

Mazina'igan

A Chronicle of the Lake Superior Ojibwe

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Mille Lacs Lake walleye quota set cautiously for 2022

Tasty, abundant northern pike population available for harvest



(COR)

By Mark Luehring
GLIFWC Inland Fisheries Biologist

Under the frozen layer of water on Mille Lacs Lake, Minnesota, the famous 132,500 acre walleye lake in the 1837 Ceded Territory, the ecosystem continues to change. A low walleye population between five and nine years ago recently rebounded and stabilized thanks to a large group of walleye that hatched in 2013. Now as those walleyes begin to mature, the population is beginning to depend on walleye hatched in more recent years to maintain the spawning stock.

The good news is that many of the walleye in the solid 2017 year-class have reached adulthood and are keeping the population stable in 2022. Recent assessment results, however, suggest that the incoming year-classes are smaller, and projections of the spawning population show a decline is likely coming.

Because of the lower abundance of juvenile walleye, the Minnesota 1837 Ceded Territory Fisheries Committee (MNFC), comprised of state and tribal biologists and resource managers, decided to set the harvestable surplus of walleye at 135,000 lbs (see Northern pike, page 14)

←Near the northwest shore of Lake Mille Lacs, David Niib Aubid picks fish from his gillnet. Aubid is careful to keep his net off the ground as he collects *ogaa gaya ginoozke* (walleye and northern pike) for his family in the Sandy Lake area.

Games of biboon tap into tradition, recall vintage hunting skills

By Charlie Otto Rasmussen, Editor

High above the frozen Lake Superior shoreline on the University of Minnesota-Duluth (UMD) campus, an inclusive, all-ages group took part in a day of Ojibwe Winter Games on February 20. Heavily bundled against the biting biboon weather, participants tried their hand at snow snake games, spear-throwing competitions, and targeted everything from a grizzly bear to velociraptor with an *apaginaatig*.

Led by Wayne Valliere, cultural educators from Lac du Flambeau Public School brought the games—known as Ojibweg Bibooni-Ataadiiwin—and all their accouterments to northeast Minnesota at the invitation of several UMD programs including American Indian Learning Resource Center. Set up in a snow-covered athletic field adjacent to the Chester Park Building, the event produced a diverse draw of individuals and families numbering more than 80. Among them, Giiwedinookwe from Sagkeeng First Nation, Manitoba filtered through activity stations, presenting hand-carved snow snakes to surprised youth.

"I've always got my mookoman with me so when I see the right tree, the right piece of wood [for a snow snake], I'm ready," she said, patting a sheathed machete knife on her hip.

Giiwedinookwe and friends from Standing Rock Sioux Tribe and Fond du Lac Band of Ojibwe spent the winter traveling to indigenous games around the region, including

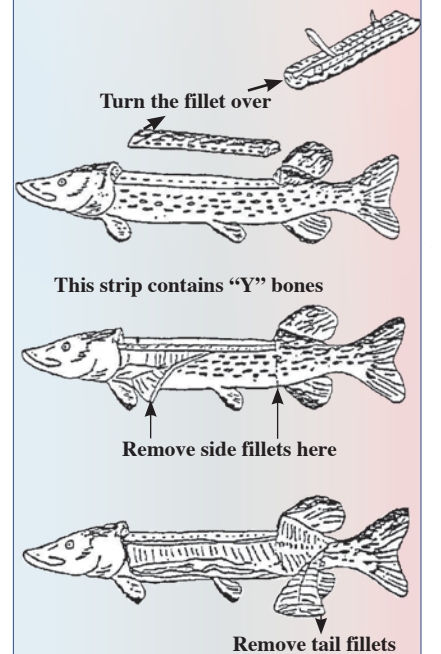


A member of the Lac du Flambeau Aninshinaabewin crew helps a youngster line-up his spear on a life-size moose target on the University of Minnesota-Duluth campus. (CO Rasmussen photo)

visits to Madeline Island and White Earth. She said they've distributed more than a dozen snow snakes to kids as a way to bring in new players into the traditional sport that's enjoying a resurgence in Great Lakes Ojibwe country over the past fifteen years.

In Lac du Flambeau style snow snake games, narrow tracks are metered out anywhere from 50-100-150-yards (see Ojibwe games, page 11)

Boneless pike fillets



Cold water, springtime ginoozhke fillets make for an excellent meal



Ma'iingan protections restored



(CC0 photo)

see page 3



Anishinaabe insights

Climate change and the Anishinaabe language

By Michael Waasegiizhig Price, GLIFWC TEK Specialist

As a life-long learner of the Anishinaabe language, I have come to rethink my worldview and the way I interpret my surroundings as I delve into the perspectives contained within the words and phrases of my mother's ancestral language, my ancestral language. The Anishinaabe language is a beautifully complex verb-based language that intricately describes the world around us. It is verb-based because most of the words in the Anishinaabe language are verbs, and nouns are created by conjugating those verbs. The Anishinaabe language describes an animate, in-motion reality from an Indigenous worldview.

I have also come to realize that there are not many words in the Anishinaabe language that can describe the many complex environmental effects brought on by climate change. Throughout their lifetimes, many Anishinaabe elders have experienced flooding, drought, and intense storm surges, but, today, the frequency and duration of these weather events are creating pronounced changes in vegetation, hydrology, and animal populations. Conversations about these weather events within Anishinaabe communities are limited because of this lack of terminology.

It is my opinion that we need words and phrases in the Anishinaabe language that describe these human-induced climatic events from an Anishinaabe perspective. By using our own language, these climate anomalies become more relative to our lives as Anishinaabe people, as opposed to relating to scientific words and phrases like tipping point, adaptation, mitigation, and positive feedback.

I propose six dynamic words and phrases in the Anishinaabe language describing current human-induced climate anomalies. These words contain many of the cultural values and observations that are traditional to the Anishinaabe people of the Great Lakes region.

Aanjikamigaa — “Changing landscape”

[aanji=changing; -kamig=earth, land; -aa=state or condition]

Aanjikamigaa is a term that describes the changes on the landscape that are a result of climate change. Increases in Greenhouse gases into the atmosphere create the potential for increased storm intensity, flooding, drought, and seasonal shifts. These fluctuations in temperature and precipitation directly impact features on the landscape, such as water levels in lakes and streams, aquatic and terrestrial vegetation, bird migrations, and animal habitats.

Traditional Anishinaabe people have spiritual relationships to many species of plants, trees, mammals, birds, and points on the landscape that make up their culture and identity as Indigenous people. Anishinaabe people gather many



Representatives from GLIFWC, the United States, and Ojibwe governments convened December 1 for the annual Tribal-Forest Service Memorandum of Understanding (MOU) meeting. Through the MOU—which spells out the US Forest Service's recognition of tribal treaty rights and sovereignty—both parties collaborate on natural resources management in Ceded Territory National Forests, including special projects that include birch trees, firewood, and sugarbushes. Pictured from lower left: Maria Janowiak (NIACS), Paul Strong (Forest Service), Ann McCammon Soltis (GLIFWC), Adam McGeshick (GLIFWC), Gary Loonsfoot (Keweenaw Bay Indian Community), and John Johnson (Lac du Flambeau). (COR photo)



Smoke rises from a wildland fire in Wisconsin's Bayfield County. (COR)

medicines from the landscape such as Mashkiigobag (*Labrador Tea*), Wiingashk (*Sweetgrass*), Wiisagijiibik (*Sweet Flag*), Miskobiimag (*Red Osier Dogwood*) and Gaawaakomizh (*Prickly Ash*). Anishinaabe people traditionally hunt animals such as Waawaashkeshi (*White-tailed Deer*), Waaboozoo (*Snowshoe Hare*), Mooz (Moose), and Omashkooz (Elk).

The trees that are important cultural resources are Aagimaatig (*Black Ash*), Giizhigaatig (*White Cedar*), Ininaatig (*Sugar Maple*) and Wiigwaasaatig (*Paper Birch*). These species of plants and animals are integral parts of the culture and traditions of Anishinaabe people. According to the Climate Change Vulnerability Assessment published in 2018 by GLIFWC, wild rice, walleye, and snowshoe hare are “moderately to extremely vulnerable” to climate change by 2050. This Vulnerability Assessment is also examining a total of 60+ species within the ceded lands of the 1837 and 1842 Treaty territories of Wisconsin and Minnesota.

