-out, degrading ice that shows signs of rotting, candling, or honeycombing should be avoided completely.

"Especially in late season ice fishing, you can be out on the lake, a pressure crack pops up, runs for miles, and you're not sure how to get around it to get back to shore," North said. "Talk to folks, learn about the conditions. And let people know where you're going."

GLIFWC responds to ice-related incidents each season, oftentimes utilizing the Law Enforcement Division's airboat in interagency rescue and recovery operations. Wardens additionally conduct cold water rescue training each year utilizing insulated Mustang suits with rope, flotation rigs and sleds. In spring 2024, GLIFWC wardens completed two ice-rescues wearing cold water suits in the Wisconsin Ceded Territory.

VITF welcomes delegation of Kickapoo Bands

Ojibwe tribes welcomed a delegation of Kickapoo Bands from the south-central United States at the December Voigt Intertribal Task Force meeting in Mole Lake, Wis. Past residents of present-day southern Wisconsin and Illinois, Kickapoo people were swept up in federal American Indian relocation programs, leading to reservations in Kansas, Oklahoma, Texas, and the Mexican state, Coahuila.

Faced with oftentimes uncooperative state officials, Kickapoo representatives said they are looking to implement natural resources programs in their territories to improve access to beings that are central to community nutritional and spiritual health.

"For a lot of our ceremonies, deer and [wild] turkeys are necessary," said Howard Allen, Kickapoo Tribe in Kansas (KTIK) Secretary.

GLIFWC honored KTIK and Kickapoo Tribe of Oklahoma visitors with bundles and an honor song.

—CO Rasmussen

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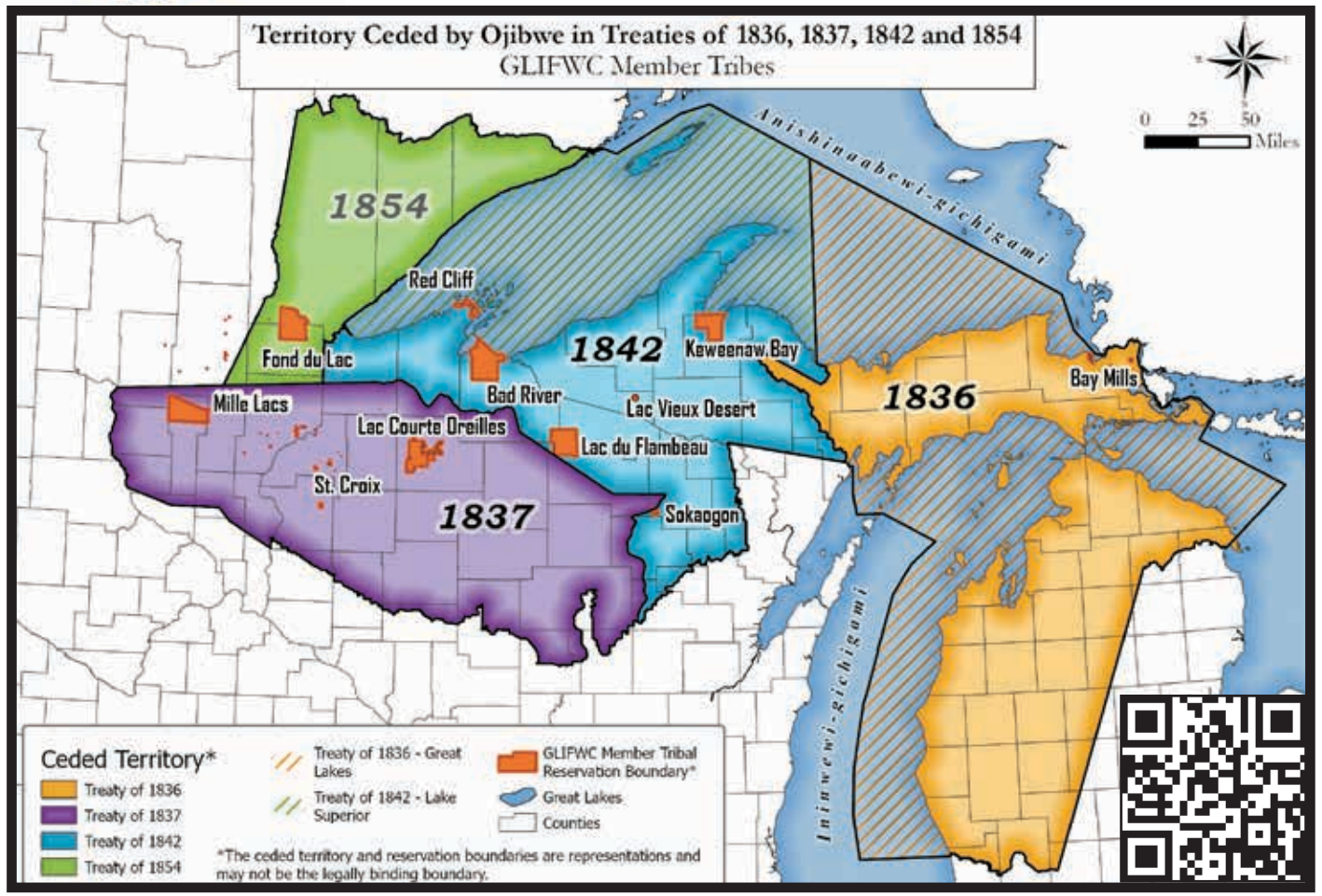

Bayfield class gets turorial in seed banking at GLIFWC

Students from Bayfield High School gathered in GLIFWC's central office to learn about the seed banking program, how it's done, and why it's important within the Ceded Territories. The presentation, guided by Hannah Panci, GLIFWC environmental scientist, and Illeana Alexander, GLIFWC's tribal climate adaptation specialist, included lessons about the most pressing climate impacts and how non-local beings like emerald ash borer and cottony ash psyllid negatively impact the baapaagimaak (black ash) and its relationship with Ojibwe people.

Students practice using professional seed collection equipment.

The students expressed excitement as they viewed green ash and black ash seeds through a microscope, noting the differences in healthy seeds versus those impacted by cottony ash psyllid.

Many of the students were Ojibwe from Red Cliff, Bad River, Mille Lacs, and White Earth, and eagerly participated in the day's activities, asking many thoughtful and engaging questions, and even braved the frosty 5-degree weather to try their hand at using the professional seed-collecting equipment outside.

—GLIFWC Staff