Mazina'igan
A Chronicle of the Lake Superior Ojibwe
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FALL 2025

Ojibwe tribes continue leadership in Ceded Territory *Name* restoration

By Charlie Otto Rasmussen, Editor

For the Ojibwe tribes, native fish, plant, and wildlife species restoration are priorities. Helping return balance to northwoods ecosystems fosters wide reaching benefits to food webs and relationships between all beings. From the St. Croix Band's Clam River System to Lake Superior tributaries, Ontonagon and St. Louis Rivers, tribal natural resources programs are stocking young lake sturgeon, or name (*nuh-MAY*) in the Ojibwe language.

The annual work bolsters existing populations and returns the great fish to Ceded Territory waterways where namewag have been eliminated through a century of human impacts.

"The tribe has formally classified lake sturgeon as a species of concern and as culturally important," said Jeremy Bloomquist, St Croix Band Natural Resources Dept. "Spring ceremonies used to coincide with the spawning runs and traditional harvest of sturgeon."

St Croix Band officials and natural resources staff have their eye on expanding regional sturgeon populations by building on the small numbers that still exist in the interconnected Clam System, which encompasses the Clam River, Upper & Lower Clam Lakes, and Clam River Flowage. The goal is to achieve a similar stable population like the one that exists nearby in the Yellow River and Yellow Lake. With funding provided from the St. Croix Tribe, Bureau of Indian Affairs, and a State of Wisconsin Department of Administration Tribal Assistance Funding Award, St. Croix

Lake sturgeon born at St. Croix Band's expanded fish hatchery facilities are destined for release into the Clam River System in northwest Wisconsin. (St. Croix Band photo)

hatched their first wave of next generation lake sturgeon in 2025—all destinated for the Clam River System to help restore self-sustaining numbers.

"We started sampling on the Clam in 2022 with results indicating a remnant sturgeon population," Bloomquist said. "By the time we've completed annual stocking over the next **(See Name, page 4)**

Apaakozigan

GLIFWC staff guide 2025 interns in processing medicines for making kinnickinnik, apaakozigan, or traditional tobacco. (A. Rauworth photo)

By Ajiijaak Rauworth, PIO intern

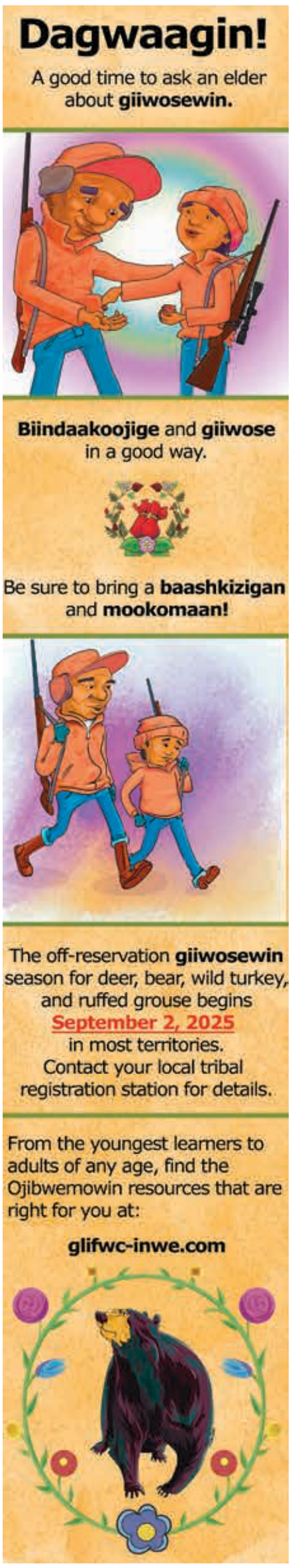
In the northernmost pocket of the Chequamegon-Nicolet National Forest, interns loaded up on sunscreen and bug spray to explore an area called the Moquah Barrens. This all-day medicine harvest in late June, led by GLIFWC's Miles Falck, Oneida citizen and wildlife section leader is an annual intern field activity.

"It's important to be more connected to everything we're doing instead of just buying ingredients off the shelf," said Falck. Before any plants were harvested, interns established a connection with their surroundings by first offering asemaa, declaring their good intentions, and asking the plant for permission to harvest.

"Laying down tobacco demonstrates respect and recognizes the plant as a being," Falck explained.

Interns dispersed over the rolling hills of the barrens and filled their paper bags with the specific medicine they were tasked with harvesting.

Once harvested, these plants will rest and dry out for the next 12 months. When the plants are fully desiccated, their foliage is carefully picked from the stems.
(see Summer interns, page 22)



Honoring the harvest: manoomin outlook & reflections for 2025

By Kathy Smith, GLIFWC Genawendang Manoomin

As we move into the manoomin (wild rice) harvest season, preparations for rice camps are well underway. This is the time to check canoes, push poles, knockers, and processing equipment, making sure everything is ready when the rice tells us it's time. With the continued decline of wild rice across many of our lakes and rivers, I often reflect on the teaching, "If we don't use it, we lose it." That truth echoes louder each year. Our wetlands are truly important to our people.

2024 ricing. (K. Smith photo)

I think about the stories passed down, how our people transitioned into harvesting manoomin when it was time to gather, sometimes selling part of their harvest to buy school clothes or support their families. With rising food prices and the increasing value placed on wild rice today, I often wonder what our ancestors would think of these times. Still, through it all, I find myself looking forward to being on the water again, hearing and feeling the rhythm of the knockers, hearing the familiar fall of rice seeds into the canoe, and reconnecting with a practice that carries the very heartbeat of our ancestors.

Weather in 2025

Weather has always been a point of interest to me. Some early observations on this year's weather patterns offer insight into how they may be influencing manoomin across northern Wisconsin and the Ceded Territory. Cooler temperatures in the spring gave us an extended transition period, something I'm very grateful for. But as we know, Mother Earth always finds a way to catch up, whether through warming temps or fluctuating water levels.

The 2025 season has brought a mix of conditions, including several notable storm systems. A fast-moving windstorm in mid-June produced widespread wind damage and heavy rainfall across the Upper Midwest. In late June, some areas saw 6–7 inches of rain in a short period, contributing to temporary high-water levels on seepage lakes.

As heat and humidity increase, additional observations are starting to roll in. Morning conditions have included drift smoke and inversion layers from the north, with varying cloud cover, factors that can occasionally hinder visibility and the quality photos. However, based on current weather patterns and flight protocols, conditions will be favorable for regular aerial surveys. We ask for your continued patience as our website is also undergoing a new look and photos will be posted as soon as we are able to get into the air.

Other thoughts, biboon and herbivory

Manoomin beds this year, while varied in abundance, are generally in better condition for harvest than in the past couple of years across the Ceded Territory. It's not always clear why manoomin flourishes in one season and struggles the next, but one differing factor this year may be the nature of this past Biboon (winter).

Matt Steiger, WI DNR, and Esiban Parent, GLIFWC, install an herbivory enclosure in Allouez Bay. (K. Smith photo)

While the winter was milder than average, it more closely aligned with the natural seasonal rhythms of this region. Increased snowfall, deeper frost, and more consistent ice cover likely helped suppress competing vegetation, opening up more suitable habitat for manoomin growth. However, this wasn't uniform, some areas experienced less of Biboon's effects, contributing to the range of conditions we are seeing this season. In addition to weather and habitat, herbivory continues to place pressure on many waterbodies. Nikag (geese) and waabiziig (swans) are known to graze heavily on manoomin. Even a single pair of nesting swans can cause significant damage to a rice bed while raising their young. This usually impacts rice where it is sparse.

(See Outlook for 2025 Manoominikewin, page 9)

GLIFWC statement on Line 5 reroute hearings

GLIFWC supports the Bad River Band's position that the pipeline construction is a significant threat to its Reservation and its Reservation's water quality standards

Ashland, Wis.—GLIFWC, exercising authority delegated by its eleven member tribes in Minnesota, Wisconsin, and Michigan, supports the Bad River Band of Lake Superior Chippewa in its ongoing efforts to protect terrestrial and aquatic environments that sustain their traditional lifeway.

Enbridge Energy has proposed to build 41 miles of new pipeline infrastructure in the 1842 Ceded Territory upstream of Mashkiiziibii, the Bad River Band's Reservation. The construction and placement of the pipeline would involve blasting, horizontal drilling, or excavation across hundreds of acres of wetlands and public land plus miles of streams where GLIFWC member tribes have retained rights to hunt, fish, and gather.

Since 2016, GLIFWC technical staff have studied the effects of the continued operation of the Line 5 pipeline as well as the potential for impacts by the proposed 41 mile reroute. GLIFWC's cumulative impact and cumulative risk assessments show that Line 5 stands out as a particularly dangerous pipeline by threatening Lake Superior, Lake Michigan, and Lake Huron.

The area of the proposed reroute drains into the Bad River Reservation and spill analysis from both GLIFWC and Enbridge indicate that oil spilled from the new pipeline section would flow through the Bad River Reservation and enter Lake Superior. Enbridge's project received waterway permits and a certification under the Clean Water Act (CWA) from the Wisconsin Department of Natural Resources (WDNR) in November 2024.

The WDNR's approval is being contested by the Bad River Band before an administrative law judge that started with a public hearing August 12. GLIFWC analysis supports the Bad River Band's position that the pipeline and its construction are a significant threat to the Reservation and the Reservation's water quality standards. Enbridge used inadequate hydrologic data in its analysis, which drastically underestimates the degree of hydrologic connection between the new pipeline right-of-way and the reservation. This, in turn, leads to underestimating the degree and magnitude of contaminant and sediment transport to the reservation where the tribe's water quality standards apply. The new pipeline right-of-way would also significantly hinder access for tribal members to public lands where treaty harvests occur.

Data and analysis conducted by GLIFWC shows that Bad River's challenge is based on sound technical and scientific footing. In addition to state permits, the project still requires federal permits from the US Army Corps of Engineers.

Located in the Chequamegon-Nicolet National Forest, the Enbridge Ino Station helps maintain pressure and flow of oil pumped eastward towards the Bad River Reservation. (CO Rasmussen photo)

GLIFWC, formed in 1984, represents eleven Ojibwe tribes in Minnesota, Wisconsin, and Michigan who reserved off-reservation hunting, fishing, and gathering rights in the 1837, 1842, and 1854 Treaties with the United States government. GLIFWC provides natural resource management, conservation enforcement, legal and policy analysis, and public information services in support of the exercise of these treaty rights throughout the Ceded Territories.

—GLIFWC Staff

Ceded Territory news briefs

Bay Mills assumes leadership of interagency wild rice recovery efforts

After decades of wild rice restoration work in the eastern half of the Upper Peninsula, Bay Mills Indian Community has consolidated its manoomin leadership role through a memorandum of understanding with the State of Michigan. The MOU affirms a government-to-government relationship that places the Bay Mills Band at the fore of supplying green manoomin seed for the state's wild rice recovery program.

"Bay Mills and other indigenous communities in Michigan have had a relationship with manoomin for thousands of years," said Frank Zomer, BMIC biologist. "We are very happy to have this agreement with the state and solidify a standard of working closely with tribes on projects dealing with manoomin."

The compact, which is based on a similar MOU established by Keweenaw Bay Indian Community and Michigan officials, also spells out protocols for the state to consult with Bay Mills on future wild rice restoration projects. Once widespread in Michigan, manoomin range has dramatically constricted since the settlement era as logging, dam construction, pollution, and development combined to wipe-out vast stands of wild rice. **—CO Rasmussen**

Updated digital, print off-rez regulation summary booklets available

Downloadable digital versions of off-reservation treaty harvest regulations are available at *glifwc.org*. These regulation summaries require minimal memory space and cellphone reception. Updated editions are due soon from the printer.

"You can easily slip them in a backpack or pocket to have on hand if you need to brush up on any guidelines, especially when you're sitting in a stand or a blind," said Allie Carl GLIFWC's furbearer biologist.

Since the last printing in 2016, these summaries will reflect updates to the model code and regulation changes. Throughout 2024 the biological services division, the division of intergovernmental affairs, and the public information office collaborated to review for accuracy, edit for concision, and finalize formatting on the reprint.

Carl emphasized that the booklets are summaries of tribal regulations in the Ceded Territory and do not include tribal ordinances in their entirety.

"It's important to check with your tribe's Ceded Territory rules because they may be more restrictive than what's stated in the summary booklets," said Carlson.

By September, registration stations and the GLIFWC Odanah office will be stocked with camping, gathering, hunting, and trapping summaries. To find the full regulatory code, please visit *tinyurl.com/59njvdcy* or reach out to GLIFWC staff with any questions. **—J Van Sickle**

Canada wildfires, smoky skies return

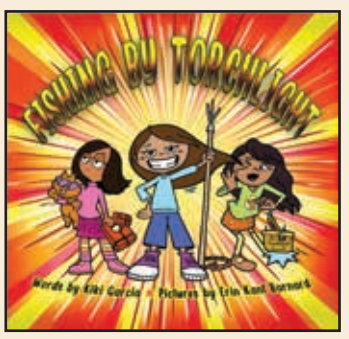
Two years after Canada's most destructive wildfire season on record, 2025 is off to a hot start across large swaths of Saskatchewan and Manitoba, according to Natural Resources Canada. Authorities say the blazes are now larger, more intense, and last longer than historic fires of the past. Manitoba Premier Wab Kinew recently announced an additional province-wide state of emergency that runs to August 22.

"The climate is changing, and our society will need to change along with that," Kinew said.

With skies frequently covered in haze and the faint smell of smoke in the air, residents of the Ojibwe Ceded Territory were under air quality alerts for much of the summer. Carried by northerly winds, wildfire smoke travels hundreds of miles from Canada's boreal forests through the Great Lakes region.

Thousands living in Canada First Nations and residents of other communities have been evacuated to safety via commercial and military jets since last spring. Manitoba first declared a state of emergency due to wildfires on May 28. **—CO Rasmussen**

On the water with a first-time Ojibwe author



Indigenous author Kiki Garcia set out on a book tour this past summer to share her debut release *Fishing by Torchlight* with upper Midwest readers. At 10 years old, the Bad River member already has something to say about her spearfishing experiences.

With rich illustrations by Erin Kant Barnard, Garcia delves into friendship, culture—even law enforcement—to give readers a glimpse into a world where Ojibwe traditions intersect with mainstream living.

"Native or non-native you've still got to learn about this because it's part of the worldwide history," Garcia told KARE-TV 11 with a smile during a stop at Birch Bark Books in Minneapolis.

Distributed by Black Bears & Blueberries Publishing, *Fishing by Torchlight* is available at bookstores and online vendors. **—CO Rasmussen**

(COR photo)

Minnesota 1837 Ceded Territory state park deer hunts set

By Travis Bartnick, GLIFWC Wildlife Biologist

Each year in consultation with treaty tribes, Minnesota Department of Natural Resources establishes state park hunts in the Minnesota 1837 Ceded Territory. In addition to offering additional opportunities to harvest waawaashkeshi, a primary goal of these hunts is to reduce the deer density within the park boundaries to protect the native plants and forest communities from degradation and over-browsing.

Outside of these specially designated hunts, hunting is generally prohibited within Minnesota state parks. For most of the year, the parks are protected areas for the local deer populations which can cause deer densities to increase to unsustainable numbers. The special state park hunts are open to both tribal and state-licensed hunters.

Hunter density is capped through a permit system. The 1837 Treaty tribes may declare up to half of the available number of hunters to participate in hunts scheduled at various parks including St. Croix, Crow Wing, Banning, and Wild River State Parks. Some parks offer multiple hunts, which are sometimes limited by weapon type (regular firearms or muzzleloader only).

2025 State Park Hunts in the Minnesota 1837 Ceded Territory

State Park	Weapon type	Dates
Crow Wing State Park	Muzzleloader only	Dec. 6-10, 2025
St. Croix State Park	Regular Firearms	Nov. 21-23, 2025
St. Croix State Park	Muzzleloader only	Dec. 2-7, 2025
Wild River State Park	Regular Firearms	Nov. 8-9, 2025

Since there is a limit on the number of hunters allowed to participate in park hunts, a special permit is required and is issued in-person by tribal registration clerks to hunt participants. Hunters will receive a physical dashboard permit and a copy of state park regulations in addition to their usual off-reservation deer stamp.

The permits are generally available a week or two prior to each scheduled hunt. Any tribal hunters who participate in the state park hunts are required to register their deer. There are also two youth hunts scheduled for 2025 in Banning State Park and St. Croix State Park over the weekend of November 1-2, 2025. For tribal members interested in participating in Minnesota state park hunts, please visit with your local registration station clerk for more details.

—T. Bartnick

(COR photo)

RAD (Resist-Accept-Direct) switch points and triggers for adaptation planning

Graphical abstract depicting choices decision-makers have when confronting changing ecosytems.

By Aaron Shultz, Ph.D.
Inland Fisheries Biologist

Climate change is transforming ecosystems globally. The Resist-Accept-Direct (RAD) framework has gained traction within many natural resource management institutions to help consider the decision space in response to this transformation.

Because RAD helps manage for directional change, RAD choices entail considering which RAD pathway to implement and for how long (see graphical abstract).