The effects of climate change may impact many of these species which will begin to erode the culture and identity of Anishinaabe people. **Aanjikamigaa** is a term that identifies a changing landscape for years to come as our climate continues to intensify.

Bakwenemagad — “It is smoky or hazy”

[bakwene=It is smoky or hazy; -magad=inanimate emphatic suffix]

For several summers, there were wildfires on the west coast and in northern Manitoba. The smoke from these wildfires traveled thousands of miles eastward and created smoky skies for the Great Lakes region. The wildfires, exacerbated by climate change, impacted the air quality for millions of people across the continent. Because of decades of fire suppression, there are tons of leaf litter on the ground which will fuel many more wildfires in the future.

Bakwenemagad describes the smoky skies created by these wildfires. During times of smoky skies, the Sun appears as a hazy bright red object. Many peoples' health is adversely affected by the smoke, especially those struggling with asthma and other respiratory diseases. “It is smoky or hazy” will be used to describe this atmospheric condition exacerbated by climate change.

Dagwaaginaagwad — “It appears like autumn”

[dagwaagin=fall, autumn; -naagwad=it appears as such]
[dagwaa=be shortened; -gin=it grows]

In the Anishinaabe language, **Dagwaagin** is the term for “It is fall autumn.” This is the season when the leaves naturally change colors as the result of less sunlight (shorter days). The month of September is called **Waatebagaa-Giizis** —“The Moon of the Brightened Leaves.” Aspen and Birch turn bright yellow; maple trees turn brilliant shades of red, orange, and yellow, and the Tamarack, the only cone-bearing tree that sheds its needles in the fall, turns a bright yellow in the late autumn. The brightening of the leaves in the autumn signals the coming of winter.

(see *Climate Change*, page 11)



Ceded Territory news briefs

Proposed Line 5 construction under GLIFWC scrutiny

GLIFWC is conducting a detailed review of the Wisconsin Department of Natural Resources draft Environmental Impact Statement (dEIS) for the proposed Enbridge Line 5 oil pipeline reroute in the Bad River watershed. GLIFWC has identified several serious flaws in the document and communicated those concerns to the WDNR through written comments and verbal testimony during a recent public hearing.

Some of the major concerns include missing and incomplete analysis for important considerations including climate impacts and oil spills, lack of baseline data on stream water quality and rare species, and incorrect information on tribes and treaty rights. GLIFWC views the project as a threat to water quality. The watershed contains approximately 185 stream crossings and pipeline operator Enbridge has applied for permits to pursue construction of the new line in streams and rivers during spawning periods for trout and other fish.

In cooperation with several member tribes, GLIFWC is preparing detailed technical comments on the dEIS and will submit those comments to the WDNR ahead of the March 18th deadline. See dnr.wisconsin.gov/topic/EIA/Enbridge.html for more information.

GLIFWC is also reviewing a public notice on the proposed reroute issued by the St. Paul District of the Army Corps of Engineers. The Corps is responsible for regulating dredge and fill activities in wetlands and streams that would occur if the pipeline reroute is constructed. GLIFWC wants to be sure that the Corps does a full evaluation of all impacts to the Public Interest, as required by law, and believes that is best accomplished by conducting a full Environmental Impact Statement. The deadline for submitting comments to the Corps is March 22. More information can be found at: www.mvp.usace.army.mil/Enbridge_Line5-WI —GLIFWC Environmental Section staff

Officers return to Commission board, task force

At a pair of January meetings, the Voigt Intertribal Task Force and GLIFWC Board of Commissioners reelected their officers to another one-year term. Returning for the Board—which oversees a broad scope of GLIFWC activities and establishes policy—Chairman Jim Williams Jr (Lac Vieux Desert), Vice-Chair Mike Wiggins Jr (Bad River), and Secretary Reginald DeFoe (Fond du Lac). Focused on inland 1837 and 1842 treaty-ceded territories, the Voigt Intertribal Task Force welcomes back John Johnson (Lac du Flambeau) at chair and Marvin DeFoe Jr (Red Cliff) at vice-chair. —CO Rasmussen

U-Minn recognizes climate adaptation team

As the effects of climate change continue to unfold across Ojibwe Country, adapting to conditions like reduced ice cover on Ceded Territory lakes and dramatic swings in precipitation becomes increasingly urgent. Adaptation plans reflecting their own culture language and values are critical for indigenous communities. Good working relationships between all citizens of the region is essential. To guide tribal adaptation planning and help bridge potential communication barriers between mainstream organizations and indigenous communities, GLIFWC, 1854 Treaty Authority and a collection of tribal members and agency specialists created *Dibaginjigaadeg Anishinaabe Ezhitwaad: A Tribal Climate Adaptation Menu* (TAM). Professionals in the climate field—among many others—took notice.

“The impact of this groundbreaking document [will] continue to grow throughout Minnesota, Wisconsin, Michigan and beyond for years to come,” said Minnesota Climate Adaptation Partnership (MCAP) awards officials said in a statement.

On behalf of University of Minnesota’s MCAP, Dr Mark Seely formally announced the TAM as the 2022 Collaborative Adaption Award winner during a virtual presentation January 31. GLIFWC’s Rob Croll and Kristen Schmitt, Northern Institute of Applied Climate Science, accepted the award on behalf of the TAM team that includes 19 authors. Croll said the team hopes its publication allows non-natives to better understand indigenous and traditional knowledge, culture, language and history as critical components of climate adaptation planning. —CO Rasmussen

Voigt Intertribal Task Force Ojibwe tribes and GLIFWC hosting community meetings

Community meetings are underway to go over GLIFWC’s research and calculations of total available walleye and details of final tribal declarations.

“These meetings are an important opportunity to provide information to tribal members about the permit distribution process, registration stations, mercury maps and lake openings” said Joe Dan Rose, GLIFWC Inland fisheries biologist.

GLIFWC reports walleye populations to tribal leaders who then make the final determination about quotas and harvest expectations. “We want people looking forward to the spearing season, to have as much information up front to prepare and to be able to enjoy the spring ice out” said GLIFWC biologist Mark Luehring.

For additional information contact Inland Fisheries Biologists Joe Dan Rose, Mark Luehring 715-682-6619 or your Voigt representative. —JVS

Great Lakes wolves return to ESA protected status

By Charlie Otto Rasmussen, Editor

Recent judicial rulings favoring a science-based approach to ma’ingan stewardship continued into 2022 with a February 10 decision returning wolves to the federal Endangered Species List. A federal district court struck down the January 2021 wolf delisting by the Trump administration, noting that the US Fish & Wildlife Service failed to demonstrate adequate regulations were in place to protect the species from a population decline.

“It’s a positive step in supporting ma’ingan’s recovery in the upper Great Lakes region and beyond,” said Michael J Isham Jr, GLIFWC executive administrator. “Our traditional responsibilities as Ojibwe people to stand with wolves goes hand-in-hand with fostering healthy ecosystems, which include ma’inganag filling a crucial, sacred role in the web of life”

Indigenous people across the United States heralded the restoration of Endangered Species Act (ESA) protections for ma’inganag as packs continue to return to their former range. Unregulated hunting and trapping, including paid bounties to kill wolves, decimated their numbers through the 1960s in the contiguous US, leaving only a remnant population in far northern Minnesota. Prior to the February district court ruling, Secretary of the Interior Deb Halland wrote in an editorial: “My Pueblo ancestors taught me to live with courage, respect our ecosystems and protect our families—the very same virtues that wolves embody... The continued recovery of gray wolves depends on the cooperation of wildlife managers at the state, tribal and federal level.”

The rushed effort to kill wolves in Wisconsin only weeks after their 2021 delisting served as a ghastly example of poor management by state authorities. Conducted during the midst of the breeding season in late February, state-licensed hunters and trappers overshot their quota by 83%, killing 218 wolves within three days, including pregnant females. State officials, moreover, skipped over consultations with the six Ojibwe treaty tribes prior to the season. Wisconsin, Minnesota, and Michigan are all currently drafting new wolf management plans as the tribes continue to press state officials to incorporate both good science and indigenous perspectives into the documents.

Tribal Ma’ingan Relationship Plan

Striking a much different tone from state wolf “management” plans, Ojibwe tribes are developing a document that describes what an appropriate relationship between ma’inganag and Anishinaabe people looks like. Three primary inputs are guiding the draft plan: traditional Ojibwe teachings; the Traditional Ecological Knowledge that Ojibweg have acquired through centuries of living and sharing the landscape with wolves; and contemporary understandings of ecology, biology, and social attitudes.

Long ago when the Original Treaties were forged between Anishinaabe people and more-than-human-beings, responsibilities were established. Ma’ingan, the teacher, demonstrated how to live upon the challenging northern landscape, how to organize families and communities into cohesive units. For humans, there should be no place for trophy hunts or killing wolves for sport. Coexistence drives the Anishinaabe plan for ma’ingan—a plan rooted in respect.



At the Rocky Mountain Elk Foundation’s fundraising banquet in Hayward last February, Michael J Isham Jr, GLIFWC executive administrator, told the audience that wolves were part of a healthy ecosystem. While there were plenty of skeptics, Isham encouraged the sportsmen to reconsider their attitudes toward ma’ingan as fatal diseases like chronic wasting in cervids (elk and deer) move into the region. Over the last 25 years in northern Wisconsin, researchers have documented 122 elk kills by wolf predation—around five elk per year on average. GLIFWC Wildlife Biologist Travis Bartnick said it’s difficult to pinpoint the number of elk that wolf prey on annually without an extensive study to estimate the actual predation rate. (CO Rasmussen photo)



Ceded Territory harvest data reveals trends in dagwaagin Ojibwe seasons

Wisco's Bayfield County provides essential hunting grounds

By Travis Bartnick, GLIFWC Wildlife Biologist

Waawaashkeshi harvest down in 2021

During the 2021 off-reservation tribal deer season, Ojibwe hunters registered 857 whitetails, which was down compared to the 1,044 deer harvested in 2020 across the 1836, 1837, and 1842 Ceded Territories. The relatively warm fall weather, especially in the early season, as well as the late arrival of snow in some areas resulted in slightly less-than ideal hunting conditions when compared to the previous season.

Over the 2021 season, about 19% of the total number of deer were registered by the end of October, whereas in 2020 about 36% of the total deer had

been registered by the end of October. Antlerless deer accounted for 46% of the kill and antlered deer accounted for 54% of the total deer registered in the 2021 season, which is the exact opposite of the 2020 season, where 46% were antlered and 54% were antlerless. Tribal hunters harvested deer from 37 counties within the 1836, 1837, and 1842 Ceded Territories (Figure 1). This included 23 counties in Wisconsin, nine counties in Michigan, and five counties in Minnesota. Similar to past years, four counties in northwestern Wisconsin accounted for over half (51%) of the total off-reservation deer harvest. Those counties included Bayfield (19%), Burnett (16%), Douglas (11%), and Sawyer County with 6% of the total harvest.

Tribal hunters registered the most deer between October 29, 2021, and November 28, 2021, accounting for about 64% of the total deer harvest over those 31 days. The most off-reservation deer registered by tribal members on a single day occurred on November 20, 2021, coinciding with the Wisconsin state gun season opener. While in-person registration remains available across Ceded Territory, most of the deer were registered using remote registration methods, either by phone or online.

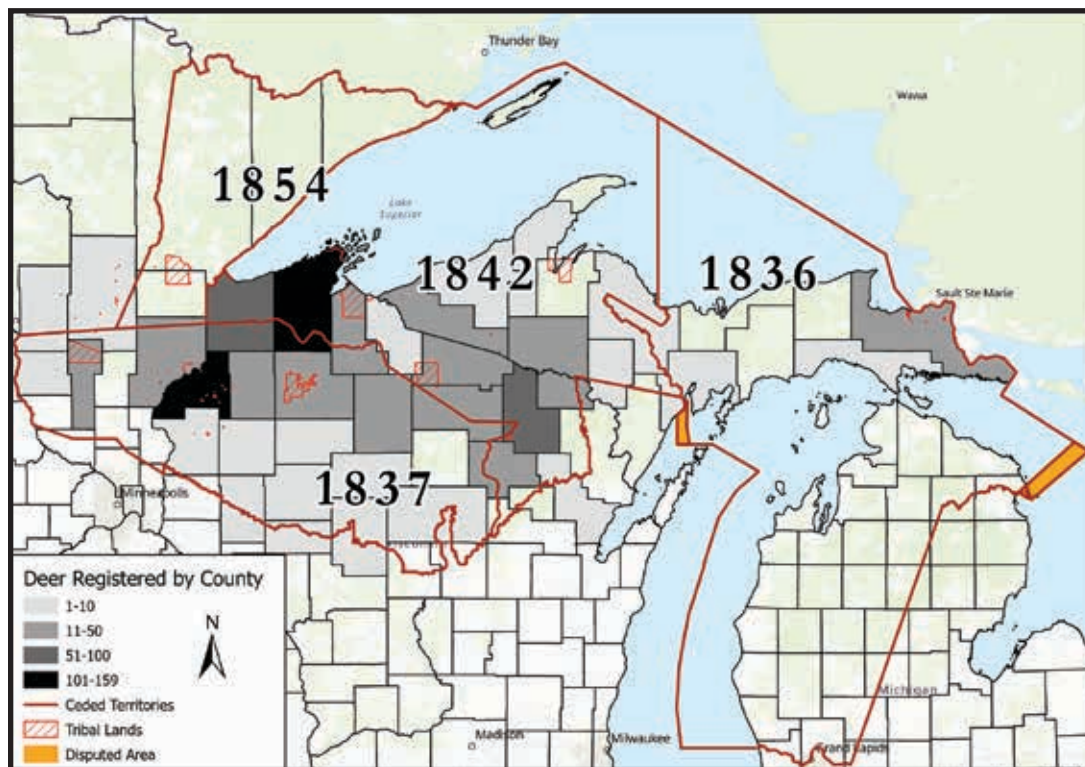


Figure 1. Distribution of waawaashkeshi (deer) registered by GLIFWC-member tribes in the 1836, 1837, and 1842 Ceded Territories during the 2021 off-reservation tribal hunting season, summarized by total deer harvested in each county. *The boundaries are representations and may not be the legally binding boundary.

2021 Makwa (bear) harvest

Tribal members harvested a total of 42 bears from the portions of the 1837 and 1842 Ceded Territories in Wisconsin and Michigan during the 2021 season. A total of 41 bears were harvested in Wisconsin from 11 different counties, and one was harvested in Michigan. Most of the bears (59%) were harvested in Bayfield County. An equal number of male and female bears were registered over the 2021 season.

2021 Fall mizise (turkey) harvest

During the 2021 Fall Turkey Season, tribal hunters registered a total of 39 turkeys across portions of the 1842 and 1837 Ceded Territories. This included 34 turkeys in the Wisconsin 1837/1842 portion of the Ceded Territories. Most of these turkeys were harvested from Unit 6 in northwestern Wisconsin. Four turkeys were registered in the Minnesota 1837 portion of the Ceded Territory and one turkey was registered in the Michigan 1842 portion of the Ceded Territory. Of the 39 turkeys that were registered across the Ceded Territories, nine were registered in-person, 15 were registered using the online registration system and 15 were registered using the phone registration system.

MAZINA'IGAN STAFF: (Pronounced Muh zin ah' igun)

Charlie Otto Rasmussen..... Editor
Lynn Plucinski Assistant Editor
Jenny Van Sickle Staff Writer



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 address given above.

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

Seasons closing for fisher, otter, & bobcats

By Tanya Aldred, GLIFWC Carnivore Biologist

Ojiig (fisher), nigig (otter) and gidagaa-bizhiw (bobcat) season has been underway since the fall of 2021 and will close soon for most species within the 1837 and 1842 Ceded Territories.

Since the beginning of the 2021-2022 season, the current tribal off-reservation harvest status is at 21 ojiigag, 13 nigigwag and 15 gidagaa-bizhiwag within the 1837 and 1842 Ceded Territories. These tribal harvest trends, in the table below, are about average for this time of year (total numbers as of the end of February each year, excluding harvest data from Keweenaw Bay), compared to past years.

It is difficult to determine if the general decline in harvest is due to declining interest in trapping/hunting of these species, a decline in the fur market prices or due to unforeseen pandemic related issues. Participation in hunting and trapping has generally declined across multiple states. Harvesters trap for a variety of reasons including monetary gain, ceremonial/regalia use, and staying active outdoors in the fall and winter months.