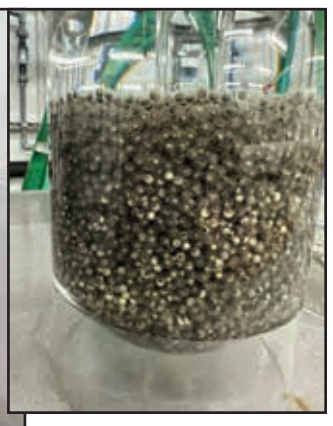
For example, one may accept a slowly changing ecosystem, but at a certain point, decide to begin resisting or directing the change an ecosystem is experiencing. Alternatively, one may begin resisting an ecosystem transformation, but ultimately realize resistance is no longer feasible based on cost or efficacy.

These choices are challenging and encompass broad domains of cultural, ecological, financial, organizational, public, regulatory, and technological considerations to determine when to switch RAD pathways.

We introduce the concepts of RAD switch points and triggers to help support these decision processes. We illustrate these concepts using case studies on walleye (*Sander vitreus*) stocking decisions in Wisconsin, wildfire response in the Greater Yellowstone Ecosystem, and bull trout (*Salvelinus confluentus*) management in Oregon, USA. Synthesizing across these examples, we delineate key points for decision makers as they (iteratively) reevaluate among the RAD pathways as conditions continue to change.

This scientific article will be available in an upcoming issue of the Journal of Environmental Management and on GLIFWC's website.

Name recovery efforts



From tiny 5-day-old eggs to young adults, Ojibwe native fish restoration programs are active across the life stages of namewag and other swimmers in the Ceded Territory. (St Croix Band photos)

(continued from page 1)

20-25 years, fish will start reaching maturity and those fish will ideally begin reproducing on their own."

Sturgeon females reach spawning maturity at around 20 years or so, and males around 7-8 years, Bloomquist said. The project represents a long-term commitment to a being that can live longer than other creature in the Ceded Territory. Recent upgrades and additions to St Croix's fish hatchery and rearing facilities will support not only lake sturgeon propagation but help maintain the band's ongoing walleye output far into the future.

Namewag of Lac du Flambeau

In northeast Wisconsin, a system of dams in the Bear and Flambeau River watersheds isolated local sturgeon populations into a series of pockets with water control structures serving as bookends. Blocked from reaching their historic spawning grounds, namewag continued to live into old age but unable to successfully replenish their numbers. From these waters, Butch St. Germaine speared a record book 7'1" lake sturgeon. A Lac du Flambeau member, St. Germaine motored along the shallows of the Flambeau Lake Chain looking for muskellunge when he encountered the big fish in spring 1981. Visitors to Lac du Flambeau's George W. Brown Jr. Ojibwe Museum can see super-sized sturgeon that reportedly tipped the scales at 195lbs.

Nearly a quarter-century after St. Germaine's harvest, with young year-classes of sturgeon absent from the region's water segments, the band launched a successful program to rear and stock new generations of namewag through the William J. Poupart Sr. Fish Hatchery. Now, at around the 20-year mark, the sturgeons are reaching spawning maturity in the Bear River and other waterways of the Lac du Flambeau region, creating potential natural reproduction opportunities in river sections with suitable habitat.

North of St. Croix's homelands into the Lake Superior watershed, the Fond du Lac Band of Ojibwe continues to enhance lake sturgeon populations in the Upper St. Louis River. Since 1998, the band has collaborated with federal and state fishery managers to return namewag to a river that's been polluted by the timber products industry and fragmented by hydrodams. The work is paying off as Fond du Lac fishery specialists can now track and monitor stocked fish that carry radio-transmitters as they grow into young adulthood.

Lake sturgeon grow larger and live longer than any other giigoonh in the Ceded Territory.

2024 Tribal Hatchery Production	Ogaa (Walleye)				Maazhamegosens (Brook Trout)			Namegos (Lk Trout)	Name (Lk Sturgeon)		Ashigan (LM Bass)	Total
	Fry (hatchlings)	Summer Fingerlings (2-3")	Fall Fingerlings (6-8")	Yearling (12")	Fry (hatchlings)	Summer Fingerlings (4-7")	Retired Broodstock (adult; 15")	Summer Fingerlings (5-8")	Small Fingerlings	Large Fingerlings	Fall Fingerlings	
Bad River	6,100,000											6,100,000
Fond du Lac									5,000	1,750		6,750
Keweenaw Bay	500,000	30,366			22,976	34,678	642	36,290				624,952
Lac Courte Oreilles		40,638	29,681								712	71,031
Lac du Flambeau			52,180									52,180
Lac Vieux Desert		5,500										5,500
Mille Lacs	1,680,000	24,500										1,704,500
Mole Lake/Sokaogon		16,933	69,313	3,228								89,474
Red Cliff			15,657			27,572						43,229
St. Croix	224,180	125,313	18,642									368,135
Total	8,504,180	243,250	185,473	3,228	22,976	62,250	642	36,290	5,000	1,750	712	9,065,751

As one part of a comprehensive strategy to support fish communities in the Ceded Territory, GLIFWC member bands operate hatcheries, releasing millions of fish into public lakes and rivers each year.

Promising giiwosewin season gets underway in September

By Charlie Otto Rasmussen Editor

From regional megafauna like elk and moose to diminutive members of the grouse family, the Ceded Territory offers outstanding opportunities for the Ojibwe hunter. Heading into the 2025 off-reservation dagwaagin season—which kicks off September 2 in many jurisdictions—much of the wildlife that nourishes Indigenous communities are available in healthy numbers. And for some, like wawaashkeshi, continued herd growth has treaty hunters well-positioned for success in the coming season.

Ruffed grouse. (CC BY-SA 3.0 M. Tinman)

After the region experienced one of the warmest and mildest winters on record in 2023-2024, last season eked out a bit more snow and cold but ended with an altogether near-repeat balmy performance. For some wildlife like white-tailed deer, it translates to rising herd numbers. Others, including snowshoe hares, suffered another season of high mortality as they navigated the grey-brown landscape in shock-white coats—an easy mark for terrestrial and avian predators alike.

Spruce grouse. (CC BY-SA 3.0)

An exception to the sparse-snow trend, the northern tier of Upper Michigan still received significant doses of snowfall in the Keweenaw—a region that historically supports fewer white-tailed deer than forests south of the snowbelt. For animals that prosper in cold and snow like moose and grouse, full-on winter in the Michigan Keweenaw and Minnesota 1854 Arrowhead suits them just fine.

Sharp-tailed grouse. (USFWS Mountain-Prairie)

Bine

Commonly known as partridge, ruffed grouse numbers are reportedly dipping slightly following recent highs over the past few years. Male grouse drumming survey results from Departments of Natural Resources in Minnesota and Wisconsin earlier this year point to an overall healthy population with good hunting forecasted in the best habitat containing young forests and a strong poplar-birch component.

For the first time since 2018, Wisconsin wildlife officials have authorized a sharp-tailed grouse season for tribal and state hunters. Sharptails, a close cousin to widely distributed ruffed grouse, are found in rolling barrens habitat like Wisconsin's northwest sands region. In the southern reaches of the sands, a limited harvest opportunity is open in Unit 10, which hugs the St. Croix River along the boundary with Minnesota. On August 7, the Voigt Intertribal Task Force declared 12 sharptails, or one-half the available quota. Through timber cutting and prescribed fires, land managers enhanced the region's characteristic prairie/savanna sands habitat, providing an environment that helps sharptails regain their place on the Ceded Territory landscape.

An about-face to the fast flushing ruffed and sharp-tails, spruce grouse often present an easy target for hunters. While pockets of spruce grouse are found in the ceded forests of Upper Michigan and Wisconsin, hunting for the ostensibly tame bird is limited to the northern portion of the Minnesota 1854 Ceded Territory. The Minnesota season for ruffed and spruce grouse runs concurrently September 13, 2025 to January 4, 2026 with a combined limit of 10 birds.

Mooz

Off-reservation moose hunting is currently restricted to Ojibwe treaty tribes in the Minnesota 1854 Treaty ceded territory. Fond du Lac Band officials set a 30-bull moose quota for the 2025 season, which opens September 27. Members are required to have a minimum of 3-4 hunters for each application to receive a harvest tag.

Citizens of Bois Forte and Grand Portage evenly share a 30 bull-only quota in the 1854 Ceded Territory. The hunt gets underway September 15, running to December 31 or until the quota is reached for each respective band.

After a dramatic population downturn from 2009-2013, Minnesota moose numbers stabilized over the last dozen years, settling into a range of around 3,200-4,000 animals. The Minnesota DNR, 1854 Treaty Authority, and Fond du Lac Band work closely to monitor the health of the herd. Researchers identified a combination of factors from predators to climate-related impacts including parasites, disease, and higher average temperatures for the herd reduction.

Look for more information on the 2025 hunting season on GLIFWC social media and the next issue of Mazina'igan. Make sure your permits are up to date and enjoy safe and successful hunts this dagwaagin!

MAZINA'IGAN STAFF:

Charlie Otto Rasmussen ..... Editor
Lynn Plucinski ..... Assistant Editor
Jenny Van Sickle ..... Staff Writer
Bay Paulsen ..... Staff Writer • Layout

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.

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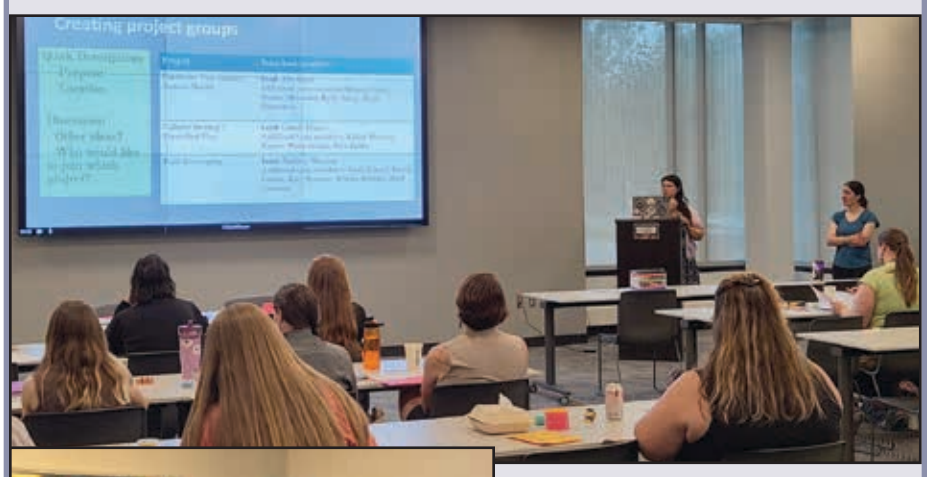
Although **MAZINA'IGAN** enjoys hearing from its readership, there is no "Letters to the Editor" section in the paper, and opinions to be published in the paper are not solicited. Queries as to potential articles relating to off-reservation treaty rights and/or resource management or Ojibwe cultural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

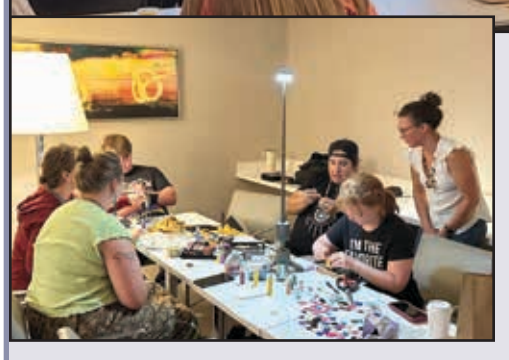
For more information see GLIFWC's website *glifwc.org* and our *Facebook* page.

On the cover

GLIFWC's 2025 poster, Name ogii-shawenimaan iniw Anishinaaben, is by artist Niiyogiizhig Wesley Ballinger. The title translates to "The sturgeon blessed the Anishinaabe." Learn more on page 21. Full size posters measuring 24" x 18" are available at *glifwc.org/store*

TAM "Train-the-Trainer" workshop





Eighteen participants and ten Tribal Adaptation Menu (TAM) Team facilitators gathered at the Minneapolis American Indian Center in July for three days of intensive facilitator development training at the second TAM Train-the-Trainer workshop. Participants included Anishinaabeg from the Great Lakes alongside Chickasaw, Choctaw, Dine, and Ioway tribal members and non-tribal participants. New TAM facilitators will be coordinating or assisting with workshops and helping to develop new culturally driven adaptation tools for their own Tribal Nations. Activities included formal classroom presentations and informal activities including beading circles.

—R. Croll

Be CWD-aware this hunting season

By Travis Bartnick, GLIFWC Wildlife Biologist

As hunters gear up for the upcoming hunting season, a troubling disease continues to threaten the health of wild waawaashkeshi (deer) and omashkooz (elk) populations across the Ceded Territories and beyond. Chronic wasting disease (CWD) is a neurodegenerative disease that is neither a virus nor bacteria, but rather a misfolded protein known as a prion (pronounced "pree-on").

CWD prions are incredibly resistant to degradation and disinfection methods. Because prions can be so resistant, they can remain viable in the environment for many years and are extremely difficult to contain. CWD prions can spread in many possible ways, both directly or indirectly, including from deer-to-deer via saliva, nose-to-nose contact, urine, feces, and other bodily fluids. The species of wildlife that are most susceptible to CWD are members of the deer family, such as white-tailed deer, mule deer, elk, and moose.

The prions which cause CWD eventually become concentrated in the brain, spinal column, spleen, and lymph nodes of infected deer. The late clinical signs of a deer with CWD includes excessive urination, salivation, drooling, and grinding of teeth, emaciation, loss of bodily functions, loss of fear of humans, abnormal behavior, and death.

However, one thing hunters should be aware of is that even if a deer becomes infected with CWD, it can look perfectly healthy for much of the duration of the infection. During the incubation period, CWD-infected deer can shed the prions across the environment for several months or even up to two years before starting to show any obvious clinical signs of the disease. Once the deer begins to display clinical signs of having CWD, they will live anywhere from a few days to a little over a year before succumbing to the disease or to a secondary symptom of having the disease such as aspiration pneumonia.

The author removes lymph nodes from a whitetail buck for chronic wasting disease sampling at the GLIFWC central office laboratory. (COR photo)

CWD has been detected in wild deer populations in Wisconsin for over 20 years and has continued to spread throughout the state ever since. The disease was first detected in the far southwestern part of the state, and the vast majority of CWD-positive deer come from that area, which is sometimes referred to as the CWD endemic area.

Unfortunately, CWD was detected in wild deer in several new areas within the Ceded Territory in Wisconsin during the 2024 hunting season, including Polk, Chippewa, Dunn, Oneida Oconto, and Vilas Counties. In addition, CWD has been detected in many other states and provinces across North America, including both Minnesota and Michigan. Many of the detections have been found thanks in part to the efforts of concerned hunters who have submitted samples from their harvested deer for testing each deer season.

One of the biggest concerns that deer hunters have about CWD is whether it is safe to eat meat from a CWD-infected deer. So far, there is no evidence supporting the idea that CWD can be transmitted to humans. However, the risk is not zero. In fact, the Centers for Disease Control and Prevention (CDC) recommends that people should avoid eating meat from any deer or elk that looks sick or that tests positive for CWD.

Hunters can help

There are several steps that deer hunters can take in the fight against the spread of CWD:

Test your deer for CWD

Hunters are encouraged to get their deer tested for CWD if they have any concerns about the disease, especially if the deer was taken from an area where CWD has previously been detected, either in the wild or near a CWD-positive captive cervid facility.

Contact your local tribal registration clerk, GLIFWC biologist, or local state DNR biologist for more information. Tribal hunters can drop off deer heads and fill out a simple data form to participate in CWD testing efforts. The results generally take about 10-14 days to get back to the hunter. Most tribal registration stations across the Ceded Territory should have drop-off sampling stations available for testing deer for CWD. State agencies also offer CWD testing and often have self-service sampling stations where deer heads can be dropped off for testing.

Do not transport your deer carcass long distances

Transporting deer carcasses across long distances means potentially transporting wildlife diseases like CWD long distances—especially if CWD has already been detected in the area where the deer is harvested. Some hunters have started changing the ways in which they process deer by field dressing the deer, deboning, and wrapping the meat as close to the point of kill as possible. Some states have implemented deer carcass transport regulations in an effort to prevent long-distance spread of the disease by hunters.

Properly dispose of your deer carcass

One of the most effective ways to prevent the further spread of CWD is to leave the carcass remains as close to the point of kill as possible. If this is not feasible, then the next best step is to locate a local landfill, transfer station, or waste management company to dispose of the carcass.

Many waste management companies will accept carcass waste that has been double-bagged in plastic garbage bags in such a way that no parts of the deer are visible. State agencies have also been offering deer carcass waste dumpsters.

In addition to the state-agency dumpsters, many hunting and conservation groups have also been participating in adopt-a-dumpster programs to increase participation in safe disposal of deer carcass parts. Visit your local DNR's website to find out if there are any deer carcass dumpsters available in your area.

Register your deer remotely

GLIFWC currently offers phone and online registration methods in addition to the more traditional in-person registration at tribal registration stations. By registering remotely, you can reduce the distance you travel with a deer carcass, thereby potentially reducing the spread of CWD.

GLIFWC's toll free harvest registration line: 844-234-5439. The online registration portal can be accessed at *glifwc.nagfa.net/online*

Even if hunters register their deer remotely they can still drop off the deer head at a tribal registration station CWD sampling site or a state agency CWD sampling station if they would like to have their deer tested.