	YEAR			
	2021-2022	2020-2021	2019-2020	2018-2019
Fisher	21	33	16	49
Otter	13	12	0	13
Bobcat	15	16	5	24

(see CITES tags, page 14)

On the cover

Ziigwan is a time of renewal as plant communities come to life across akii. It's also one of the most productive harvest seasons. Maple trees are providing sap for syrup and sugar. And over a short two-three week window, spearfishers collect much of the fish—including ogaagwag (walleyes) and northern pike (ginoozheg)—that Ojibwe families will eat in the coming year after lake and river ice releases Ceded Territory waters. (Jessica Gokey floral)



Bringing back wiigwaasaatigoog to Red Cliff homelands

By Alexandra Bohman, Forest Ecologist

Dagwaagong (this last fall), members of the Red Cliff Band of Lake Superior Chippewa organized a reforestation effort aimed to regenerate wiigwaas (paper birch) in a favorite harvest location in their home known as Miskwaabikaang.

Tribal harvesters have been noticing a decline in wiigwaasaatigoog (paper birch trees) for many years, an observation supported by other natural resource agencies in the Ceded Territories. We are seeing less than half the wiigwaasaatigoog on the landscape that were here not even 50 years ago. While there is an overall increase in forestland in the Ceded Territories, there is a decrease in the wiigwaasaatigoog.

Some possible explanations for these changes include:

1) Forest maturation: Ceded Territory forests that were subjected to the “big cut-over” up to the 1920’s are maturing past the point of supporting the relatively short-lived wiigwaasaatig (paper birch tree).

2) Changes in silvicultural practices manage against “less marketable” species, like birch.

3) Harvest practices targeting the young age classes of wiigwaasaatigoog: There is an entire industry around using small diameter wiigwaasaatig poles for home décor that encourages over-harvesting of these products, and

4) As a northern being, wiigwaasaatigoog are vulnerable to our changing climate: In addition to warming temperatures and changing moisture levels, a significant impact of climate change on our northern forests are more frequent and more extreme weather events. This is likely to be what happened in Miskwaabekong in the favored wiigwaas loca-



Red Cliff youth were greeted at the regeneration site with welcoming words and a short demonstration of the restoration efforts from Marvin DeFoe, Red Cliff tribal member, Tribal Historic Preservation Officer (THPO) and Vice Chair of the Voigt Intertribal Task Force. The youth group then walked the land planting their wiigwaasaatig miinikaanan while DeFoe reminded them that, “you are planting more than seeds, you are planting hope, hope for the future of the Anishinaabe and hope for the future of all the tree beings.” (A. Bohman photo)

tion when a large wind event devastated nearly 40 acres of wiigwaasaatigoog on a north facing slope.

(see [Seeding in gashkadino-giizis](#), page 10)

Ojibwe elk hunters provide for communities in Michigan, Wisconsin



Terry Carrick Sr. and grandsons Caleb and Cullen Carrick returned to Bay Mills with cow omashkooz harvested during the 2021 season in the Michigan 1836 Treaty-ceded territory. (T. Carrick photo)

By Charlie Otto Rasmussen, Editor

Ojibwe tribes welcomed fresh omashoozo-wiias into community food pantries across the Ceded Territory following a string of successful hunts. Over a season that stretched from September through December 2021, licensed Ojibwe hunters harvested a total of nine elk (omashkoozoog) from the wilds of the Chequamegon-Nicolet National Forest in Wisconsin and Michigan’s Pigeon River Country State Forest.

In the 1836 Michigan Territory, Bay Mills Indian Community (BMIC) members experienced slow hunting during the warm early season, taking a lone cow elk from the 107,000-acre Pigeon River forest. With snow and cold weather in the late season came hunting success. Justin Carrick, BMIC Conservation Dept., said tribal members filled the band’s final four tags, harvesting a bull and three cows during the tribal-only season. Within the well-established, robust Michigan elk range, cows typically make up a significant portion of the harvest for tribal and state-licensed hunters in order to keep the population balanced between wildland and agricultural habitat.

In the Wisconsin Clam Lake Elk Range, home to a smaller omashkooz herd, the season brought together not only Ojibwe tag-holders but entire families. A harvest camp near the shores of Chippewa Lake served as a hub for both hunters and their helpers. Tribal community members young and old contributed everything from traditional knowledge to the muscle-power required to haul quarter sections of elk from the vast public woodlands.

“A lot of work has gone into restoring elk, a native species driven to extinction during the settlement era,” said Michael J Isham Jr, GLIFWC executive administrator. “A healthy elk population, pre-hunt ceremonies, harvest opportunities—it all helps bring balance to the environment and solidifies our connection to the natural world.”

With an allocation of four bull-only tags, 1837 and 1842-Treaty bands organized inter-tribal hunts, harvesting two spike bulls in the early season, then adding two more bulls later in the Wisconsin season. All of the omashkooz were harvested in the Clam Lake area.

Returning to the Wisconsin elk woods

After participating in the first two elk seasons along with state-licensed hunters, Ojibwe tribes did not fill their Wisconsin omashkooz quota in 2020. While the Wisconsin Elk Advisory Committee—comprised of interagency biologists—recommended a safe harvest total (see [Returning omashkoozoog](#), page 14)



GLIFWC explores new technology to assess fish populations in Gichigami

By Ben Michaels, GLIFWC Fisheries Biologist

Chinamekos (lake trout) and adikameg (lake whitefish) are economically and ecologically important fish species in Lake Superior. Whether it be deploying gill nets, trawls, or seines, GLIFWC Great Lakes Section has contributed decades of sampling effort into understanding these fish population characteristics within the lake.

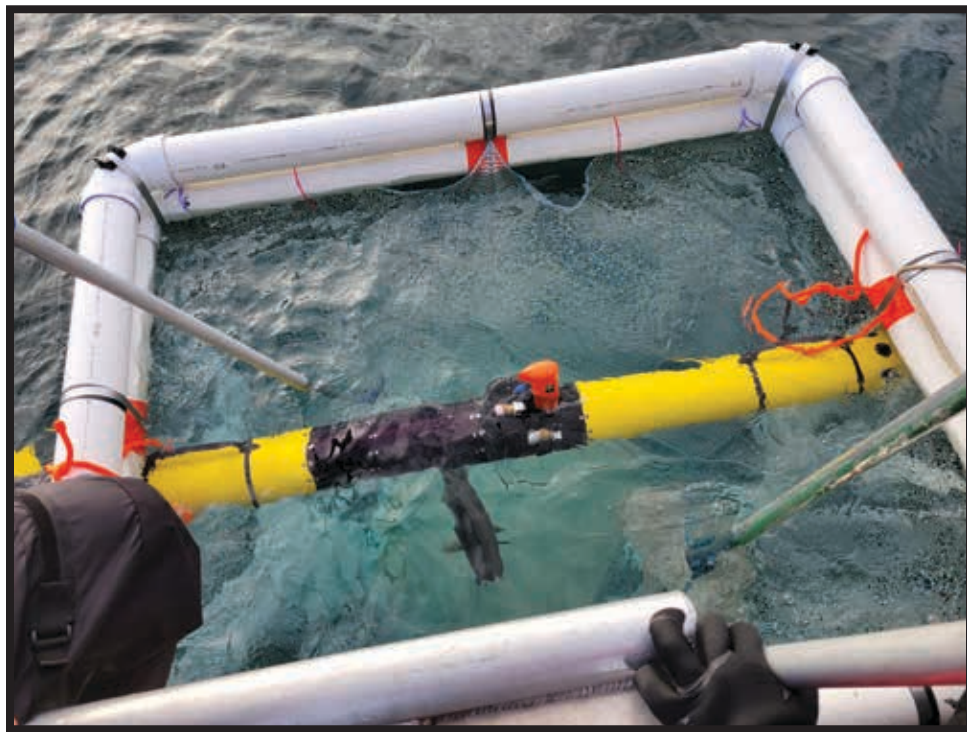
However, traditional assessment gear like this require significant time and effort to use, and with Lake Superior becoming windier in recent years, there have been fewer opportunities for Great Lakes Section's assessment crew to safely operate their research vessel on the water, especially during the fall spawning season when the crew collects abundance and length information on spawning fish populations.

A potential solution that GLIFWC has considered is to employ the use of an AUV (Autonomous Underwater Vehicle) with stereoscopic imagery to determine the abundance and size structure of lake trout and whitefish on various Lake Superior spawning reefs.

GLIFWC contracted Pete Essleman, a US Geological Survey (USGS) fisheries biologist who has had experience with this same technology toward estimating round goby abundance in the Great Lakes, to help determine the feasibility of using this technology for lake trout and whitefish population assessment. In fall 2021, GLIFWC and USGS crews captured lake trout spawning on Buffalo Reef, which is located on the eastern side of the Keweenaw Peninsula, and placed them in net pens where the AUV took images of individual fish for length estimation.

Additionally, the USGS crew programmed the AUV to automatically navigate and take pictures along numerous transects within the reef in the hopes of obtaining an estimate of fish abundance in the area.

Preliminary results of this work indicate that the AUV-collected data yields accurate length measurements for lake trout, but surprisingly the autonomous unit detected only very low densities of lake trout on Buffalo Reef despite the



USGS personnel use this yellow AUV, known as the Iver, to take images of lake trout being held in a net pen for length estimation, which is based on the number and dimension of each pixel within the image of the fish.

relatively high gill net catches that were observed the day before the AUV sampled the area—leaving biologists with more questions regarding lake trout spawning behavior. GLIFWC plans to continue exploring the feasibility using the AUV with whitefish population assessment in the fall of 2022.

Virtual gathering taps into sugar bush knowledge

By Jenny Van Sickle, Staff Writer

The Ininaatig Dibaajimowinan virtual storytelling event brought together elders, harvesters, and resource managers from across the sugar maple range who spoke about the importance of ininaatigoog (sugar maple trees). After nearly a year in the making over 100 signed on to participate in the virtual discussion.

Moderated by the Marne Kaeske from 1854 Treaty Authority, an intertribal natural resources agency, community members came together February 8 to talk about their relationship with iskigamizigan (sugarbush).

The evening's featured hosts, Jerry Jondreau and Katy Bresette, founders of Dynamite Hill Farms near Keweenaw Bay, described their family business as their way of returning to the production of traditional, clean, and artisan foods. Incorporating community and relationship-building are combined with building educational components into all aspects of their operations.

"It's a two-way relationship, not just the tree giving [to people]," said Bresette, who taps sugar maples every year with her family.

Jondreau pointed to elements like drought as a factor into seasonal decisions of when to tap trees. He noted they've developed knowledge of the individuality of trees in their sugarbush.

GLIFWC's Rob Croll and Hannah Panci welcomed the large audience before turning the presentation over to panelists who offered detailed accounts of their perspectives, lessons, methods of extraction, year-round care and building a strong understanding of a tree's ability and sugar-stewardship.

Marvin DeFoe, Red Cliff, recalled early memories of developing a warm relationship with syrup by eating pancakes with his grandpa and remembers asking: "how do you know when the trees were ready?" When the baapaase (woodpecker) comes around was the answer. "When you start to hear them banging away, it tells you bugs are starting to move around in there, things are waking up," said DeFoe.

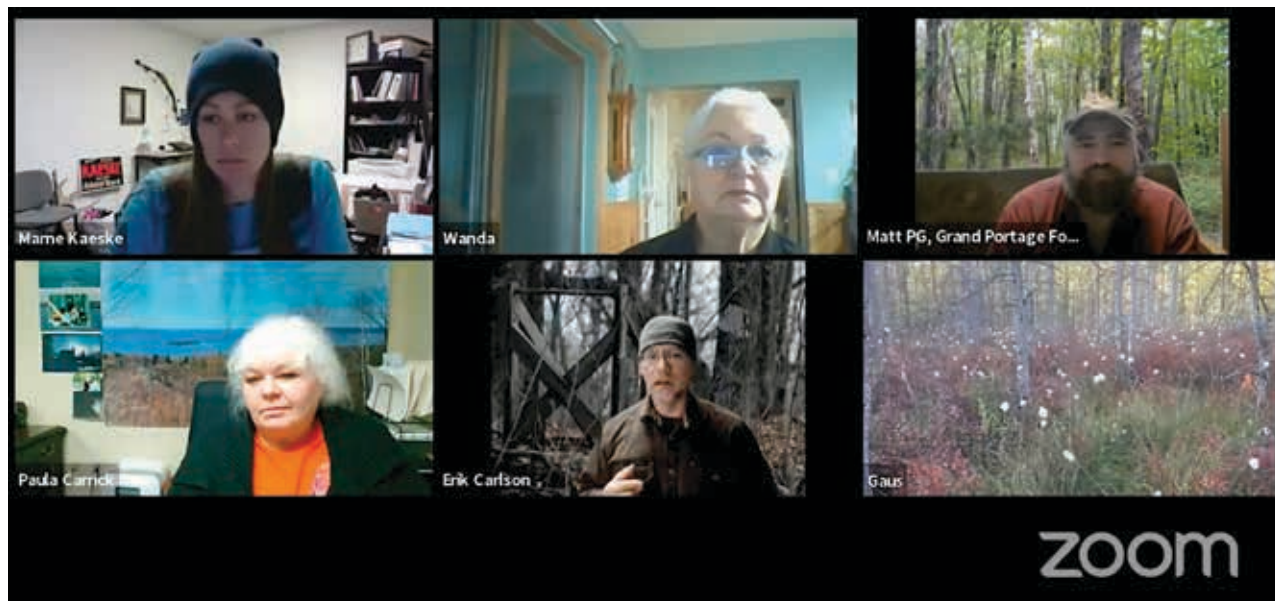
Wanda Perron, archivist and historian from Bay Mills Indian Community encouraged newcomers to start out simply. She proudly showed the audience a laminated permit marking the U.S. Forest Service's inaugural decision granting her family access to tap trees in a national forest under the Tribal-Forest Service Memorandum of Understanding.

"Don't get bogged down in the details of equipment," she said. "Copper tubing and a milk jug can get you going."

Another panelist, Fond du Lac Band's Bruce Savage, Spirit Lake Native Farms, taps just over 2,000 trees annually. Savage described the importance of being vigilant and cautious, even for experienced sugarers.

"We have the potential to inadvertently hurt trees by leaving damaging scars or introducing disease," Savage said.

Additional panelists shared their experiences during the evening: Dustin Burnette, Midwest Indigenous Immersion Network and Erik Carlson, Grand Portage Forestry. The event's sponsors included Wisconsin Tribal Conservation Advisory Council, Dynamite Hill Farms, College of Menominee Nation Sustainable Development Institute, United South and Eastern Tribes, Bay Mills Indian Community, Northern Institute of Applied Climate Science and GLIFWC.