Between tribes, states, and GLIFWC sampling sites, hunters have multiple options in getting their deer tested for chronic wasting disease. (COR)

Register your harvest

Off-reservation hunters are reminded that harvest registration is required by tribal conservation codes for many species. Hunters have multiple registration options for deer, bear, turkey, and cranes: in-person, at a tribal registration stations (see *data.glifwc.org/registration* for a map of locations), online (*glifwc.nagfa.net/online*), or by phone (844-234-5439). Swans must be registered in-person.

The benefits of harvest registration are substantial, extending well beyond an exercise in indigenous sovereignty and self-regulation. As co-stewards, tribes work with state and federal counterparts to determine population abundance and coordinate management for a variety of fish and wildlife species. This requires an accounting of both tribal and non-tribal harvest. Having an accurate measure of off-reservation tribal harvest also helps to identify and prioritize important places for protection.

For hunters seeking chronic wasting disease (CWD) testing for their whitetail harvest, in-person registration is the first choice. Clerks will register the deer and take possession of the head—lymph nodes are typically removed to complete a CWD test.

Good luck to hunters of all ages. It's a great year to take a kid hunting and pass on your knowledge.

2025-2026 Season

NAGFA ID #: 6366 **Tribe:** BRV
Name: JON DOE
Address: 777 Traditional Way Odanah, WI 54861
Phone: 715-685-2125 **Hunter Safety #:**12345657
Remote Registration (deer, bear, turkey, crane): 1-844-234-5439 or glifwc.nagfa.net/online/
Remote Registration Instructions: glifwc.org/Regulations/remote.registration.pdf

SMALL GAME	CAMPING	CAMPING
Turkey Spring - MI/WI	National Forest Camping	Apostle Islands Camping
Stamp# 223394	**Stamp#** 223744	**Stamp#** 223745

Sample license with NAGFA ID highlighted.

Aphthona update: Leafy spurge is reunited with an old foe

By Steve Garske, Invasive Species Coordinator

This past summer GLIFWC and its partners continued their efforts to slow the spread of invasive non-local plants in the Wisconsin Ceded Territories. One of the more difficult of these plants to deal with is leafy spurge. With its high drought tolerance, toxic foliage, massive root system and copious seed production, leafy spurge is an aggressive competitor that has had major negative impacts on some human-dominated and natural landscapes.

Leafy spurge is native to Europe and Asia. It was first recorded in the United States in 1827 at a shipping ballast dump in Massachusetts. Subsequent introductions occurred around the country, often when seeds were transported from Eurasia as a contaminant in grain. Leafy spurge is now found across the northern and western United States and in Canada. It occupies over five million acres in North America, with about half of this in the northern Great Plains.


(SG photo)

*Leafy spurge (***Euphorbia virgata***).*

Leafy spurge does particularly well on sunny sites with moist-to-dry, somewhat sandy soil. The shoots can reach four feet tall, though they're usually around half that. It spreads both by seed and via its extensive root system. The roots can reach 20 or more feet deep. Mature plants produce capsules filled with tiny seeds. These seed capsules open explosively when ripe, sending the seeds as far as 15 feet from the parent plant. The seeds have a high germination rate and can remain viable in the soil for up to ten years (MN DNR 2025). These characteristics allow spurge to spread aggressively in open habitats such as roadsides and power corridors, and into pastures, rangelands, sand plains, open woods and prairies.

Unfortunately leafy spurge is one of those non-local plants that can seriously disrupt natural habitats. It crowds out native vegetation, degrades wildlife habitat, and reduces native species diversity and abundance. Insects that feed on native plants can't use it for food, which reduces the insect population and the amount of food for birds and other animals. It produces milky white sap that is toxic to deer, elk and cattle, though sheep and goats can eat it without getting ill. The sap can cause skin irritation in humans and other beings.

Leafy spurge is also a major problem for agriculture. By the mid-1900s leafy spurge had become so abundant in parts of the Great Plains that it reduced the productivity of the land to the point that it became uneconomical to farm, driving farmers and ranchers into bankruptcy. In heavily infested areas of the country, banks would not make loans to buy land that had leafy spurge.

In their native habitats just about all plants live with a suite of insect predators and diseases. Some of these "enemies" have little effect on their host plant's health and survival. But others do enough damage to suppress their host's growth and reduce its abundance. When people bring plants here from their native ranges, their natural enemies often get left behind. The result is that introduced plants like spurge have a significant advantage over the native plants, which must continue to struggle with their own natural predators.

Starting in the early 1960s researchers from the US and Canadian governments (along with a Swiss research organization called CABI) began looking for natural insect predators of leafy spurge in Europe. They eventually focused on five species of flea beetles (*Aphthona spp.*), whose larvae tunnel through the roots of spurge. (These tiny beetles are called "flea beetles" because they have long back legs and can jump.) After extensive testing to make sure they would only feed and reproduce on leafy spurge, millions of these beetles were released in the US and Canada. The results were often dramatic. Many sites saw a reduction of leafy spurge cover of 70% or more, with reductions of up to 95% at some sites.

In an effort to move away from herbicide use, GLIFWC and its partners are using more sustainable methods of controlling large populations of invasive plants. That includes working with these beetles to keep large populations of leafy spurge in check.

(See Working with flea beetles, page 23)

GLIFWC Wildlife Technician Jose Estrada and NCWMA and USFWS staff sweep leafy spurge plants for flea beetles.
INSET: This flea beetle is only about a tenth of an inch long. (SG photos)

Firewood dog: A Northwoods reflection

By Zach Wilson
GLIFWC Forest Ecologist

Often, as I drive through the forest, I find myself constantly on the lookout. I jokingly call myself a "firewood dog"—always scanning for a log left behind by a logger or a downed tree from a recent storm. I've burned firewood for most of my life, and though it's second nature now, it wasn't always that way.

As a kid, I hated it.

I can still remember the long days, and late nights spent cutting and hauling firewood with my father. While my friends were off having fun, I was at home, deep in the woods or by the woodpile, learning one of the many lessons taught to "Northwoods" folks who live close to the land: putting up wood for winter isn't just a chore—it's a tradition.

Now, years later, I realize how deeply rooted that lesson is. There's something about wood heat that's unmatched. On those bitterly cold winter nights, as we sit beside the fire, soaking in its warmth, all the backaches and sweat from earlier in the year are forgotten. That fire brings comfort, and with it, a sense of connection to the land, to tradition, and family.

Of course, there's always that moment in late winter when the woodpile starts looking a little thin and you recall the old saying: "Half your wood and half your hay should still be left on Groundhog Day." That's when I find myself double-checking the pile, hoping I planned well enough for that mid-April snowstorm that occasionally occurs.

Now, as a father of three, I understand the lesson my own dad was teaching me. And when I see the woodpile stacked high and ready each fall, I feel that same sense of pride. It's not just firewood—it's security, tradition, and the warmth of knowing you're prepared for whatever winter has in store.

(See Dagwaagig, page 9)

After timber harvests, operators stack logs for pick-up on landing sites. Over-full trailers sometimes results in a few logs being left behind to decompose. Firewood Dogs make use of these lengths of soft and hardwoods for home heating.
INSET: dagwaagin is a great time for cut-and-split firewood to accelerate drying. (CO Rasmussen photos)

Buffalo Reef Remediation:
A work in progress

Gray-colored stamp sands travel southward along the shoreline, smothering important fish habitat along its way and accumulating behind the Grand Traverse Harbor sea wall. If remediation efforts were to cease, the stamp sand would eventually move around the wall and onto the white native sand beach just to the south. (KBIC photo)

By Ben Michaels
GLIFWC Great Lakes Section Leader

Buffalo Reef, a 2,200-acre lake bottom habitat composed of bedrock, cobble, and boulder within Grand Traverse Bay near Gay, Michigan, is vital for supporting both recreational and commercial lake whitefish and lake trout fisheries throughout the Keweenaw area. Its importance is particularly pronounced for the Keweenaw Bay Indian Community (KBIC), who share an intergenerational and cultural connection to this area.

However, a century ago, copper mining companies discharged over 20 million metric tons of mining waste, known as stamp sands, onto the Lake Superior shoreline. Since then, Lake Superior's wave action has gradually transported these sands southward along miles of coastline, endangering spawning habitats and larval fish nursery areas within Grand Traverse Bay, including Buffalo Reef.

Recognizing Buffalo Reef's importance and the potential for severe consequences from continued stamp sand encroachment, stakeholders established Buffalo Reef Task Force (BRTF). This collaborative body, composed of federal, state, tribal, and university groups, initiated efforts to minimize the sand's impacts on the nearshore environment and prevent further intrusion into habitats around Grand Traverse Bay Harbor.

To develop an effective remediation strategy, various BRTF groups first undertook a comprehensive assessment of how stamp sands imperiled the ecosystem. Their studies investigated the effects of stamp sands on fish populations, including spawning behavior, juvenile fish abundance, and the physiological consequences of copper toxicity on aquatic organisms. Collectively, these investigations have clearly shown the material's negative environmental effects on fish populations. For example, researchers found that spawning fish will not use stamp sand-impacted habitat, suggesting active avoidance, and there is evidence that copper toxicity can decrease fish egg survival and larval development.

To address the stamp sand threat, the BRTF developed a habitat remediation strategy. The plan centers on dredging portions of the material from the degraded shoreline and lake bottom, then transporting them to an upland disposal area for secure containment. A key part of this initiative includes the proposed construction of a jetty. This structure is designed to obstruct further southward movement of any remaining stamp sands towards Buffalo Reef, while also serving as an important loading site for material transport. Upon project completion, the jetty is intended to become a public access point for recreation, providing a lasting community benefit.

While planning for the new jetty is underway, significant mitigation efforts have already been overseen by the U.S. Army Corps of Engineers, in collaboration with partners including Michigan Department of Natural Resources, the Michigan Department of Environment, Great Lakes, and Energy, and KBIC. In recent years, these efforts in the Grand Traverse Bay area have included the regrading of tall stamp sand cliffs near the original pile in Gay, Mich., which reduces erosion from this primary source.

Additionally, stamp sands have been dredged from a natural trough area just north of Buffalo Reef, enhancing its capacity as a sediment trap for the material. Dredging has also targeted Grand Traverse Bay Harbor to improve boat access, and sands immediately north of the harbor were removed to help slow the southern migration of the material around the harbor seawall. This protects native sands that remain intact but are at risk if mitigation efforts prove insufficient.

The ecological and cultural significance of Buffalo Reef and its surrounding area cannot be overstated. While the remediation work accomplished to date has been invaluable in protecting this vital ecosystem, sustained efforts to remove and control stamp sands remain essential. This ongoing work is crucial to ensuring the long-term health and sustainability of fish production in the Keweenaw Bay area.

For additional information regarding Buffalo Reef, please feel free to contact the author, at *smichaels@glifwc.org*

An aerial overview of Grand Traverse Bay and delineation of Buffalo Reef and proposed coal dock jetty and upland placement site for the stamp sand. Gay, Mich, located near the north shoreline served as the mining waste deposit site for mining companies. Over the past century, wave action has pushed the sands southwest down shore and into the lake affecting on and around Buffalo Reef. (Buffalo Reef Task Force report titled, "Buffalo Reef—Final Alternatives Analysis" photo)

Saving Buffalo Reef

Buffalo Reef has historically maintained invaluable spawning habitat for fish species such as lake trout and lake whitefish. These remarkable habitat features are threatened by the migrating stamp sands, produced by harmful mining activities beginning in the late 1800's.

The treaty of 1842 or commonly known as the "Copper Treaty" ceded millions of acres of land to the United States in exchange for rights to hunt, fish, and gather within the ceded territory. Buffalo Reef has always been considered as culturally significant harvesting grounds for local tribal communities.

Today's challenge involving Tribal, State, Federal, and Academic partnerships combine efforts to mitigate damages and ultimately restore Buffalo Reef as the ecological resource that has sustained both tribal and non-tribal communities for generations.

←View "Saving Buffalo Reef" on Youtube

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YouTube

Study explores trammel nets for sea lamprey control

In the Great Lakes region, resource managers are constantly seeking effective and environmentally sound methods to reign in invasive sea lamprey populations. A new, two-year study is underway, testing the efficacy of bottom-set trammel nets as a novel approach to capture migrating sea lamprey while minimizing mortality of native fish species.

A trammel net is ingeniously designed with three layers of netting. Unlike traditional gill nets that can entangle fish by their gills, a trammel net features a slack, small-mesh inner net positioned between two outer layers of larger mesh. When a fish encounters a trammel net, it easily passes through the first large outer mesh. It then pushes the smaller, slack inner mesh through the second large outer mesh, creating a pocket or bag that traps and entangles the fish. This unique design is believed to significantly limit the mortality of non-target fish species, a major advantage over other netting methods.

Now underway, this research is a collaborative effort involving the United States Geological Survey (USGS), the Bad River Natural Resources Department (BRNRD), and GLIFWC (Great Lakes Indian Fish & Wildlife Commission). Funding for the study has been generously provided by the Great Lakes Fishery Commission. The study commenced in spring of 2025 and is being conducted in the Bad River, located in far northern Wisconsin.

The motivation behind exploring trammel nets is the ongoing need for diverse and less impactful sea lamprey suppression tools. While current methods such as lampricide treatment and the construction of barriers have successfully reduced sea lamprey populations since their peak in the mid-1900's, these methods come with challenges. Lampricide treatments can be very costly, and barriers often block upstream habitat, making it inaccessible for native fish species. Trammel nets offer some potential benefits that address these issues: they are untested for capturing lamprey, representing a new avenue for control; they may be well-suited to large river environments; they may limit the mortality of bycatch of other native species; and they do not require the use of permanent structures, offering flexibility and minimizing disruption to native fish communities. While trammel nets could not fully replace critical lampricide treatments and barriers, they may prove to be a viable supplement to existing control measures.

Preliminary data from the study has shown minimal mortality of native species. However, the capture effectiveness for lamprey still needs clearer determination. Researchers anticipate being able to provide a more definitive assessment by the study's conclusion in 2026.

—B. Michaels

Patrick LaGrew, GLIFWC Fisheries Technician retrieves a trammel net on the Bad River. INSET: Samson Wood, GLIFWC Fisheries Aide, holds up a redhorse that was captured in the trammel net. (B Michaels photos)

Outlook for 2025 manoominikewin

(Continued from page 2)

What we are seeing

The manoomin team has been actively surveying since early July and continues to collect observations on abundance, density, and habitat conditions across many lakes. These ground surveys will continue into late August. Aerial surveys typically begin in early August and continue through the end of the month. Findings will be reviewed at the upcoming Wild Rice Committee meeting, and some posted to our website.

As many know, water level stability is especially important during the early growth and pollination stages of manoomin. While it's still early to determine the full impacts of the recent storms and high-water events, we anticipate gaining a clearer understanding as surveys progress. Some areas are observed in full flowering stage and some were just starting to flower.

The team is also ground-truthing a new remote sensing tool that may support early-season outlooks in the future. We're hopeful it will be a valuable addition to our stewardship toolkit next year.

On the ground observations: A snapshot

Some areas we've visited so far are showing lush growth. One on-reservation water body that we recently visited was standing tall in some areas. As is often the case, lakes that have produced well over the past few years may recede slightly but can still provide a good harvest. We are still waiting to hear back on other areas.

- Totogetic Lake has rice present this year after a period of rest, while sparse, it's encouraging to see its return.
- Minong Flowage is still showing good harvestable rice, though water levels are a little high and some recession along the edges is visible.
- Pacwawong showed rice recession along the edges and sparse growth.
- Little Turtle Flowage is also looking promising and worth a visit.
- Island Lake continues to show potential, after a few years of doing well, the channels are receding.
- Lake Onamia is looking good on the Minnesota side.

I had seen some pockets of rice in river areas doing well. I hear harvesters are saying some areas are not so good, then others saying the rice is doing well. Of course, it depends on the area and how the comparison in years past.

(See Looking ahead, page 18)

Dagwaagig firewood harvest

(Continued from page 7)

Looking ahead

As the leaves turn and temperatures drop, fall marks an important time for many tribal members to begin harvesting firewood. This seasonal activity is not only about preparing for winter—it's a cultural and practical tradition that reflects a deep connection to the land.

Firewood gathering can be an essential component for heating homes, cooking traditional foods, and maintaining ceremonies throughout the cold months. Many families rely on wood heat as their primary or supplemental source of warmth, especially in remote or rural areas where other options are limited.

Fall is the ideal time to collect wood because the cooler, drier weather helps season the wood, making it more efficient to burn. Tribal members typically seek out hardwoods such as oak, maple, ash, and birch, which burn hotter and longer. Dead standing trees, downed logs, and storm-damaged trees are often prioritized to reduce waste and avoid cutting live, healthy trees unnecessarily.

This practice also reflects traditional values of stewardship and sustainability. Harvesters are encouraged to follow tribal forestry guidelines, respect restricted areas, and avoid overharvesting. By doing so, they help maintain healthy forests for future generations.

Some tribal governments or natural resource departments offer firewood permits, designated cutting areas, or assistance programs for elders and low-income households. It's always a good idea to check with your tribal office about current regulations and opportunities. Additionally, on many public lands in the Ceded Territories, there are mechanisms in place for getting permits and guidelines to ensure sustainable harvests.