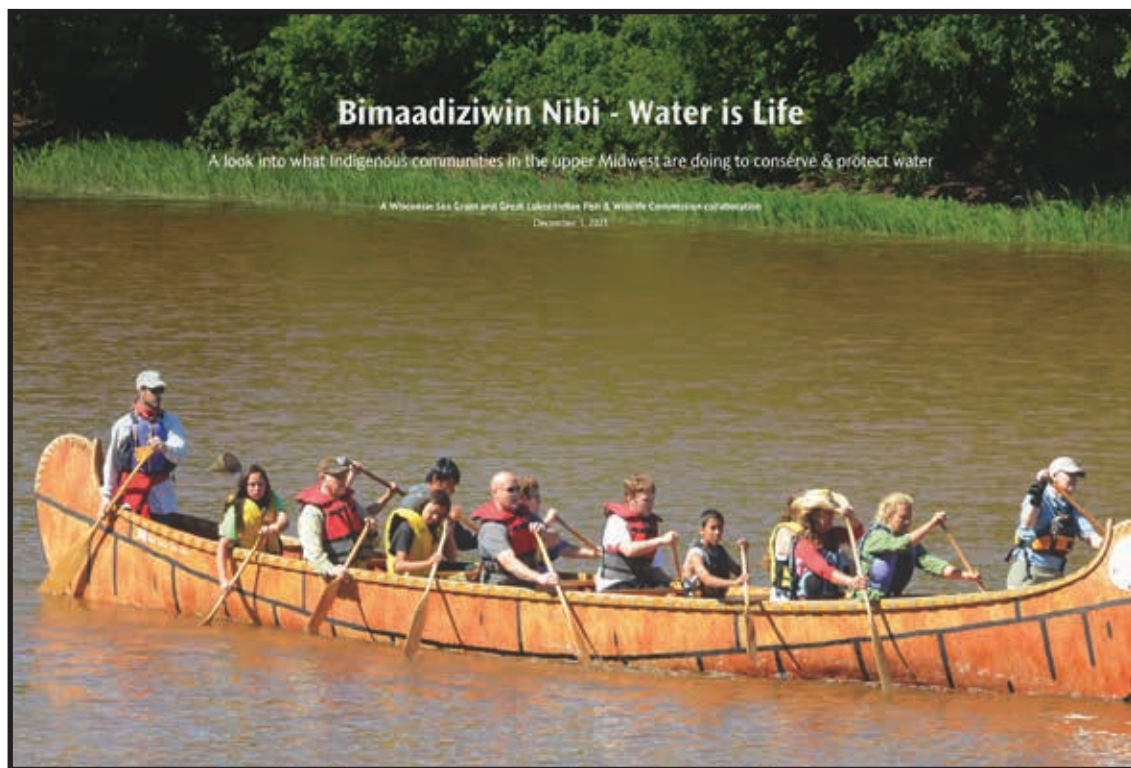


Bimaadiziwin Nibi, Water is Life:

A story map experience about water conservation in the Ceded Territories

Have you heard? Bimaadiziwin nibi—Water is life! It is the core of our physical and mental wellbeing—providing health, community, natural beauty, and much more. That is why water conservation and protection efforts are the focus of so much community work in the Ceded Territories. Now a new story map experience is available to see how communities are putting in the work through collaboration of Indigenous knowledge and Western science to conserve and protect water.

Named Bimaadiziwin Nibi, Water is Life, the story map is divided into sections, each centered around a different environmental issue including wild rice, fish, nonlocal beings (invasive species), mining, contaminants, and beach sampling. Within each section are photos, reports and videos from tribal natural resource departments and a summary of interviews with scientists.



The project was created by Brenna DeNamur during her internship with Wisconsin Sea Grant in 2020. DeNamur, a recent University of Wisconsin-Madison graduate, partnered with GLIFWC to develop the content in a culturally responsive manner.

“It’s my hope that visitors to the site will gain a better understanding of the challenges faced in the intersection of conservation efforts and tribal culture, and that they be introduced to the diverse voices working in this area,” DeNamur said.

For instance, in the nonlocal beings’ section, DeNamur writes: “Although Indigenous science teaches respect and consideration for all, these nonlocal beings still pose a threat to biodiversity and the individual species, such as manoomin (wild rice) and ogaa (walleye), that Native Americans have had deep relationships with for generations.”

In response, GLIFWC works to counter nonlocal beings. Technicians conduct surveys, control actions, and follow up monitoring for both terrestrial and aquatic species. The web page details how the Commission divides its efforts into prevention, early detection and rapid response, control and management, research, and cooperation and coordination.

“This story map is a great tool for understanding how the collaboration of Traditional Ecological Knowledge and Western Science methodologies can produce strategic and respectful conservation efforts concerning water throughout the Ceded Territories and beyond,” said Hannah Arbuckle, GLIFWC Outreach Coordinator.

Anne Moser, Wisconsin Sea Grant senior special librarian/education coordinator and DeNamur’s mentor, hopes to see the story map grow in the coming years. “I am grateful and honored to collaborate with GLIFWC on this project. It helped me gain a deeper understanding about Great Lakes literacy and how to incorporate Indigenous approaches into my work in education.

DeNamur said that teaching Indigenous science is about understanding the world from different perspectives. “If more people lived by this, we could sustain a healthier, more prosperous world,” she said.

To access the story map, visit go.wisc.edu/4n6n3n.

Indigenous footprints at Spirit Island, past & present

By Jenny Van Sickle, Staff Writer

In early January nearly 80 people listened in as Jeff Savage, Fond du Lac Band’s Cultural Center Director and Marvin DeFoe, Red Cliff Tribal Historic Preservation Officer, shared their memories during a River Talks event at the Lake Superior Estuarium on Barker’s Island.

River Talks is an annual, free informal speaker series about the St. Louis River Estuary in Duluth-Superior and sponsored by The Lake Superior National Estuarine Research Reserve and the Wisconsin Sea Grant Program.

The hour-long talk covered the Ojibwe migration story and highlighted the significance of Spirit Island. Event organizers set the scene: “On the Minnesota side of the St. Louis River estuary in a widening called Spirit Lake, lies Spirit Island. This small island is of spiritual and cultural significance to the Ojibwe people and was the second-to-last stop on their migration to this area from the East Coast.”

According to Savage, the arc of Ojibwe existence and travels are preserved through birch scrolls of the Seven Prophets or, Seven Fires. Hardships, bounty, and lessons weave together the Ojibwe’s earliest Eastern-facing journey (where they settled for millennia) to the story of Western migration towards *where food grows on the water*—a resource known as manoomin, or wild rice.

DeFoe, who is the Vice Chair of the Voigt Intertribal Task Force, described the concept of western science catching up with stories that have been passed down through Indigenous families for generations. One example he cited were the ancient stories of “gigantic beavers” in this area, only to be confirmed much later by archeological technologies. Two perspectives known as Traditional Ecological Knowledge (TEK) and Scientific Ecological Knowledge (SEK) are merging, enriching the understanding of the modern and historic world.



Marvin DeFoe, Red Cliff, listens as Jeff Savage, Fond du Lac, describes the seven fires told by the seven prophets and the migration story in search of the island that looks like a turtle. (Jenny Van Sickle photo)

The expertise of *knowing*; understanding the intersections of plants, medicine, landscapes, and wildlife led DeFoe to dub the term, *Anishinology*—a passed-down perspective that complements traditional scientific disciplines. DeFoe emphasized that the concept was important because no matter your background, “all people have a connection to the earth,” and storytelling is just one way to strengthen that connection.

DeFoe and Savage both explained that the shape of the Fond du Lac reservation was contested after Spirit Island was left outside the official boundary.

“[The reservation was] supposed to start at Spirit Island—and if you can imagine the area near the Oliver bridge, it was covered thick with wild rice, harvesters, and dozens of boats all the way to Spirit Island,” DeFoe said.

Pollution in the estuary, overharvesting, and other factors have changed the natural viability of manoomin beds despite core samples that date rice stands back 3,000 years in that area. In 2011, the Fond du Lac Band bought the island

from a private seller.

“This was one of the most popular River Talks we’ve had,” said Deanna Erickson, Lake Superior National Estuarine Research Reserve Director. “We could do something like this again next winter. I think it helps people conceive the St. Louis River estuary as an Indigenous place and that’s much needed.”

Savage concluded: “All along this world there are many migration stories. History is going on in the present.”

The Stories of Spirit Island session can be viewed on the Reserve’s YouTube page [youtube.com/watch?v=H0G8cXWDpPc&t=3158s](https://www.youtube.com/watch?v=H0G8cXWDpPc&t=3158s)

Additional River Talks will be held April 13 and May 11, 2022, with the choice to attend virtually or in person.

Big winter creates a frigid forum for tourneys, camps, games, and sharing Ojibwe know-how

Youth outreach a major draw at Lac du Flambeau, GLIFWC-member communities

By Charlie Otto Rasmussen, Editor

Biboon showed up in big way over the 2021-22 season, delivering thick lake ice and heavy snows across much of the Ojibwe Ceded Territory. Tribes seized upon the conditions, hosting popular events that featured ice spearing and angling, outdoors skill-building, games, and storytelling—including aadizookaanag—sacred stories told only in wintertime.

Offered to 5th-8th-graders, Lac du Flambeau's long running Ojibwe Winter Games for youth experienced starts and stops from late January into early February, as a string of frigid cold snaps forced postponements for several grades. With moderate temperatures boys and girls ultimately made the rounds playing snow snake, snowshoe racing and other traditional events on Lac du Flambeau Public School grounds. School officials distributed medals to the top three finishers in each game.

As a community, Lac du Flambeau followed up with another round of youth-centered activities February 11-13 with ice fishing featured prominently in the schedule. The return of Canada-born winds magnified the deep freeze experienced by tribal youth out on reservation lakes.

Fishers took shelter in traditional belly tents, sometimes called spearing teepees, to target native fish species patrolling the shallows. Despite the tough conditions, spearers landed a handful of muskies using the ancient fishing method known as akwa'waa in the Ojibwe language.

With support from GLIFWC conservation officers additional communities including Sokaogon Mole Lake, Bad River Band, and St. Croix Tribe held successful fishing events. At Keweenaw Bay Indian Community, winter camp activities included hunting skill-building for youth and inexperienced adults. At many of the on-reservation gatherings, evenings were spent with elders, sharing and taking in aadizookaanag, a traditional way that tales and teachings are passed from generation to generation.

Trapping also figured prominently into several events run by GLIFWC wardens. At Lakeland Union High School in Minocqua, Wis., GLIFWC Officers Riley Brooks and Jonas Moermond provided an introduction to trapping for students and teachers. And Warden Christina Dzwonkowski worked with Red Cliff area students on fur identification with a variety of tanned pelts.

Be on the lookout for more seasonal youth activities this ziiigwan as open-water fishing gets underway. Follow GLIFWC's Facebook page and contact your local GLIFWC warden to learn more.



Liam Armstrong shows off a decoy as he learns about harvesting fish during this year's winter youth camp held in Lac du Flambeau. (J. Johnson photo)

Generations on the LVD ice

Not even frigid temps could slow down the early morning rush of kids looking to drop a line into the frozen lake February 12. Forty families eager to bag the big one signed up to participate in Lac Vieux Desert's (LVD) 7th annual 17-and-under ice fishing tournament.

GLIFWC Conservation Warden, Cody Clement was on hand to chat with participants and offer expertise for questions about fishing, regulations, or the day's activities, which included a meal of tender elk sandwiches, prizes, and a raffle. In charge of this year's tournament, Chas (Charlie) McGeshick III helped host and organize the event while his son, Jeffrey and his grandson, Jeff Jr. favored a seat in a pop-up ice shack.

"It's important to have our kids outside, learning with family, using their hands," said McGeshick, who serves on the Lac Vieux Desert Conservation Committee. "Fishing out here with their community teaches them how a patchwork of (see LVD tournament, page 9)



LVD member Jeff McGeshick out on the ice with GLIFWC conservation warden Cody Clement. (J. Van Sickle photos)

Biboon Gabeshiwin a celebration of Ojibwe traditions and Northwoods culture

By Charlie Otto Rasmussen, Editor

Under a fresh 26" snowpack, kids from around far northern Wisconsin converged on historic Buffalo Bay and the hard water along Red Cliff's homeland shoreline. The excited yowl of sled dogs joined a chorus of laughter and exclamations at the Biboon Gabeshiwin (Winter Camp) February 24-27.

"It's been a great turn out," said Red Cliff Conservation Warden Mark Duffy. "There's so much here for the kids."

On February 25th alone, more than 150 students from Bayfield School District and dozens of adult helpers came together under bright sunny skies. The interface of Buffalo Bay Campground and the Gichigami ice buzzed with activity both modern and classic. The roar of GLIFWC's airboat and the gentle slosh of gill net emerging from a hole in the ice were equally fitting for the homespun event.

"I'm absolutely thrilled to be a part of this," said local musher Jimmy Lynch. "With all the people here, all the events, the good food, the young kids loving up my dogs—it's fantastic."

Lynch sports a sled team made up entirely of rescue dogs, mostly Siberian Huskies and Alaskan Huskies. An invitation from Red Cliff's Marvin DeFoe—one of the principal event planners—brought him to camp along with his partner. They joined another musher team along with other area volunteers over the four-day celebration of Ojibwe traditions and Northwoods culture.

In a play on the legendary Alaskan sled dog race, Iditarod, Lynch called for two-legged participants to join the I-kid-arod—a short jaunt along the Red Cliff coast. An eager crew of Bayfield School 3rd graders took up the challenge and with wide-grins played

sled dog for a while. Lynch said recreational mushers in the region typically run six dogs—anywhere from four-to-eight animals. For the I-kid-erod, he went with eight rigged-up 3rd graders plus another three riding the sled. Tied-off along the trailside, the team of Huskies could only watch, awaiting their next turn.

"It's a hand-built sled the kids are using. I use it as a teaching item, but would gladly donate it to the right place," Lynch said. "I'm just glad to see the kids having so much fun, and learning a little bit."

During calmer moments, campers watched Anishinaabe elders including Steven Naganashe Perry

and Jim Guyaushk Pete over live broadcasts from the Red Cliff Library that highlighted native skills and Ojibwe teachings. It was an exceptional opportunity for kids to learn from elders with a great deal of cultural experience, Red Cliff Vice-Chairman Nathan Gordon said.

"There's a lot of knowledge we want to pass onto the next generation," he said. "From venison canning to cooking over an open fire to some of the craft-making."

Gordon credited the Biboon Gabeshiwin planning team for the success of the mid-winter event. A handful of tribal departments collaborated to bring it all together.



Bayfield School 3rd graders got a taste for mushing with a sled provided by Jimmy Lynch (COR)



GLIFWC Wardens Riley Brooks and Jonas Moermond held a fur trapping tutorial for students at Lakeland Union High School in Minocqua, Wis. (J. Van Sickle photo)



At Red Cliff's Biboon Gabeshiwin, the extended reservation community came together to share both experiences and the implements used in late winter activities. An iskgimizigan (sugarbush) lending station helped new maple tappers get started, and a pair of sled dog teams were on hand to show kids the art of mushing. (CO Rasmussen photos)



LVD tournament

(continued from page 8) knowledge can fit together, if we don't know the answer, someone nearby might have a story or a way of doing things that we can learn from—it's one way of researching; how to be successful and resourceful in the future."

The day of good fun and a little competition included some prize-winning catches by LVD community members on Lake Lac Vieux Desert in Upper Michigan.

- 28" Northern
- 9" Crappie
- 7.9" Bluegill
- 9.9" Perch

—J. Van Sickle

← Asher Oinas, 5, catching snowflakes before catching fish. (JVS)



Now available! Maazhiginoozhe safe eating guide & interactive maps

Open waters and warmer days are just around the corner. Our rivers and lakes will soon be buzzing with life, and with it, the promise of some delicious smoked fish in your future.

While we prepare for sunny days of fishing on the water, it's important to remember to consume fish from lakes with lower levels of mercury for the safety of yourself and loved ones. Along with our familiar oгаа (walleye) mercury maps, GLIFWC has created a new interactive mercury map for the safe consumption of maazhiginoozhe (muskellunge).

Like oгаа, maazhiginoozhe is affected by bioaccumulation, the accumulation of contaminants in an organism that increases over time. Due to the significantly large size of maazhiginoozhe, more contaminants such as mercury can accumulate at higher levels in the fish. With this information, and the popularity of maazhiginoozhe fishing, it became clear that a safe eating guide and map for maazhiginoozhe was needed.

The maps outline the number of meals of maazhiginoozhe per month you can safely enjoy from a specific lake in the Ceded Territory. The maazhiginoozhe safe eating guide (in brochure form) offers general consumption advice, a background on maazhiginoozhe relationship with the Anishinaabeg, and specific Zaaga'igan (lake) guide for which are the safest lakes to least safe to consume maazhiginoozhe from.

The interactive map and brochure can be found at glifwc.org/mercury, with additional printed copies of the brochure at your tribal registration office.
—H. Arbuckle

Weweni amwaadaanig ogaawag (Let's eat walleye safely)

The spring oгаа (walleye) season is right around the corner. Whether you will be setting out upon the waters to harvest fish or simply enjoying the catch at the dinner table, GLIFWC's Mercury Maps can help you make informed decisions about safe fish consumption.

Spring spearing and netting are an integral part of the Anishinaabe bimaadiziwin (tribal lifeway). Tribal members reaffirm their off-reservation treaty harvest rights while providing their families and communities with a tasty and healthy food.

But, as with any species of fish, oгааawag contain mercury. Exposure to mercury above safe levels can cause negative health impacts, especially in fetuses and young children. To limit exposure to mercury, choose lakes with lower mercury levels. Refer to GLIFWC's Mercury Maps for the safe number of meals of oгаа per month you can safely enjoy from that lake. Oгаа less than 20 inches and other species of fish lower on the food chain such as asaawe (yellow perch) tend to have lower mercury levels.