Firewood harvesting is more than just preparation for winter; it's a way to reconnect with the land, support family well-being, and carry on generations of ecological knowledge and seasonal responsibility. Just like the time my father taught me the value of burning firewood, I am passing this same knowledge down to my children. They may hate it now. But one day I'm willing to bet they will also be teaching their own children about putting up firewood and preparing for winter.

Plus, you know what they say: "wood warms you twice. Once when you cut it and again when you burn it." And if you put the firewood pile in the wrong location, you can even get warmed a third time!

On upper Great Lakes National Forests (Chequamegon-Nicolet, Ottawa, Hiawatha, and Huron-Manistee), Apostle Islands National Lakeshore, and most Wisconsin Department of Natural Resources managed properties within the Ceded Territories, tribal members may obtain an **off-reservation permit for harvesting firewood**. These permits are valid for up to ten (10) cords of firewood (or, 10 pickup truck loads) and can be obtained at any GLIFWC member tribe registration station, or online for existing NAGFA users.

Requests for firewood above ten (10) cords can be made to GLIFWC who will assist in developing a large-scale permit. These regulations, along with guidance on how to self-issue permits for existing NAGFA users can all be found at *glifwc.org* under "Exercising Treaty Rights." Any questions regarding the type of property you may harvest on, and how to obtain permits, contact your local on-reservation registration station or GLIFWC.

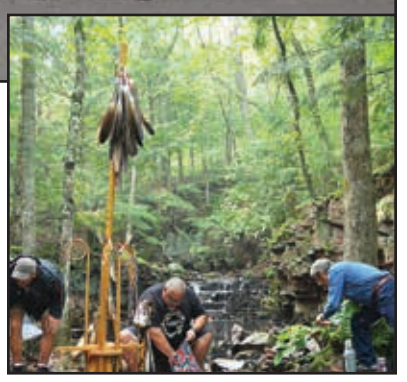
Seven days in the Healing Circle

By Bay Paulsen, Staff Writer

The Healing Circle Run is a seven-day and approximately 700-mile journey connecting 10 Ojibwe reservations. A core group completes the entire journey along with the sacred items and pipes while tribal members and staff from each reservation join in for the days in which the core passes through their community. The run is completed in a relay, with one or more people covering every mile, until each day's leg is completed. The following is an account from a core runner:

Day 1, Saturday July 12, Lac Courte Oreilles to Lac du Flambeau

Arriving to the first day's meeting point beside Pipestone Creek on the Lac Courte Oreilles reservation, the runners and walkers were met with gentle rainfall, offering a welcoming coolness to the morning. The rain lightened during the opening ceremony, and it remained pleasant for the rest of the day. Respected LCO elder Gary Quaderer attended the morning ceremony, opening it with prayer, and newly elected LCO councilwoman Janet Quaderer along with her children walked the day's first mile. Ending the day in Lac du Flambeau, the runners were treated to dinner at the Lake of the Torches buffet and welcomed for an honor song at the Bear River Powwow.



Core and Lac Courte Oreilles runners and walkers took up the start of the Healing Circle Run on the cool and rainy morning of July 12th.
INSET: Mitiganaabe, the Mikwendaagoziwag staffs, the Zaagajiwe staff, and other sacred items observe each ceremony from the center of the circle. (B. Paulsen photos)

Day 2, Sunday July 13, Lac du Flambeau to Mole Lake

Tired already from the previous night's powwow, the core runners as well as Lac du Flambeau community participants gathered for opening ceremony at eight in the morning. Held every morning and evening, the opening and closing ceremonies were attended by the sacred items residing within GLIFWC's care. They stood in the center of each ceremony and travelled along with the core runners along the entire route. After tobacco had been passed, collected, and smoked, a talking circle began, allowing all those in attendance to reflect or tell stories.

The day was clear and warm, though a cool breeze greeted runners at the crest of every rolling hill. Nearing Mole Lake, some of the core runners got a chuckle from seeing well-known Mole Lake elder Wayne LaBine posing for a health advert high up on a billboard, which they made sure to lightheartedly poke fun at him for during the closing ceremony and feast, which featured deliciously comforting home-cooked foods.

Day 3, Monday July 14, Mole Lake and Keweenaw Bay to Lac Vieux Desert

Participants from KBIC gather at the Sand Point Lighthouse to prepare for morning ceremony in Baraga, Mich. The KBIC leg of the Healing Circle has been active since 2018. (JVS photo)

After breakfast and opening ceremony, runners and walkers joining for the Mole Lake leg of the run took the first mile as one large group. Elder Frances Van Zile walked with them, holding the Zaagajiwe staff high. Stopping briefly to take a group photo in front of the "Welcome to Mole Lake" sign, the proud members of this community ran ahead to cover the next several miles. At the same time, runners from the Keweenaw Bay Indian Community began their trek from Baraga, Mich., on their way to meet the core at Lac Vieux Desert. The day was very warm, sunny, and humid; it was the warmest day of the week.

Mole Lake elder Frances Van Zile (center) holding the Zaagajiwe staff as she walks the first mile of the day alongside her family and fellow Mole Lake members. (B. Paulsen photo)

Similarly to how the day began, the leg ended with runners and walkers walking towards the Lac Vieux Desert roundhouse as a group, enjoying the downhill ending. They were greeted in the roundhouse with drum songs before enjoying a hot meal, complete with frybread and cake. That evening's closing ceremony and talking circle proved to be very emotional, going later into the night and leading to a calm and spiritual serenity as they finished the day.

Day 4, Tuesday July 15, Lac Vieux Desert to Bad River to Red Cliff

Meeting at the Lac Vieux Desert Boys and Girls Club for breakfast, the core group began embracing the "ish" part of the phrase: "we're meeting at eight-ish in the morning," as feet and legs grew more tired and sleeping in became more tempting. However, a bacon and egg breakfast perked everyone up, and after another talking circle and a joyful traveling song from several of the young LVD men, the entire group started out for the first mile. Coordinators wanted to get as many miles covered as early as possible to avoid the arrival of the looming storm clouds in the distance. At the first regroup, the wind began picking up dramatically, but the rain graciously withheld its downpour until after stopping at the Bessemer, Mich. Dairy Queen for an ice cream break.

A small subset of the core visited with Neil Kmiecik, one of the founding members of the Healing Circle Run, before continuing on to Red Cliff, during which the downpour finally arrived. The heavy rain lent itself to gratefulness towards members of Bad River, Red Cliff, and GLIFWC staff, who had covered all the miles necessary to make it to the end of the leg without the need to walk in the torrent. The drive was slow as visibility dropped, but all runners arrived safely to the closing ceremony at the new Red Cliff cultural center.

Lac Vieux Desert members and staff cover much of the miles from days three and four. (Giiwegiizhigookway Martin photo)

(See HCR: Prayer in every step, page 14)

Slow recovery, challenges ahead for legendary swimmer: *Name*

"They came with pound nets and set them in Chequamegon Bay and along the shores of Lake Superior. Each day they lifted the nets and removed thousands of pounds of sturgeon and threw them upon the beach to rot. These fish, which were considered by the Chippewa to be the peer of all fish are now practically extinct. Thanks to the methods of the early white fishermen."

Reminiscences of Joe Stoddard, 1935 WPA Indian Research Project

Name (*Nuh-MAY*, Lake sturgeon, *Acipenser fulvescens*) has been swimming in the waters of Turtle Island since time immemorial, when dinosaurs roamed the earth. Ojibwe gikendaasowin (Ojibwe knowledge) regarding name is closely held, but what can be shared talks about their ability to travel long distances and communicate through sound. Name is a clan animal, and elders have advised us to acknowledge the name clan when talking about this fish being. Name continues to provide gifts of food and materials for ceremony and crafting to the Anishinaabeg and other tribes and is honored through spring feasts and in storytelling.

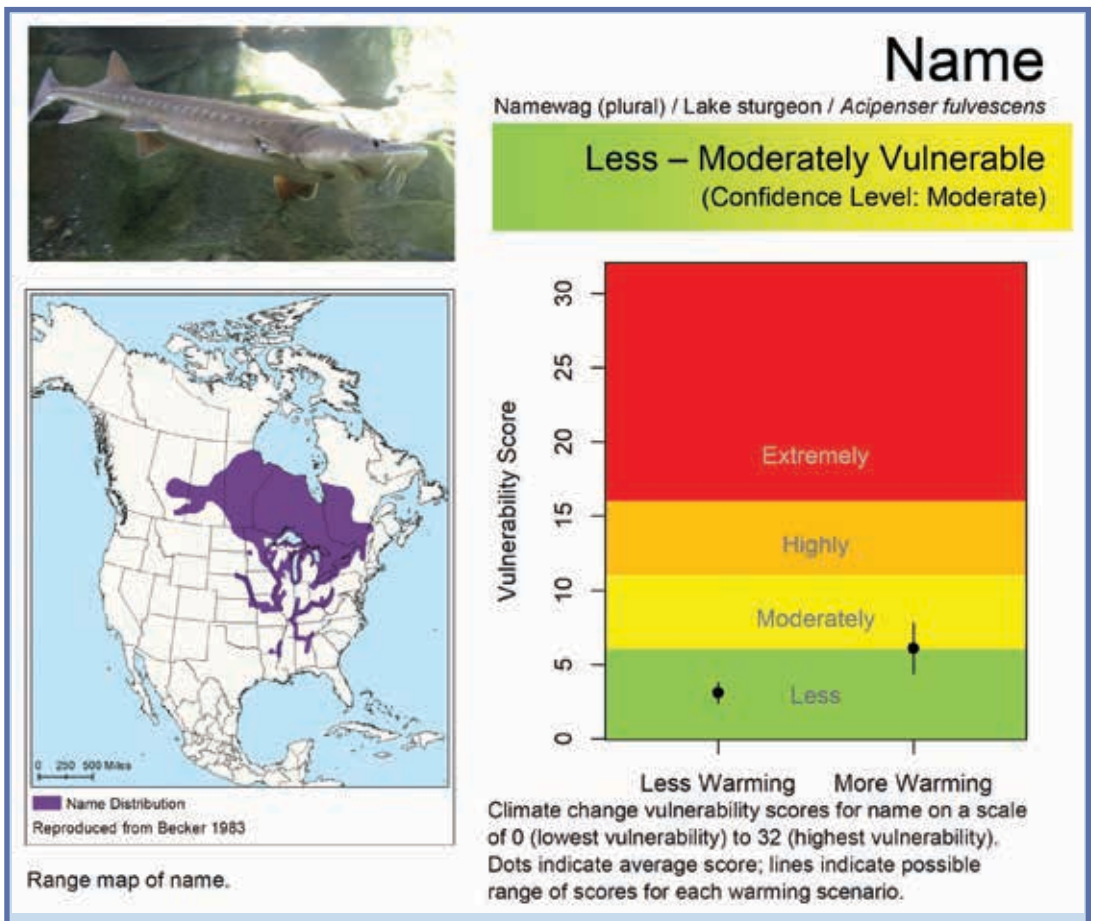
Name is the least vulnerable swimmer assessed in Aanji-bimaadiziimagak o'ow aki: Climate Change Vulnerability Assessment Volume 2, however less is known about this ancient being than many of the other swimmers, making this result less certain. What is known is that name populations in the Ceded Territories suffered greatly from wanton waste and overfishing in the early years of colonization, with dried sturgeon even being used as fuel for early steam powered ships on the Great Lakes. Today, namewag (plural) are impacted by dams, altered water flow regimes, and loss of spawning habitat, but anecdotal evidence suggests that restoration efforts by federal, state, and tribal partners have helped some populations begin to recover.

Climate change impacts that are and will continue to affect name into the future include increasing precipitation, especially during spawning season, increasing water temperatures, decreasing ice cover, and decreasing snow melt.

Adaptation strategies identified in a recent project co-produced by the Midwest Climate Adaptation Science Center, GLIFWC, College of Menominee Nation, 1854 Treaty Authority, Red Cliff Band of Lake Superior Chippewa, Little Traverse Bay Band of Odawa Indians, Menominee Indian Tribe of Wisconsin, and Bay Mills Indian Community include restoring spawning and wetland habitat, reconnecting rivers and streams to their historic floodplains, reducing non-climate stressors, removing or modifying dams, and targeted water flow management during critical time frames such as spawning and juvenile migration.

All of these strategies have collateral benefits for ecosystems, habitats, and other beings including humans. Collaboration and cooperation between tribal and non-tribal agencies and entities are key to creating conditions that will help our relative name to continue to care for us, and to remain in the waters of the Ceded Territories for at least another 25 million years.

What are you observing in your territory? Let us know at *climate@glifwc.org* **—R. Croll**



Range map of name.

Climate change vulnerability scores for name on a scale of 0 (lowest vulnerability) to 32 (highest vulnerability). Dots indicate average score; lines indicate possible range of scores for each warming scenario.

General Description:

The Fish Clan (which includes name) is part of the Ojibwe clan system and those who belong to it are known to be sky watchers that hold knowledge of all that is in the sky, such as the sun, stars, and moon, connecting the earth to the sky. However, members of other clans also sometimes hold that same knowledge today.

Name is an ancient fish that swam in the waters when dinosaurs roamed the earth and the only mammals in existence were small rodents. Namewag are culturally significant to the Ojibwe people in many ways. When plentiful, they are a significant part of a diet that incorporates what are known as traditional or first foods.

There are only a few Ojibwe people remaining who continue to utilize the skeleton of the name to tell traditional stories and share traditional teachings. When the stories are told, each piece of cartilage represents a different part of the story and the teachings therefore take many nights to tell. The story of baaga'adowewin (traditional lacrosse) references name and parts of the name were used in crafting the lacrosse sticks and ball. Name otoliths (ear bones) have also been used for ceremonial purposes.

An elder from Lac La Croix, Ontario, Canada shared numerous stories and teachings during his lifetime. One of them in particular carried specific instructions that explained why we should never eat namewag with a red stripe on their belly. He also relayed that the name run is an indicator for when spring feasts and ceremonies, including spring fasting, should be conducted.

For generations, native people have been sharing stories that relay how amazing namewag are and speak to their ability to travel long distances and communicate through sound. For years, people have reported sounds and vibrations (name "thunder") coming from bodies of water in which there is a high population of name. Recent research in Wisconsin using underwater hydrophones has confirmed that namewag emit these sounds and vibrations before or during spawning.

(see Name vulnerability, page 22)

Community gathers for annual summer fun and education

Racers and spectators gather in preparation for the big canoe race. (JVS photo)

Lac du Flambeau, Wis—Just in time for the summer solstice, Lac du Flambeau's Lakesfest helped celebrate community and environmental stewardship. Between Highway 47 and the Lac du Flambeau Campground & Marina is the LdF Natural Resources building. The staff at the department have been organizing Lakesfest since the mid-90s as a way to have a productive and fun community discussion about native aquatic species and threats to lake health.

Department staff have a big mission that includes providing water resources management, regulation, and science services to the tribe. According to the band's website, there are 260 lakes covering 17,897 acres within the Reservation, 71 miles of streams, and wetlands cover 24,000 acres.

Around 15 vendors set up for the day along Flambeau Lake while a couple hundred community members visited the booths. Hot dogs hit the grill, followed by lively announcements courtesy of the local radio station, 92.9 The Torch at the top of each hour.

Another big part of Lakesfest are the canoe races. At the ready, teams of all ages excitedly launched their boats towards Strawberry Island and back. Organizers stressed that community education, especially with school age youth, is very important because nearly half of the entire reservation is surface water.

To learn more, community members are encouraged to read the Bear River Watershed: *ldftribe.com/water-quality* **—JVS**

Native pathways

Makizinan connect indigenous communities across Turtle Island

Indigenous group gathers to build more than makizinan

By Jenny Van Sickle, Staff Writer

In far northern Wisconsin on the Bad River Ojibwe Reservation, a craft group meets once a week threading important needles and building skills throughout the community. Bridgette Mayotte, Ikwewag Advocate with Bad River's Zhawenindig Program, recently ordered and organized all the necessary materials, supplies, and custom patterns to make some moccasins. Participants would have a lot of fabrics to choose from.

Ikwewag Advocate Bridgette Mayotte goes over techniques to pucker the toe of a moccasin during class at the Zhawweniindig house in July. (JVS photo)

"Within a few minutes of posting the class online, it was full." Delighted with the response, Mayotte started thinking about how and where to teach the class that would also be able to comfortably hold the now 20 or so people on the waitlist.

Mayotte has worked at the Zhawenindig house for more than five years and has been more formally teaching traditional skills like sewing, beading, and appliqué work for 10 years. On Oak Street in Odanah, the programs at the Zhawenindig (loving, kindness, unconditional love for each other) house is a part of Bad River's wrap around family support that includes legal, child, and family advocacy.

Over the years, she has used, created, and revised countless designs trying to make the most functional, comfortable moccasins whether for dancing wild rice or at the pow wow.

Each class spans two hours. The group starts with sharing a meal, stories, and good laugh but it's never long before students start to unroll their projects, position their lighted magnifying glasses, then get their needles going.

"I think the toughest part is always the heel," said Mayotte. The group echoed in agreement.

"Constructing a good heel is challenging because you don't want a heel that buckles and bunches while you're dancing," said Melissa Christenson.

Christensen, a Lac du Flambeau Band member drives north each week for class. She is looking forward to Big Drum this year and was making her moccasins with a custom print especially for the occasion. "I'm hoping to teach what I've learned here back home too, she said.

"Making the perfect puckered toe the first couple tries is also a real task, but hang in there," added Nora White-Buffalo. Others thought attaching the tongue-piece was key to make sure it didn't keep sliding down one side of the moccasin.

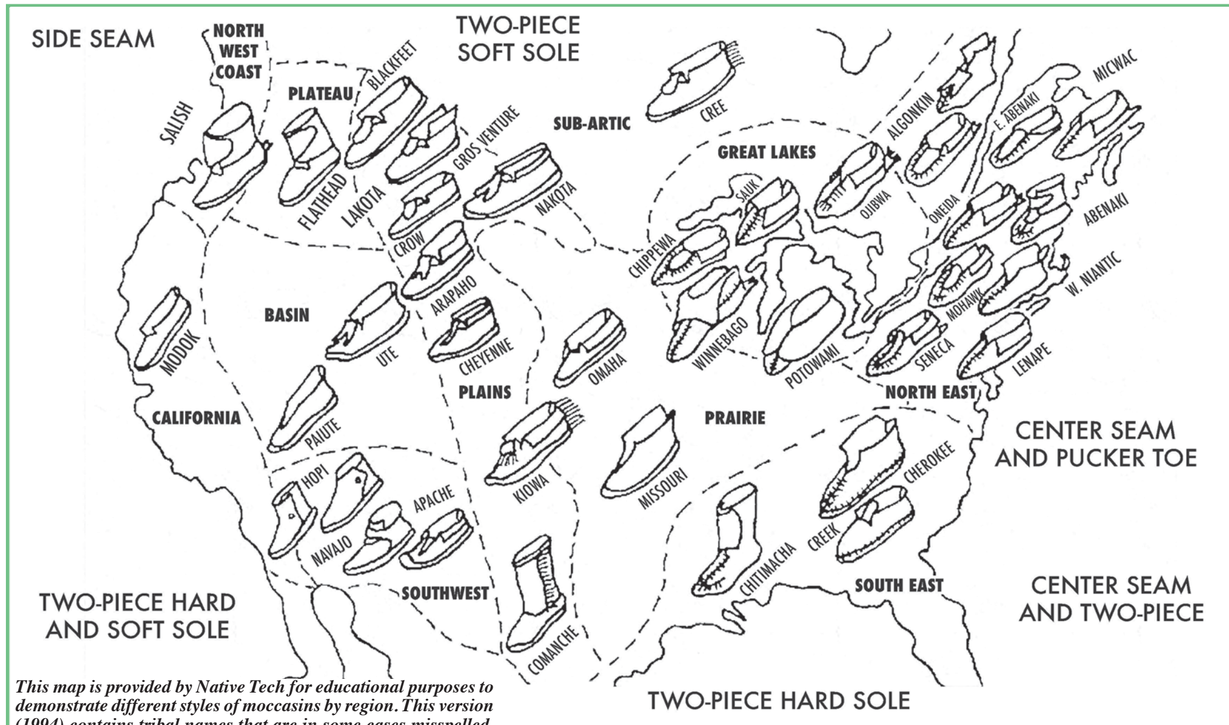
There were just four classes scheduled for this round, so there's a lot to accomplish in a short time. Some participants worked at home between classes on their designs to get the most out of instruction time to make sure everything was being pinned neatly and correct.

As students were diligently working on their creations, Mayotte made rounds answering questions, helping with fittings, and offering technique tips.

(see Makizinan, page 18)

Melissa Christensen trims up fabric while working on her moccasin's cuff. (JVS photo)

Sandy Deragon (L) and Nora White Buffalo (R) look on while Bridgette Mayotte folds down a moccasin cuff to demonstrate where the ties will tuck into, to securing a good fit. (JVS photo)



This map is provided by Native Tech for educational purposes to demonstrate different styles of moccasins by region. This version (1994) contains tribal names that are in some cases misspelled, not accepted, or inappropriate when addressing tribal nations.

Around Turtle Island

The word moccasin with innumerable spellings, generally refers to all types of hard and soft soled shoes, with and without puckered toes. Sewing is easier with soft Indian-tanned (or brain-tanned) leather, but commercially sueded and split leather is also suitable for moccasin making. Commercial leather is most like brain tanned leather when it is split (sueded on both sides), as the smooth outside of the hide has been split off.

The thickness of commercial leather is measured by the weight in ounces of a square foot of leather. Very thin garment leathers, 1-2 oz. weight, is usually too thin for practical moccasins, while heavy leathers, 5-6 oz. weight, can be nearly impossible to sew by hand. Medium thickness leather (3-4 oz. weight) is recommended for most soft-soled moccasins.

Patterns should be laid out on the hide so the pieces go with the grain of the leather, so the moccasins will be uniform. If conservation of leather is a consideration, pieces can be laid out so leather is not wasted, but as the leather stretches in different directions, sewing can become a little irregular.

Hard-sole moccasins, usually made from two or more pieces of hide, are often associated with the western plains and deserts areas. The hard sole of shaped rawhide and fitted leather upper required more tailoring than other moccasin styles. Hard-soled moccasins were important to protect feet from harsh cactus or prairie-grass covered ground, and sharp rocks not worn down by water. The turned-up toe of many two-piece moccasins prevented sharp objects from running into the seams and injuring the foot.

Soft-soled moccasins, often constructed from a single piece of leather were common in the Eastern Forests and were made by bringing up the sole of the shoe around the foot and puckering or patching the material around the instep. Soft-soled center seam and pucker-toe moccasins were well suited to travel through woodlands with leaf and pine-needle covered ground. Some soft-soled moccasins from the Plains and Northwest Coast were made from one piece but they were sewed along one the side of the foot rather than the center.

The most basic form of soft-sole moccasin was the simple center seam made from a single piece of tanned leather. The leather sides were brought up from the bottom and around the sides of the foot sewn in a central seam starting with a puckered stitch at the toe and running along the upper instep.

Variations of soft-sole moccasin construction include a u-shaped piece of leather, added as a vamp, while another piece was added to the back of the moccasin to serve as a cuff. Some of the Great Lakes and Iroquois tribes used a wide vamp, added in a gathered fashion to cover most of the upper front of the moccasin. Other Eastern Forest tribes made moccasins with a shorter or narrower vamp that sometimes joined a central puckered seam running down the upper front to the toe.

Flaps of leather or fur were often added to cover the ankle or folded down as a cuff. Some moccasins were made into a boot simply by attaching them to the leggings. Various sized u-shaped or elliptical pieces of leather, called vamps or insets, were added to the moccasin upper at the instep.

A tongue for hard and soft-soled moccasins was often added and cut into various forms and decorated. Many methods were used to pucker the toes of woodland center-seam moccasins. A distinctive 'rabbit nose' or 'partridge' moccasins could be sewed by trimming the pattern first into a 'w' shape. There were also many ways to finish the heels of moccasins. Varieties of Eastern Woodland moccasins often left a tiny tab, or tail, trimmed to different shapes, that dragged behind.

Other one-piece moccasins have no tail, or the tab is sewn up to the heel for added reinforcement. Some moccasins of the plains and prairie had fringe hanging at the heel seam or added onto the instep; as fringe trailed behind the walker, it may have helped to obliterate footprints.

Moccasins were usually made from the soft tanned hides of deer, moose, elk or buffalo. Rawhide was used for the hard-soled moccasins. Hides from the larger animals were much thicker than buckskin. Thicker hides were more difficult to sew, but produced sturdier, longer lasting moccasins.

Moccasins were assembled inside out to hide the stitching in the finished shoe. Stitching would be done traditionally with sinew through holes punched with a bone awl.

For comfort, knots were kept on the outside of a shoe. The whip stitch was commonly used in moccasins, often with an added narrow welt running the length of the seam to make the moccasin stronger and to help hide the stitching when turned right side out. The running stitch was also used in places where the whip stitch was not as practical, as with added fringe. Seams were often gently pounded flat in puckered areas.

Even though moccasin construction techniques are similar among many tribes, the beaded or quilled decorations were often quite distinctive. to be prepared for the afterlife.

—Tara Prindle, NativeTech

HCR: Prayer in every step

(Continued from page 8)

Day 5, Wednesday July 16, Red Cliff and Mille Lacs to Fond du Lac

The morning after the hard rain was met with appreciation, both for the good energy it brought, as well as for how it cleared away the smoky air from the Canadian wildfires, which had become more noticeable in the last few days. It continued to rain gently for the rest of the morning, starting the day in a pleasant and invigorating mood.

By this day, as core runners began realizing how small a distance they'd been needing to over each day, it became heartwarmingly clear how much each community had involved themselves in the run. From young children holding their parents' hands to respected elders carrying sacred staffs, participants of all ages eagerly covered the majority of each day's miles. Due to the distance the Red Cliff and Fond du Lac runners covered themselves, the core runners found themselves without any gaps to fill. The restful day was welcome, and after stopping for lunch along the way, the core made their way to meet the Fond du Lac and Mille Lacs runners at the Fond du Lac community's powwow grounds.

The evening was uncharacteristically cool with many participants wrapped in blankets for the closing ceremony and talking circle, but all were warmed when they gathered into the buffet at the Black Bear Casino for a hot and filling meal.

Day 6, Thursday July 17, Fond du Lac to St. Croix

After the morning ceremony, several attendees played a community game of baaga'adowewin, or traditional Ojibwe lacrosse, led by Biidaasige Tom Howes. A blanket was laid out on the outskirts of the play area and many different gifts from t-shirts to birch bark baskets were spread across it. This being a gift game, any player who scored a point had the opportunity to pick anything from the blanket but was encouraged to practice generosity by giving any earned gifts away.

After baaga'adowewin, everyone was eager to begin walking towards St. Croix, knowing that delicious ice cream awaited them at the Log Cabin Eatery in Danbury, Wis. Then, after food and ceremony at the community center in Hertel, everyone laid down to rest, though many of them would remain awake, talking, and enjoying each other's company long into the night, not wanting the last day to come so soon.

Day 7, Friday July 18, St. Croix to Lac Courte Oreilles

The opening ceremony of the last day was filled with words of gratefulness, and a bittersweet feeling rested over the core runners. Only a few miles remained until they would find themselves back in the same place they began on day one, completing the circle. Another cool and misty day followed the runners to the end of their journey.

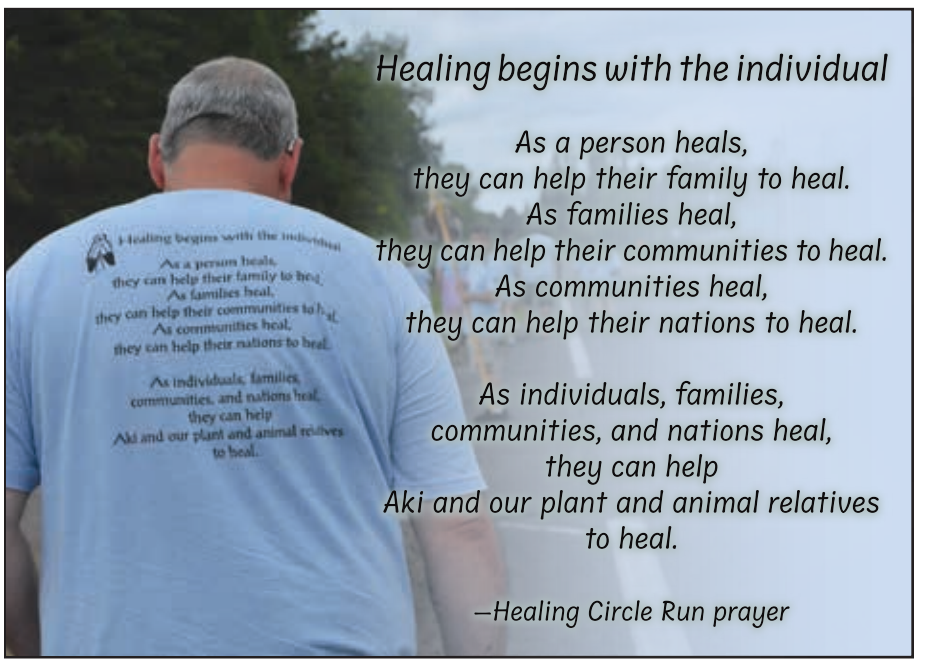
Core and St. Croix runners on the last day of HCR. (B. Paulsen photo)

The day wouldn't prove to be an easy finisher, however. Some of the runners were met with nasty words and aggressively close driving from the surrounding non-native community as they walked through. The threatening behavior cast a sour shade on the next regroup point, but the participants smudged again to help regain the mindful and prayerful attitude they hoped to finish with.

Core runners, including Amber Hoon, celebrate as they complete the last steps of the 2025 Healing circle run. (B. Paulsen photo)

The hateful energy was soon put behind them though as the core walked triumphantly to the end as one group, hugging and high fiving after the last step. Then, as is tradition, they played their game of longball: simply, seeing who can whack a golf ball the furthest down a remote section of road with an old beaten-up golf club. This tradition has always been a satisfyingly fun way to end the annual seven-day-long journey.

After the final closing ceremony in the very place they conducted the first opening ceremony, the core slowly parted ways. While many of them wished the week could go on forever, they knew the healing they received on this journey would need to be taken back into their communities. And so the 2025 Healing Circle Run was completed, but the effects would continue to ripple throughout the lives of all those who participated and beyond. The Healing Circle Run prayer lingered on everyone's mind:



Andy Bastin, core runner. (B. Paulsen photo)

On the water, in the woods, around the office

Students enjoy hands-on learning with GLIFWC summer internship

By Ajiijaak Rauworth, GLIFWC PIO intern

This past summer, GLIFWC staff across various divisions welcomed eleven enthusiastic students to the Commission's annual internship program. Throughout the summer, interns engaged in opportunities ranging from participating in ceremonies to embracing learning experiences.

Administration Division

Nehavey Northern is a member of the Lac Courte Oreilles Band and spent her first summer with GLIFWC. A student of forest science at University of Wisconsin-Madison, she expressed gratitude for all of the networking opportunities.

Nothern's main role in administration was paying attention to the daily ins and outs of the executive assistant's office, which included supporting efforts to coordinate community events.

"GLIFWC has been the perfect combination to prepare for a career in environmental science, getting my foot in the door, and gaining more experience working in my community," said Northern. A real highlight for Northern was her experience in the field, "Getting to harvest medicines with GLIFWC staff across different divisions has allowed me to have meaningful conversations about the organization's mission throughout the summer."


Nehavey Northern


Ireland Chosa

A member of the Keweenaw Bay Indian Community of Michigan, **Ireland Chosa** is a student at the University of New Mexico; there she is earning a double-major in Political Science and Native American Studies with a concentration in leadership and building native nations. Chosa, a second-year intern, chose to expand her horizons by exploring administrative responsibilities this year to learn more about accounting and human resource policy.

"I got to see more of the behind the scenes, technical side of tribal organizations that I hope to work for in the future," she said. Because of Chosa's previous experience in the Division of Intergovernmental Affairs, Chosa was prepared to take on updating the accounting department's general manual and performance evaluation form.


Viddy Wabindato

Division of Intergovernmental Affairs

Viddy Wabindato, a Bad River tribal member is returning for her second year at GLIFWC. Wabindato spent her first summer interning with Administration supporting events like the Healing Circle Run. With her second opportunity at the commission, she wanted to explore the strong connection she felt to the work DIA is doing.

"I had the opportunity to work across GLIFWC divisions last year and really enjoyed the work I did with them, " she said on her motivation to return.

Wabindato spent her summer assisting in the analysis of new and revised Codes of Federal Regulation and building a collection of historical newspaper articles. "This is an important moment to understand how federal regulations can potentially effect tribal organizations," said Wabindato.

Wabindato returns to Notre Dame this fall, where she will continue studying Anthropology and Sustainability.

Biological Services Division

Returning to GLIFWC for a third summer, **Ethan Greene** rejoined the Biological Services Division. Greene, a Bad River tribal member, will return to University of Wisconsin-Madison this fall where he is majoring in real estate and insurance.


Ethan Greene

One of Greene's favorite parts of the internship program is the unique opportunity to harvest birch bark and sweetgrass.

Greene largely spent his days at GLIFWC's central office scanning documents, organizing meetings, and digitizing Traditional Ecological Knowledge interviews. "Preserving these interviews and their transcripts is an important part of making the material more secure and accessible," explained Greene.

BSD: Wildlife Section - Manoomin Program

The two manoomin interns, **Eric Omdahl** and **Parker Krueger**, spent most of their days out on lakes getting their hands dirty. From canoes they perform water body surveys to collect information on turbidity, waterfowl activity, sediment, and additional indicators of habitat health like what plants are growing in the lake, boat activity, and shoreline development.

The main goal is to familiarize themselves with wild rice habitat and to have information at the ready for tribal knowledge seekers who need current lake conditions or data points.

Mille Lacs Band of Ojibwe member Omdahl recently graduated from Fond du Lac Tribal and Community College with an associate's degree in environmental science. Omdahl is continuing his education by studying at the University of Wisconsin Superior, where he's majoring in environmental science, with a minor in Indigenous studies. Omdahl has always had an interest in what GLIFWC does. "GLIFWC scientific research starts from an indigenous perspective, and I've always wanted to be involved in their work," he said.


Eric Omdahl


Parker Krueger

A fourth-year intern Krueger is a member of the Red Cliff Band of Lake Superior Ojibwe. Krueger spent the last two years studying fisheries and wildlife ecology at Northland College and is now waiting to see where life takes him as the school formally closed in 2025.

While Krueger spent his last summer learning a more behind the scenes look at GLIFWC, this year he wanted to get back into the field. "I asked for an internship in the manoomin program because that would open the door to something new while allowing me to learn valuable information about all things wild rice," said Parker.

Regularly performing these surveys allows GLIFWC researchers and partner organizations to compare data over the years and to analyze what has changed.

"Being out on the lake was really amazing, to see all the wildlife, and experience how calm that environment was," Krueger reflected.

BSD: Inland Fisheries Section

This year the Inland Fisheries Section had four interns working in two teams of two, each assigned specific projects while all four got to collectively tackle tracking acoustics at Mille Lacs Lake.


Kayle Benesh

Kayla Lenz, Fisheries Research Technician, (GLIFWC Intern 2023) lead two projects over the summer. Interns **Kayle Benesh** and **Fia Littlefield** worked with Lenz, a graduate student at the University of Illinois to suit up and snorkel along the shorelines of Lake Minocqua and Kawaguesaga to document locations, observations, the size and species of juvenile fish, and to record areas they're using for their nurseries.

Benesh is a descendent of the Leech Lake Band who recently graduated from North Dakota State University and has her eyes on vet school. Benesh appreciated the opportunity to go electrofishing saying: "it was really neat being able to help and get hands-on with the processing of juvenile walleye."

(See 2025 summer interns, page 18)


Fia Littlefield

Anniversary year at Mikwendaagoziwag Memorial summons reflections

Wardens provide safety net for participants

By Jenny Van Sickle, Staff Writer

McGregor, Minn—On the 175th anniversary of the Sandy Lake Tragedy, people gathered in the hundreds to remember the Ojibwe sacrifices in the Minnesota Territory and the long, brutal journeys back to eastern tribal homelands. Indigenous citizens hailing from the upper Great Lakes region, including Canada, took part in ceremonies July 30 on both the east and west shore of Big Sandy Lake. The Mikwendaagoziwag Memorial that commemorates the Ojibwe of 1850-51 is located on property administered by the Army Corps of Engineers.

"There are many tragic things that have happened to Indigenous people and their encounters with European nations, but we pride ourselves in surviving," said Jason Schlender, Great Lakes Indian Fish & Wildlife Commission (GLIFWC) executive administrator and Lac Courte Oreilles Ojibwe.

When Ojibwe headmen negotiated land cessions to the United States in 1837 and 1842, payments to the tribes—called annuities—were spread out over 20-25 years and issued on Madeline Island in the heart of Ojibwe Country. In 1850 Minnesota's Alexander Ramsey and others conspired to bring annuity payments far to the west just before winter, hoping to trap and coerce Wisconsin and Michigan bands to move permanently. Annuity money and trade goods would bring a significant economic infusion to Minnesota Territory.

Staff from Mille Lacs Band, St. Croix Tribe, and GLIFWC position the monument stone on the Mikwendaagoziwag Memorial in the fall of 2000. (CO Rasmussen photo)

But after United States officials made only a partial payment at Sandy Lake in early December 1850, Ojibwe people had had enough. With 150 Ojibweg already dead from disease and malnutrition, the people walked back home on snow-covered trails that claimed another 250 native lives. Those Ojibwe vowed never to be removed from their homelands and four years later permanent reservations were established.

On the water with GLIFWC conservation wardens

After the morning ceremony, participants retraced the same canoe route Ojibwe people took in 1850. When canoers departed from the rustic launch off Indian Point, enforcement teams from Fond du Lac Band, Mille Lacs Band, and GLIFWC are already positioned in the water.

GLIFWC's Enforcement Division's conservation wardens are in part there to help people enjoy the day, but their primary work is staying vigilant for emergency situations in the background both on the water and back at the monument grounds.

"This year Sgt Jim Stone and Adam Oja, GLIFWC wildlife technician, noticed and responded to an elder showing signs blood sugar complications," said Chief Warden Adam McGeshick, a member of the Mole Lake Band. He also recounted past events where participants experienced symptoms of heat exhaustion. Law enforcement supports are on hand throughout day whether that's at the boat launch helping folks out, working the command center, or reloading canoes back up onto their racks.

"Our command center can serve as a quiet place for people to get some space, feel some air conditioning, and recuperate," explained McGeshick.

A few years ago, GLIFWC outfitted their deep-v boats with ladders to better respond to any potential rescue operations. In addition to the ladders, wardens have bottled water, PFDs, and retrievable life rings aboard.

McGeshick cautioned that Big Sandy isn't necessarily an introductory paddle and that participants should try to assess their skill level and who will be traveling together for the hour-long paddle.

"The wind and waves can be difficult to contend with for the four miles across the lake, we want to make sure people know what to expect," said McGeshick.

At the end of the open-water paddle, the Mikewendaagoziwag Memorial, placed 25 years ago this October, stands tall overlooking the water, greeting canoers as they make their way. In 2001, the site's monument was set with its final touches and formally dedicated.

The annual Mikwendaagoziwag Ceremony continues to receive strong support from US Army Corps of Engineers staff, including their local team and district leadership. "We believe that by remembering the past, we can build a stronger, more collaborative future with tribal nations," said Weissenfluh.

—CO Rasmussen contributed to this article

Since Mikwendaagoziwag ceremonies and monument development got underway near the turn of the millennium, many have supported the effort to honor the Ojibwe sacrifices of 1850-51. On July 30 GLIFWC recognized four of them. From left, Frannie Van Zile (Sokaogon), film producer Lorranie Norrgard, Gerry DePerry (Red Cliff) and retiring Army Corps of Engineers Officer Jeff Steere. (M Maund Rasmussen)

ACOE St. Paul District Commander, Colonel Matthew Chase shares a canoe with Miles Falck, GLIFWC Wildlife Section Leader. (JVS photo)

Saturday, September 6 • 11am – 3pm • Big Sandy Lodge & Resort.

A day for the Mille Lacs Band and McGregor/Tamarack community to come together, celebrate our shared culture, and stand united in protecting the water that sustains us all. Families are welcome and the event includes prize giveaways, a free meal, and lots of fun activities.

Ogaa 'Partners' embrace teamwork at Chippewa Flowage gathering

By Charlie Otto Rasmussen Editor

Reaffirming a commitment to conserve ogaawag for future generations, Partners in Fishing representatives gathered June 4 for the 32nd time to share challenges and successes that come with co-managing the Ceded Territory fishery. A union of biologists, policymakers, and harvesters, Partners in Fishing participants collaborate to monitor and enhance walleye, or ogaa, populations on freshwater lakes across northern Wisconsin.

"It's a really a unique gathering with tribes, state agencies—we're honored to have the Governor here—and federal agencies working toward a shared goal," said Robert Jackson, retired Bureau of Indian Affairs biologist and Partners cofounder. Wisconsin Governor Tony Evers and members of his cabinet have joined the Partners over the past few summers to encourage interagency collaboration.

Each spring and fall, a mix of GLIFWC, Ojibwe tribe, and Wisconsin Department of Natural Resources electrofishing crews survey walleye lakes that yield angler and spearfishing harvests. Fishery assessment results from 'shocking,' plus long-term data compiled over the past 40 years, helps resource professionals determine walleye safe harvest levels, population trends, and areas of concern; as biologists and fishermen alike have observed, invasive species, habitat degradation, and warmer lake water are favoring fish species like largemouth bass over ogaa.

Huddle up

In the spirit of working together as a unit, members of Green Bay Packers Super Bowl XXXI team regularly visit with the Partners. Now retired from professional football, William Henderson, Gilbert Brown, and Earl Dotson traveled to the Lac Courte Oreilles Reservation to join the interagency crew this past summer and fish for a few hours on the Chippewa Flowage.

"I love what y'all are doing. It's teamwork. The history is so important. Will and I talked about that on the way up here," Dotson said, sharing a conversation with Henderson about the contentious era of the late 1980s and early 1990s when navigating management authority of the Ceded Territory fishery included some rocky waters. Intensifying the challenges of teambuilding between the state and tribes, racially-charged protests largely led by white sportsmen churned in the background. "We've got to know our history. I just hope we can keep this going."

The event gave leadership from different agencies quality time to get better acquainted, including members of GLIFWC's Board of Commissioners and Voigt Intertribal Task Force joining Wisconsin Natural Resources Board (NRB) officials. One NRB officer in attendance, Chairman Bill Smith, would take home bragging rights and a new St. Croix rod for landing the largest walleye—a 16-incher. And honoring Ceded Territory boundaries, which were created between Ojibwe tribes and United States prior to statehood, Minnesota biologists were also in attendance with their Wisconsin counterparts. Unified commitments to conserve ogaawag and water resources for all user groups made for a day well spent on the Chippewa Flowage shoreline.

Leaders from Ojibwe tribes and State of Wisconsin shared a moment along the Chippewa Flowage shoreline during the 32nd Partners in Fishing. From left: GLIFWC Executive Administrator Jason Schlender, WDNR Secretary Karen Hyun, and Conrad St. John, Voigt Intertribal Task Force chairman and St. Croix Band chairman. (CO Rasmussen photo)

In between discussions of riparian habitat and creel survey methodology, a shore lunch at The Landing on the Chippewa Flowage brings out the fun in everyone. On left James Yach, WDNR northern director with GLIFWC Inland Fisheries Section Leader Mark Luehring. (CO Rasmussen photo)

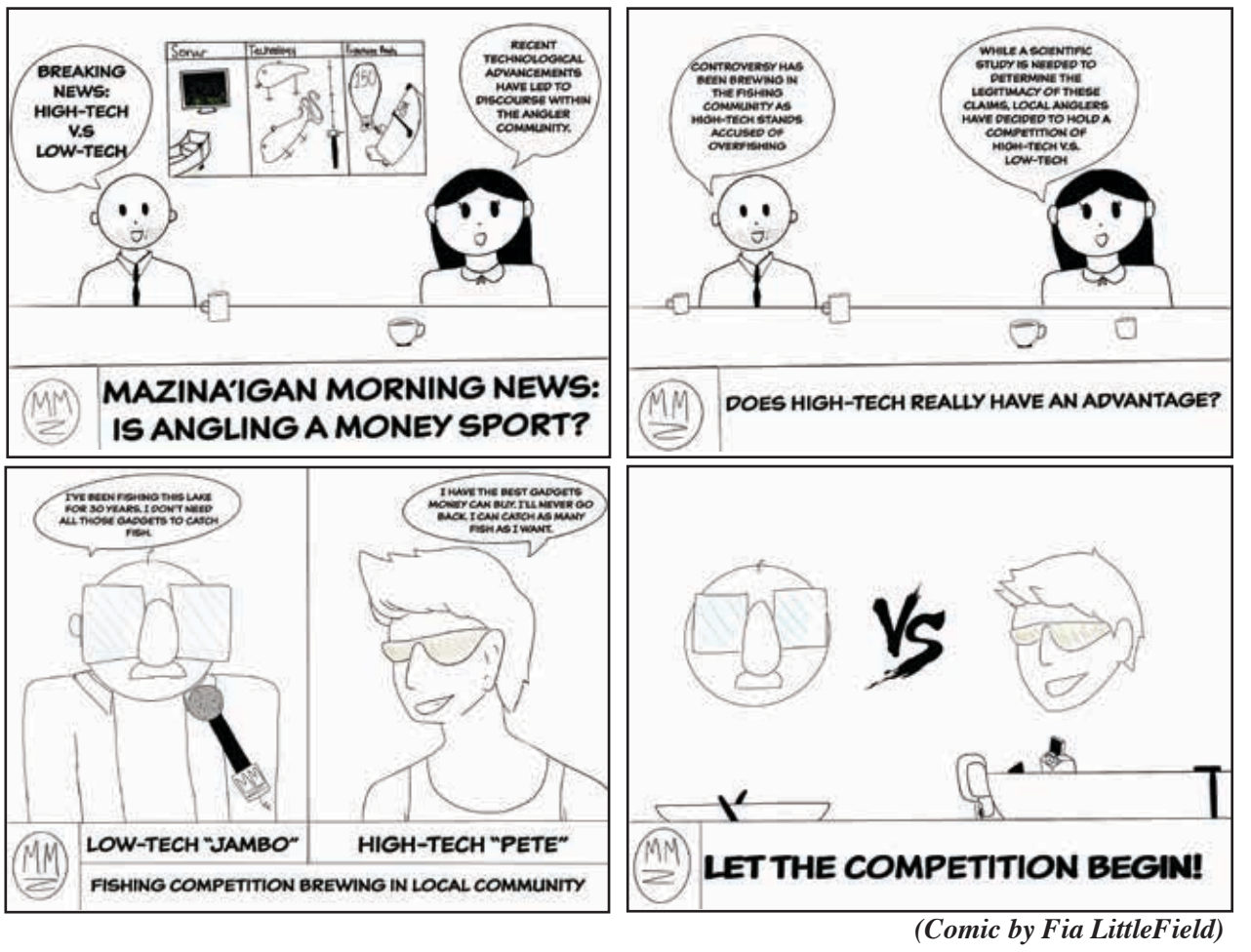
New study aims to quantify the influence of technology on fishing

The world of fishing has been significantly transformed by technological innovations in recent years. Anglers now have access to sophisticated fish finders using sonar and GPS to locate fish with greater precision. While technology offers significant advantages in locating fish and improving fishing efficiency, its unmanaged application poses a considerable threat to the long-term health of fisheries. The ease with which fish can be tracked and harvested using advanced tools could lead to overfishing, exceeding the reproductive capacity of fish populations.

Implementing regulations and monitoring systems is essential to ensure that technological advancements contribute to, rather than detract from, the sustainability of our valuable fisheries resources for future generations. At present, the ability of technology to increase catch rates has not been quantified, precluding us from making firm conclusions on the role of technology in capture efficiency.

The aim of GLIFWC and University of Illinois study is to quantify the impact of technology on two key aspects of fishing: (1) an angler's ability to *learn* a new lake, and (2) the *efficiency* of the anglers across lakes. By quantifying these metrics, this research aims to provide a preliminary understanding of how technological advancements influence angler catch rates over time, and how catch rates of anglers today compare to catch rates of anglers from the past.

—A. Shultz



(Comic by Fia LittleField)

Sustaining Namāēw (lake sturgeon)

Partner-led climate adaptation for Indigenous fisheries in the Laurentian Great Lakes

Namāēw (Menominee; lake sturgeon *Acipenser fulvescens*) have long supported Indigenous culture and food sovereignty but have declined by over 80% in the Laurentian Great Lakes, exacerbating their sensitivity to climate change. Following interest from Indigenous leaders, we initiated a partnership driven effort to 1) assess climate impacts, and 2) develop potential adaptation options for namāēw using a participatory, transdisciplinary approach that combines multiple ways of knowing.

Through a literature review and nine semi-structured conversations with officials from Indigenous Nations and organizations in the Great Lakes, we identified key themes, including access, culture, and fish persistence. Other concerns included habitat, food web shifts, and water quality. Prominent adaptation themes involved population assessments, stocking, regulations, habitat restoration, interagency coordination, and cultural advocacy.

These findings underscore the importance of partnership-driven research to support Indigenous fisheries through knowledge co-production and equitable adaptation. Our approach provides a model to inform stewardship planning for fisheries facing global change.

Please find the full article at *glifwc.org/sites/default/files/uploads/documents/2025-07/Namaew.pdf*

Artwork by Moira Villard, a multidisciplinary artist with a mixed Indigenous and settler heritage. Moira grew on the Fond du Lac Reservation in Minnesota and is a Fond du Lac direct descendant.

Regarding this piece, Moira said: "Like many kids, I grew up fascinated by dinosaurs and prehistoric beings; while other little girls would say their favorite animals were kittens or bears or rabbits, my favorite animals were always ancient relics that carried the weight of deep time.

"When I lived on the Fond du Lac Reservation I was surrounded by fascinating plant and animal relatives of all kinds and naturally grew fond of fish and insects. The sturgeon in particular became a fascination; they are living dinosaurs—gentle, ancient, and enduring. To me, they symbolize life that pre-dates and persists beyond human time.

"It serves as a reminder of the resilience of the natural world and the interconnectedness of all life. Through my work, I seek to honor these connections and explore the ways ancient beings like namewag inspire us to consider our place within the vast timeline of existence."

Makizinan continued

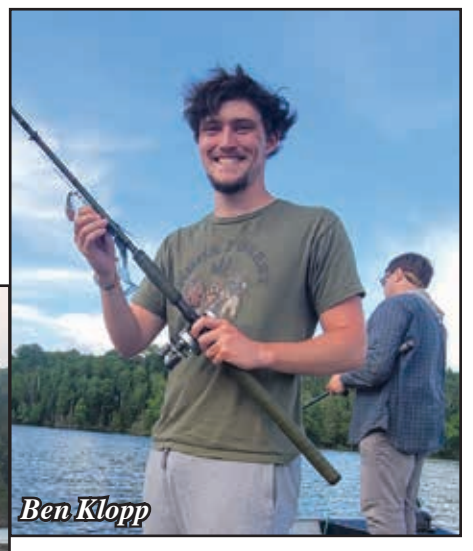
(continued from page 12)

In reflecting on this class Mayotte described what she feels is the best part of doing these gatherings, "It brings trust and healing for our women in our community as we work on learning how to make items that are needed for our culture." For her next class, Mayotte is hoping to secure the band's wake house so a larger group can all fit under one roof.

2025 summer interns

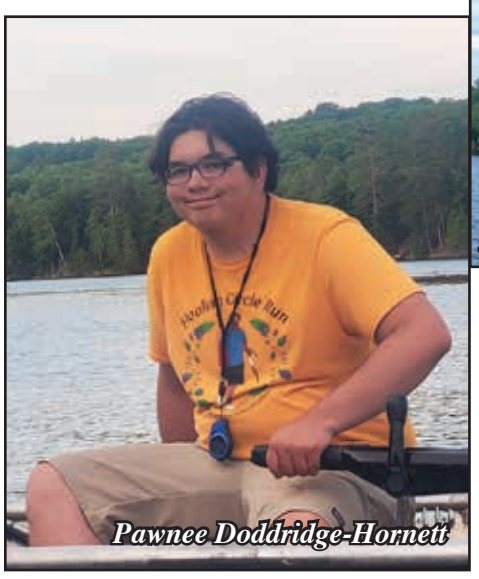
(continued from page 15)

Littlefield is from St. Charles, Minn., and will be attending her final year at the University of Minnesota-Duluth. "I knew very little about the Ojibwe culture going into this internship, so being able to participate in cultural activities has taught me a lot," said Littlefield.



Ben Klopp

Mac Macpherson, also a graduate student at the University of Illinois, worked primarily with interns **Ben Klopp** and **Pawnee Doddridge-Hornett** to measure any impacts that technology might have on fishing success.



Pawnee Doddridge-Hornett

Klopp, a native of the Dodgeville, Wis. area, will return to UW-Stevens Point to study Water Management & Hatchery Sciences. Klopp has a background in fishing, but this summer held new achievements, "I caught my first ever musky this summer, and not even 20 minutes after that I caught a second one," said Klopp.

Doddridge-Hornett is a member of the Bad River Band, studying Biology at Luther College and also landed a notable fishing experience, "Most of my fishing history has been limited to off the shoreline, so it's been amazing to learn how to fish from a boat," he said.

For the study, four people are split between two boats, one being "high-tech" where the boat is outfitted with forward-facing sonar, fish finders, advanced trolling motors and newer poles & lures. The other "low-tech" boat keeps things simple, equipped with an anchor, tackle, pole, and little to no technology.

All four of the inland fisheries interns assisted with pulling acoustic receivers off the bottom of Mille Lacs Lake and downloading their data. The lake has two receiver arrays, one that covers the entire lake and tracks large-scale movements of several giigoonh (fish) species, and a fine-scale array that tracks the movements of ogaawag (walleye) during their spring spawning season on one of their primary spawning grounds.

Public Information Office

As for me, my name is Ajiijaak Rauworth and I'm this year's Public Information Office intern. I'm a member of the Lac du Flambeau band of Lake Superior Chippewa Indians. This fall, I will be returning to University of Wisconsin-Green Bay where I am studying Environmental Science. I joined PIO with experience in nature photography, videography, and social media content. However, through my summer tabling, writing articles, and photographing events, I was able to gain writing and reporting skills that will prepare me for a career in journalism. I was drawn to this organization due to the important tribal advocacy GLIFWC does, and to expand my understanding of treaty rights in Ceded Territories.

Ajiijaak Rauworth

I'm very grateful for the connections, lessons, and knowledge that I have gained this summer and hope to apply everything that I've learned to wherever life takes me next.

Looking ahead

(Continued from page 9)

We remain committed to working closely with tribal partners and staff to monitor conditions, support stewardship, and share updates as the season progresses. Please don't hesitate to reach out with any questions or if additional information would be helpful. *glifwc.org/about-us/contact-us#contact-us*

If your favorite rice bed isn't looking as strong this year, don't be discouraged, there are many other areas showing a resurgence and offering good potential for harvest. Explore new places, keep safety in mind, and most importantly: don't fall in!

(Esiban Parent contributed to this article)

B. Paulsen and K. Smith, fallen in, 2024. (M. Falck photo)

Zaasijiwan
•It Ripples•

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

Aaniin, Boozhoo! Gidojibwem ina? Apegish waa-ojibwemoyeg noongom. Ashwiiwag na? Gii-niibin. Dagwaagin noongom. Aaniin waa-izhichigeyeg? Ginibwaakaa. Gigikendaas. Ojibwemodaa! Aaniin ezhi-ayaayaang? Nimbizindaamin. Nindoojibwemomin. Nindagindaasomin. Nindoojibwewibii'igemin. Nimaamakaajichigemin! Maamakaajichigedaa noongom. Niminwendam miinawaa! Mii'iw.

(How/what way/Greetings, Hello!/Do I know you?! You speak Ojibwe language? I hope you all will-speak Ojibwe today/now. Are they prepared/ready? It was summer. It is fall now. What will you all be doing? You are intelligent/wise. You are smart. Let's all speak Ojibwe language! How are we? We listen. We speak Ojibwe language. We read. We write in Ojibwe. We all do amazing things! Let's all do amazing things now/today. I am happy/glad again! That's all.)

Bezhig—1 OJIBWEMOWIN (Ojibwe Language)

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

—Short Vowels: A, I, O
D<u>a</u>sh—as in <u>a</u>bout
<u>I</u>ngiw—as in t<u>i</u>n
Niizh<u>o</u>—as in <u>o</u>nly

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

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

Dagwaagin.
—It is Autumn/Fall.
Dagwaagi**ng**, **nin**giiyose
—**When/If** it is fall, **I** hunt.
Niminwendam. Dagwaagin.
—**I** am happy/glad. It is fall.
Dagwaagi**ng**, miskobagaa.
—**When** it's fall, it's red leaves on trees.
Wii-dagwaagi**ng** ina gimanise?
—**When** it **will** be fall, you'll cut firewood?

<u>Dagwaagin</u> is a VII—a **V**erb, **I**nanimate, (non-living), and **I**ntransitive (action does not transfer to other thing or person.)
VII's are the "It is…." verbs. Easy to learn!

Inaande.—It is colored a certain way.
Ningwaanakwad.—It is cloudy. (Weather)
Dakaayaa/Gisinaa.—It's cool/cold weather.

Niizh—2 *Circle the 7 underlined Ojibwe words in the letter maze. (Translations below)*

A. <u>Waaseyaa</u> noongom. Wii-zasakwaa <u>wayiiba</u>.

B. Gidonwaachige na? <u>Eya'</u>, wii-biboon. Biboonagad.

C. Mandaaminaakoon ina dash mandaaminaaboo?

D. <u>Gibakade</u>. <u>Niin</u>, ningikenjige.

E. Giminwendaan ina manoomin? Niminwendaan gaapizigan gaye.

F. Ganabaj gabe-<u>dibik</u> wii-takibiisaa.

G. Gaawiin <u>mashi</u>.

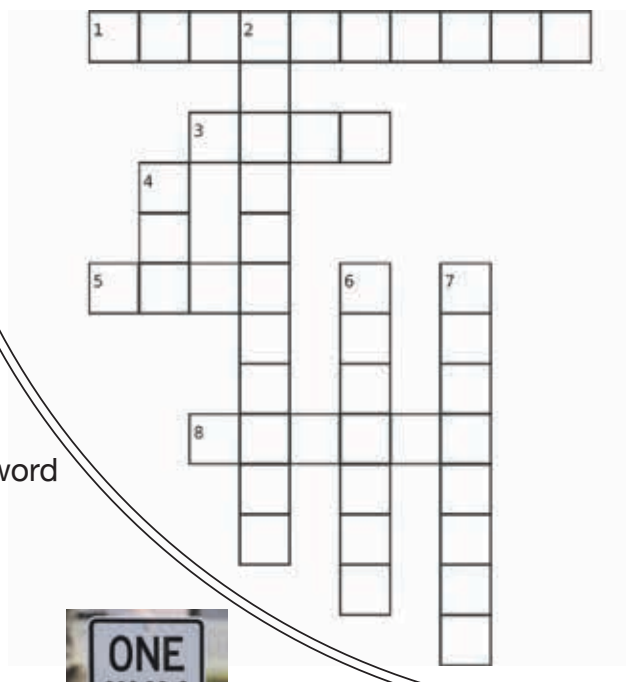
H. Ganabaj wii-soogipon.

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

Ingo-Inikwe!
One way to steer.
Odaabaan-
vehicle

Niswi—3

IKIDOWIN
ODAMINOWIN
(word play)



DOWN:
2. You are smart.
4. yes/no question word
6. soon, in a bit
7. and, also, again

Across:
1. I hunt.
3. walleye or pickerel
5. and, too
8. Hi. How/What?

Ingo-inikwe'wi.
One-steer way.
Cars - Him/Her

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

Niiwin—4

Makwa, gii-mizhishawabi.
—Bear, he did sit in the open.

Howah! Gii-gichi-pakade imaa.
Giizisowaabigwani-miinikaanan minopijige.
Nimaada'ookii dash nimaada'oonaa.
Onikaang ziiginige. Onooskwaada'aan.
Eya'. Gaye niin!
—Wow! S/he was real-hungry there. Sunflower seeds, s/he likes the taste. I share with others and I share with h/her. On h/her arm, she spills it. S/he licks it off. Yes. Also me!

Gidaan!
— Eat it all!

Ojibwemodaa!
—Let's all speak Ojibwe!

Giizis

Gisinaa

Dagwaagin

Miskobagaa

Gimanise

1. _____ idash ninzaagitoon.
2. _____ noongom aabawaasige.
3. Biijinaago gii-_____ jiigi-zaga'igan imaa.
4. _____, wayiiba. Niwii-kiikajimin.
5. Nimishoomis gii-ogitigaanaan aninaatigoog. Noongoom _____.
6. Apegish menoseyeg.

Translations:

<u>Niizh—2</u> **A.** It is sunny now. It will be a heavy frost soon. **B.** You can tell the future? Yes, it will be winter. A year passes. **C.** Ears of corn and corn soup? **D.** You are hungry. Me, I know things. **E.** Do you like (it) wild rice? I like (it) popped wild rice also. **F.** Perhaps all night it will be a cold rain. **G.** Not yet. **H.** Perhaps it will snow.
<u>Niswi—3</u> ***Down:*** **2.** Gigikendaas ***4.*** Ina ***6.*** Wayiiba ***7.*** Miinawaa ***Across:*** ***1.*** Ningiiyose ***3.*** Ogaa ***5.*** Gaye ***8.*** Aaniin
<u>Niiwin-4</u> **1.** It is Autumn, and I like it. (Dagwaagin) **2.** Sun now warms things up. (Giizis) **3.** Yesterday, it was-cold by the lake there. (Gisinaa) **4.** You harvest/cut firewood soon. We will be cold. (Gimanise) **5.** My grandfather, he planted them, maple trees. Now there are red leaves. (Miskobagaa) **6.** I hope you all have good luck/happenings.

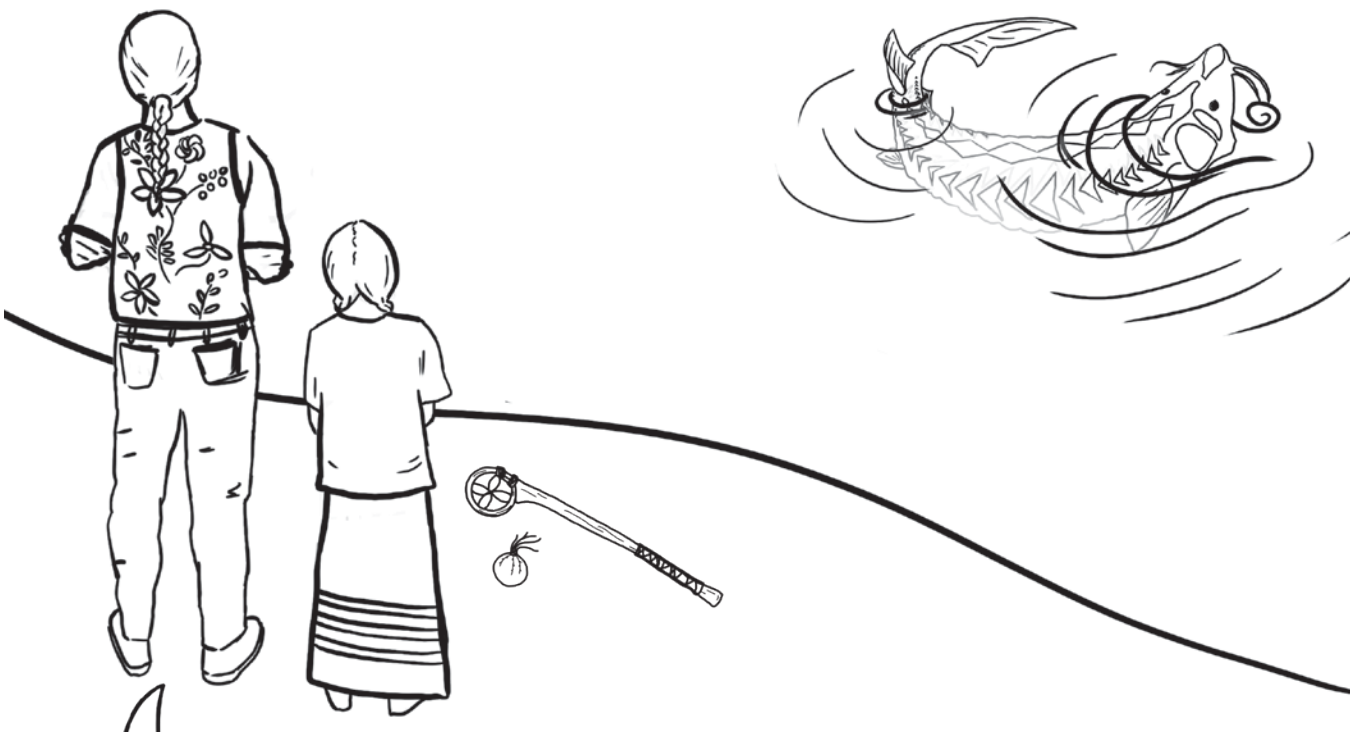
There are various Ojibwe dialects; check for correct usage in your area. The grammar patterns may help a beginner voice inanimate and animate nouns and verbs correctly, as well as create questions and negate statements. Note that the English translation will lose its natural flow as in any world language translation. This may be reproduced for classroom use only. All other uses by author's written permission. Some spellings and translations from <u>The Concise Dictionary of Minnesota Ojibwe</u> 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*

Giwaabamaa na Name?

Do you see the Sturgeon?

Name (or sturgeon) is a very special swimmer who can live to be one hundred years old or more, and like many elders, he carries a lot of knowledge, teachings, and stories, including baaga'adowewin (lacrosse). A few elders still tell the sacred stories using the cartilaginous skeleton (that means their bones are mostly made of "cartilage" just like your ears and nose). Each piece of the skeleton represents a different story, so in the traditional way, these stories take many nights to tell.



10-year-old Baashkine'aanakwad releases sturgeon fingerlings into the St. Louis river in Fall of 2024. These babies were hatched and raised by Fond du Lac's Resource Management Division

(JVS photo)

M_ng_d_g_n_m. G_n_b_j g_ch_-n_m_ g_-g_g_'_ng.
3 1 2 6 3 3 3 3 2 2 3 5 1 4 3 3

Activity:

Answer the quesions from the word bank below to uncover the missing vowels from the sentence above!

What is the Ojibwe word for sturgeon? _____(1)

A sturgeon can live to be _____(2) years old.

The longest recorded sturgeon to be harvested with a spear was _____(3) feet and 1 inch and was harvested by Butch St. Germaine from _____(4).

Traditionally, the sturgeon's skeleton helped tell sacred _____(5) over many nights.

The sport known in English as _____(6) was gifted to Ojibwe people by the sturgeon.

(a) seven
(o) lacrosse
(i) one hundred
(oo) Lac du Flambeau
(aa) Name
(e) stories

(find answer key and translation on page 23)

Did you know?

The longest lake sturgeon ever harvested by spearfishing measured seven feet and one inch! Lac du Flambeau's Butch St. Germaine landed the big fish in the spring of 1981, according to the George W Brown Ojibwe Museum and Cultural Center.You can go see the chiname in person at the museum in the village of Lac du Flambeau. *(ldfmuseum.com)*

This Name is only 6-8 inches long, and is not even a year old yet.

This adult Name is about four feet long. If she lives her full lifespan of 80–100 years, she could even double her length!

(USFWS photos)

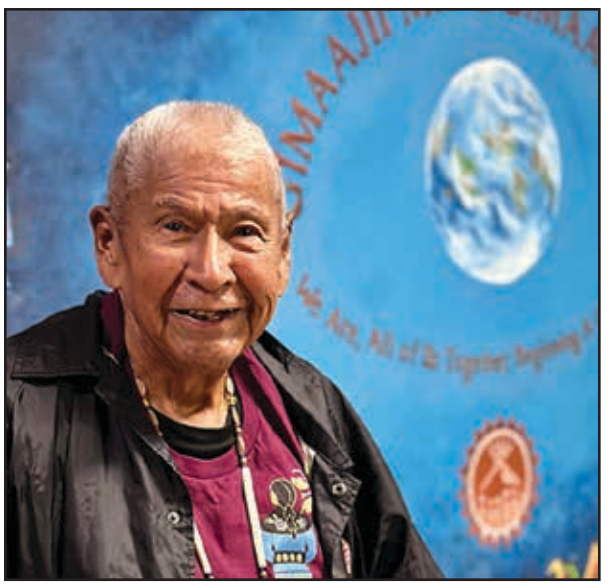
Howah!

Changing Worlds: Mille Lacs Band educator, an ogichidaa at home and overseas

Waabishkibines Joe Nayquonabe Sr. began the process of changing worlds May 22 after an unequivocal life of service in Ojibwe Country and far beyond. The Mille Lacs Band of Ojibwe elder and ceremonial drumchief is known for widely sharing cultural protocols with native communities and mentoring tribal citizens at home as an addiction counselor.

"Waabishkibines, or Uncle Joe to many, left an indelible legacy with his remarkable kindness and humor. He was deeply dedicated to cultural and ceremonial ways, which proved to be an excellent model for all of us to follow," said Jason Schlender, GLIFWC executive administrator. "We owe an incredible debt of gratitude for his display of humility, grace and bravery and are grateful to have been just a small part of his life."

At once a cultural force and easy going elder, Waabishkibines was beloved by Commission staff and intertribal representatives from across the upper Great Lakes region. He served on the GLIFWC elder advisory council known as GAAGIGE, providing guidance and input on a range of initiatives. Waabishkibines regularly helped GLIFWC Board of Commissioners and Voigt Intertribal Task Force meetings start with an invocation and cultural teachings. Waabishkibines was born in Minnesota on the Mille Lacs Reservation September 4, 1944.



A Vietnam War combat veteran and Purple Heart recipient, Waabishkibines would go on to live and work in Milwaukee before returning home to Mille Lacs after his discharge from the US Army with a bullet still lodged in his back. Through writings, audio storytelling, and interviews, he utilized his gift of being a first-language speaker to freely broadcast indigenous knowledge, helping preserve traditional teachings and the Anishinaabe lifeway.

—CO Rasmussen

Name ogii-shawenimaan iniw Anishinaaben *GLIFWC's 2025 poster*

The largest giigoonh in Ojibwe Country is name. Known phonetically as *nuh-MAY*, the lake sturgeon has shared all manner of gifts with human beings over time—from long ago Woodland peoples to the Great Lakes Anishinaabe of the last half-millennium. Name ogii-shawenimaan iniw Anishinaaben means, "The sturgeon blessed the Anishinaabe," in Ojibwemowin.

Name is an ancient fish, emerging in the waters of Turtle Island around the same time dinosaurs made their dramatic withdrawal from Aki. Over millions of years these gentle survivors would go on to become valued fixtures of early ecosystems, providing sustenance to First Nations and appearing in traditional stories known as aadizookaanag.

The late spiritual leader Bawdwaywidun Eddie Benton-Banai identified lake sturgeon as the Ogimaa of the Fish Clans. Both accommodating and playful, namewag would allow native people to cross rivers upon their backs when incredible numbers of large sturgeon gathered in the springtime shallows, Bawdwaywidun said.

Among the blessings imparted to the Anishinaabe, namewag are credited with delivering the stick-and-ball game, baaga'adowewin, to a young boy who would go on to share it with others. Also known as lacrosse, the game extended to native communities everywhere. It is this tradition that inspired Niiyogiizhig Wesley Ballinger in the 2025 GLIFWC poster Name ogii-shawenimaan iniw Anishinaaben where we see a lacrosse stick materialize from the flick of name's mighty tail. Among the waves juvenile sturgeon represent new life and the efforts of modern Ojibwe bands to restore namewag to their historic waters across the Ceded Territory.

Full-size Name ogii-shawenimaan iniw Anishinaaben posters measuring 24" x 18" are available from GLIFWC at glifwc.org/education-outreach/store.

Name vulnerability

(Continued from page 11)

Namewag live in a few large lakes and rivers throughout the Ceded Territories and are harvested by Anishinaabe and state anglers. Namewag are long-lived (lifespans estimated to be 80-100 years), late maturing beings (males >12 years old, females >24 years old) that spawn in the spring over rough, clean substrate in shallow areas (<6 feet) with moderate to swift currents. Young namewag (<1 yr) are infrequently observed in large schools over shallow sand or cobble substrate, feeding on primarily crustaceans and invertebrates. After one year of age, juvenile and adult name occupy highly productive waters with abundant food resources that are typically less than 30 feet deep.

The Ceded Territories contain a mix of extirpated (Montreal River), recovering (Ontonagon and St. Louis Rivers), and remnant self-sustaining (Bad and Sturgeon Rivers) populations. Recent annual spawning run population estimates for the Bad River range between 617-1317 adults and Sturgeon River at 350-400 adults. Restoration efforts for name include stocking, harvest restrictions, and spawning habitat improvement to rehabilitate stocks. Overall, anecdotal evidence suggest name populations are recovering in the Ceded Territories, but additional monitoring is required. Name is listed as threatened in Michigan and as a species of special concern in Minnesota. Name was mentioned very little in interviews, but all beings are of equal importance to Ojibwe people based on the cultural belief in the original treaties with all of creation. One Misi-zaaga'iganiing (Mille Lacs) member shared that there are namewag in Mille Lacs Lake, and described spearing a name years ago, before other agencies acknowledged that there were namewag present in the lake.

Summary of climate threats:

Based on the Climate Change Vulnerability Index (CCVI) score, name was the least vulnerable swimmer in the assessment, though less is known about this being than the other swimmers. Relative to other beings in the vulnerability assessment, name was in the 35th percentile. Factors that increased the vulnerability of name to climate change include: anthropogenic barriers (e.g., dams, flow alters feeding and spawning habitat), disturbance regime (variable precipitation can alter flow and affect recruitment), uncommon landscape features (e.g., spawning site fidelity), and limited (<5%) protected refugia.

Namewag are stocked in waters throughout the Ceded Territories (i.e., fish populations are supported by human intervention/aquaculture). In the short term, this strategy may resist the effects of climate change by maintaining artificially high population levels. In the long term, stocking name has the potential to increase vulnerability scores for several factors in the CCVI. These factors include dispersal and movement, physiological thermal niche, dietary versatility, sensitivity to pathogens and natural enemies, sensitivity to competition, interspecific interactions, measured genetic diversity, and phenological response to climate change. Collectively, these factors may increase the overall vulnerability scores for name in stocked waterbodies.

Factors that increase the vulnerability of name to climate change:

SI — Anthropogenic barriers: Dams can impede migration to spawning sites resulting in no reproduction (females either reabsorb their eggs) or reduced survival of eggs. Moreover, variable flow rates caused by dams can decrease the quality of feeding and spawning habitat.

N/SI — Disturbance regime: Namewag require moderate to swift flow rates over spawning grounds in the spring for egg development and dispersal. Highly variable flow rates due to changes in precipitation patterns could negatively impact recruitment.

SI — Uncommon landscape features: Adult namewag return to the same spawning locations in the spring. Alterations to these waterways (e.g., floods/droughts) could alter spawning habitat and the fish's ability to migrate to these areas.

N/SI — Competition: Name might experience an increase in mortality if sea lamprey perform better or are more abundant under future climatic conditions.

Legend

- GI — **Greatly Increase**: This factor greatly increases vulnerability
- I/GI — **Increase/Greatly Increase**: This factor may increase or greatly increase vulnerability
- I — **Increase**: This factor increases vulnerability
- SI/I — **Somewhat Increase/Increase**: This factor may somewhat increase or increase vulnerability
- SI — **Somewhat Increase**: This factor somewhat increases vulnerability
- N/SI — **Neutral/Somewhat Increase**: This factor may not increase or may somewhat increase vulnerability

Summer interns collect bearberry, mullein, and sweet fern to make traditional tobacco for future ceremonies

(continued from page 1)

While Falck typically dries medicines for an entire year while waiting for the next cohort of interns, some plants can be ready for processing with aged tobacco to make a traditional giniginige (mixture) in as little as 4-8 weeks. Drying time can also depend on community practices or elder teachings.

Creating unique blends, connections

To prepare the base mix, the inner bark of red osier dogwood is scraped out. From there, a mix of bearberry, tobacco, and mullein are added. However, it's important to note that there are many variables that can affect what goes into a mix; the teachings of a community, its environment, and the intended use of each blend can be specialized.

"We're all helpers of the earth," said Kathy Smith GLIFWC's Manoomin Ganawandang (she who takes care of the rice) in explaining the importance of interns being in the field. "How can our interns and future professionals be advocates for Anishinaabe people if they haven't done it themselves?"

Miles Falck, GLIFWC's Wildlife Section Leader, shows interns how to respectfully harvest medicines. (A Rauworth photo)

Kathy Smith, GLIFWC's Manoomin Wiidookaage (She who takes care of the wild rice), shares teachings about gathering asemaa with her young cousin and GLIFWC administration intern, Ireland Chosa. (A Rauworth photo)

In reflecting on the experience at the Moquah Barrens, Kayle Benesh, an intern with Inland Fisheries said: "It's really amazing not only to gain those teachings, but also to then be able to utilize them in the field."

The first destination for the intern-assisted asemaa blend each year is the GLIFWC-led Healing Circle Run, that has been connecting Ojibwe communities since 2001. After that it will find itself used at the Mikwendaagoziwag (they are remembered) memorial ceremony. GLIFWC staff uses the mix for seasonal solstice ceremonies and encourages personal staff usage as well.

"I'm very grateful for the opportunity to reconnect and learn," Benesh said.

Traditional foods project manager brings lifelong outdoors harvesting experience

Martinez, the youngest of five siblings, grew up surrounded by many tios (uncles), tias (aunts), and a very large extended family in northern New Mexico; Taos, NM sits in the high desert surrounded by mountains, just a hair east of the Rio Grande.

"Growing up I spent a lot of time learning to hunt everything from elk to grouse and fishing for his favorites perch and crappie to make traditional foods with my family," he said.

Martinez is Pueblo of Taos, Comanche, and Castilian Spanish. In 2000, he earned his bachelor's degree from New Mexico State University with a double Major in Fisheries & Wildlife Management.

Martinez brings 12 years of experience working with tribes while employed as a Tribal Relations Specialist by the Bureau of Land Management in Nevada and the US Forest Service in Minnesota. From 2021 to 2025 he worked for the Superior National Forest on 1854 Treaty territory in Minnesota.

In 2025 Martinez retired after 29 years of service as a fisheries & wildlife biologist and Tribal Relations Specialist. Over that time, he worked in Oregon, New Mexico, and Minnesota.

Martinez now lives near Ashland, Wis. with his wife and two youngest (of his six) sons.

Look for Martinez delivering maple sap evaporators to your community. (M Maund Rasmussen photo)

Martinez has a passion for teaching traditional and modern harvesting skills to anyone who is interested and enjoys all things outdoors like hunting, fishing, camping, hiking, gathering berries and learning about natural foods and medicines.

As GLIFWC's Traditional Foods Program Manager Martinez hopes to work with and learn as much as possible from Ojibwe people.

Initially, Martinez's primary focus is the Anishinaabe-zhiiwaagamizigan (Maple Syrup) Project. The goal of the project is to increase the number of tribal maple sap harvesters through teaching, promoting, and providing tools to help sustain the traditional practice of harvesting and processing maple sap to produce maple syrup."

"I want to learn more about local traditional foods so I can ensure that people keep that knowledge into the future," he said. **—JVS**

Accounts payable specialist joins GLIFWC admin

Tracy Bigboy joins GLIFWC's Administration Division, as the Accounts Payable Specialist. Since April she has attended Board of Commissioners and Voigt Task Force meetings while learning more about organizational invoicing, check generation, and cash flows through modules in Micro Information Products (MIP) Fund Accounting.

"I'm really excited to be a part of the GLIFWC family," said Bigboy.

Northern Wisconsin is home for Bigboy who is an enrolled member of the Bad River Band of Lake Superior Chippewa. In her spare time, she enjoys making memories with her husband, four children, and friends while enjoying the beauty of Lake Superior.

In 2002, she earned her associate degree in accounting from Northwood Technical College (formerly WITC) in Ashland, Wis.

Prior to GLIFWC, Bigboy spent numerous years working for the Bad River tribe in grant management with an emphasis on financial management and human services. She also has a background in federal governmental accounting through the Office of the Special Trustee for American Indians (OST), under the Department of the Interior.

"At OST I helped manage trust fund assets, responsibilities to tribal organizations and individual account holders," said Bigboy.

Bigboy is looking forward to joining the accounting department to use her experience in financial oversight and knowledge of systems to help run an efficient operation that is responsive to GLIFWC's member tribes and employees. **—JVS**

Working with flea beetles

(continued from page 7)

Recently staff from GLIFWC, the Northwoods Cooperative Weed Management Association and the US Fish & Wildlife Service traveled to the Douglas County Wildlife Area to collect flea beetles for redistribution.

It wasn't long until the crew had several bags holding thousands of beetles. They put the bags in the shaded back of the truck, and headed for northeastern Bayfield County. A couple hours later, the beetles were released in their new home.

Going forward, GLIFWC and its partners will monitor the release sites to see whether the beetles have successfully established, and if they eventually become abundant enough to control the leafy spurge. If they do, land stewards will have a valuable ally in maintaining the natural biodiversity of these sites.

Wildlife Technician Jose Estrada holds a screen bag of hundreds of beetles, ready to take to their new home in Bayfield County. (SG photo)

Kid's Page answer key:
1. Name (aa) 2. one hundred (i) 3. seven (a) 4. Lac du Flambeau (oo)
5. stories (e) 6. lacrosse (o)

Mangaadigonam. Ganabaj gichi-name gaa-googa'ang.
There's a big ripple. I think it was a big sturgeon jumping out of the water.

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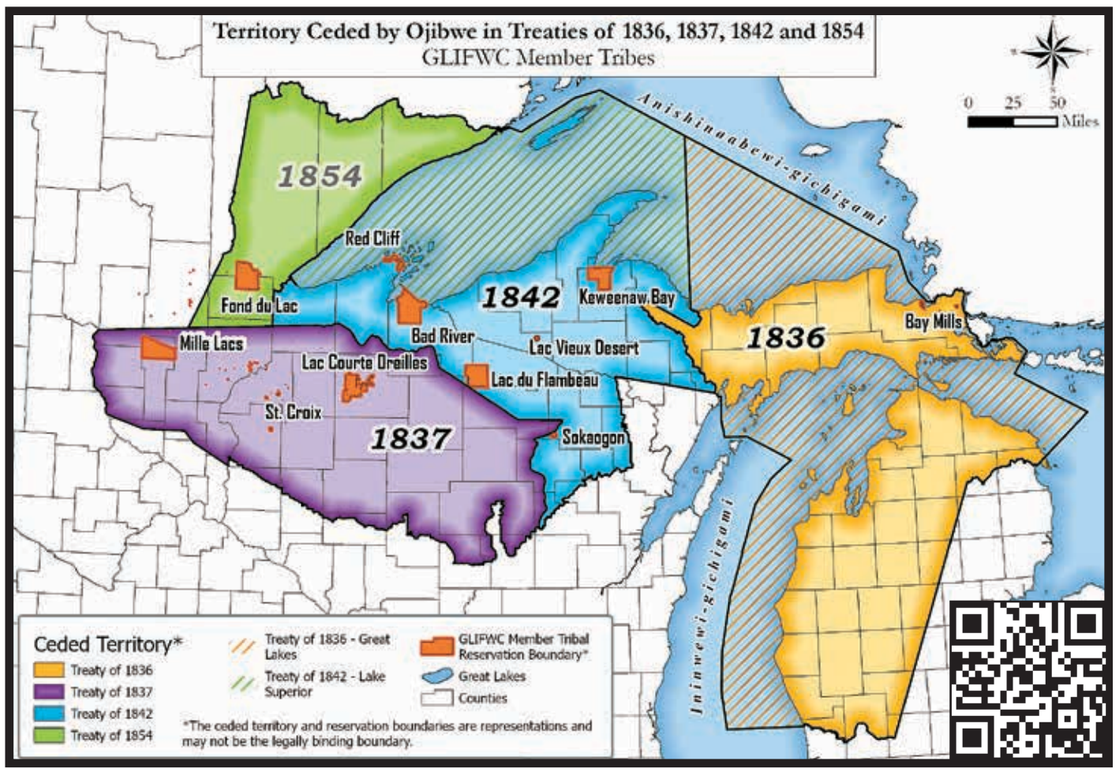

Ladies take the lead at fur trapping BMP workshop

While state and tribal natural resources officials report declining participation in the outdoors, one demographic seems to be bucking the trend. With increasing opportunities and engagement, women are embracing hunting, fishing, trapping, and gathering in the wilds of the Great Lakes region.

The recent workshop for Best Management Practices (BMP) for Trapping Furbearers in Ashland, Wis. provided a standout example as women from Minnesota to West Virginia participated in the annual nationwide effort to evaluate the efficiency and humaneness of foothold, cage, and other types of traps. The work is important to promote ethical and respectful treatment of animals harvested for fur like bobcat, fox, racoon, and coyote. In the Ojibwe Ceded Territory furbearers are harvested through regulated seasons with pelts used in cultural application, subsistence or the marketplace.


(COR photo)

The July 16 workshop included the crew from Wisconsin Women's Trap Camp—led by female biologists—along with veterinarians and other wildlife professionals from states and tribes. **—CO Rasmussen**