The Mercury Maps are available on the GLIFWC website at glifwc.org/mercury where additional information on safe fish consumption can also be found. This information is distributed to member tribes and made available at tribal registration stations. Before going in, please contact your community registration station to check if they are currently open to the public and remember to practice safe Covid-19 precautions such as social distancing and mask wearing.
—H. Arbuckle



Seeding in gashkadino-giizis

(continued from page 5)

While work continues to understand the status and trends of wiigwaas in the Ceded Territories, Red Cliff decided to turn their attention toward mitigating the effects and promoting regeneration of their site. The effort was initiated by Marvin DeFoe, Red Cliff tribal member, Tribal Historic Preservation Officer (THPO) and Vice Chair of the Voigt Intertribal Task Force. DeFoe knows the historical and cultural importance of this site for wiigwaas. He wants to ensure that this resource is available for future generations.

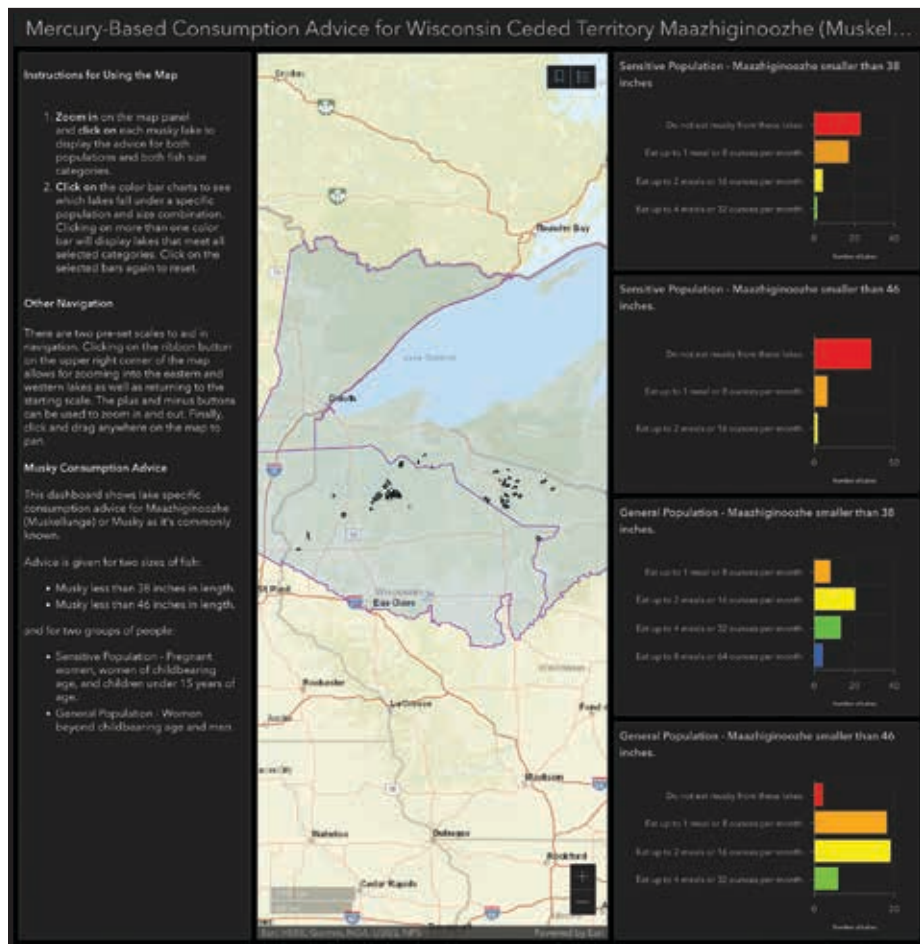
With few remaining wiigwaasaatigoog on the site, and a notoriously low germination rate, DeFoe decided to support natural reproduction with the addition of millions of new wiigwaasaatig miinikaanan (paper birch tree seeds). Working with the Wisconsin Department of Natural Resources (WDNR) Reforestation Program, DeFoe obtained three pounds of miinikaanan. That amounts to nearly three million seeds!

When regenerating mitigoog (trees) from miinikaanan, it is generally accepted to try and mimic the natural process as much as possible. For wiigwaasaatigoog, they tend to release their miinikaanan in the late fall or early winter in gashkadino-giizis (the freezing over moon), so there is a period of cold stratification over the winter before germination begins in the spring. Waiting until the first freeze and having a layer of snow blanketing the ground can help the process by creating a substrate to support the miinikaanan and allow crews to see where miinikaanan have already landed.

DeFoe coordinated a day during gashkadino-giizis for GLIFWC Staff to meet with the Red Cliff Natural Resources Staff to broadcast the "birch bark basket seeds." Conditions were ideal with cold temperatures, a layer of snow and the shining sun lighting a view across Lake Superior and the Apostle Islands. DeFoe shared his knowledge of the site, and the significance of the restoration activity. Crews walked the site broadcasting wiigwaasaatig miinikaanan by hand working toward a density of about one ounce per acre. Other methods have been used, such as using a medium like peat to hold the miinikaanan in place. The method of broadcasting used this day was an attempt to mimic the natural process, and if the miinikaanan decided they needed to move more freely, they could.

Later in the day, crews were joined by the Red Cliff Youth Program. The youth were greeted with welcoming words and a short demonstration of the restoration efforts. DeFoe communicated to them that this activity was to provide for their future, but also that they have the responsibility to acknowledge these gifts, the responsibility to protect these resources, and the responsibility to speak for these beings. The youth group then walked the land planting their wiigwaasaatig miinikaanan while DeFoe reminded them that, "you are planting more than seeds, you are planting hope, hope for the future of the Anishinaabe and hope for the future of all the tree beings."

Moving forward, the Red Cliff Community will monitor and evaluate this restoration effort to determine if other methods should be considered. This work at Miskwaabikaang could be a model for other communities interested in similar projects.



Larger-sized muskies are appropriate for men, but children and women who may become pregnant should choose to consume smaller sized fish. (COR)



Ojibwe games of biboon

(continued from page 1)

over a smooth, slippery surface, oftentimes on lake ice. Historic gooniikaa-ginebig ataadiiwin tracks extended outwards to a mile. Sidewalls made up of packed snow serve as bumpers, helping the snakes stay on course down the track after being hand-propelled by gamers. Individuals or teams win matches by launching their sticks the farthest distance.

At UMD, participants used a variety of snakes, many carved from hardwoods like black ash and northern red oak. Giwedinookwe said her crew has experimented with everything from pine to hardwoods to an old teepee pole. Whatever type of wood is selected, the addition of a pewter inlay into

the bulbous snake-head helps carry the stick farther down the track.

Other gaming stations included apaginaatig (atlatl), and two spear games: the first, an overhand toss targeting a spectacular life-sized mooz; and the second, dakobijigan-minawaa zhiimaagan, where competitors are challenged to thread a blunt-tip spear through the webbing of a swinging hoop, which has the appearance of a super-sized dream catcher.

Known in English as the hoop-and-spear game, LdF's Wayne Valliere said it's played year-round and has long been a fixture across history for many communities.

"This is a celebration of games that native people have played for thousands of years," said Valliere,

an award-winning craftsman who helped restart the venerated outdoors competitions on his home reserve over a decade ago.

During a break in the action in Duluth, Valliere explained the importance of passing on traditional knowledge to community members. To help maintain that lineage of native know-how, Valliere said he has taken on a pair of apprentices this season.

"It's time I take on some apprentices and teach some of the things that I know," he said. Beyond constructing the arrows, spears, and snakes central to the winter games, Valliere is an accomplished wiigwaasi-jiimaan (birch bark canoe) builder, skilled in beadwork and quillwork, and an Ojibwemowin advocate.



Developed by Ojibweg and hunting cultures around the world, the atlatl (apaginaatig) functions as a spear-thrower, using leverage to achieve greater velocity. (CO Rasmussen photo)



Collecting snow snakes following a round of throws at the Ojibwe Winter Games February 19 in Duluth. In the background, participants line-up for the hoop-and-spear game. (COR)

Climate change and the Anishinaabe language

(continued from page 2)

In the summer of 2021, much of the landscape west of Lake Superior experienced a severe drought. By late July, the leaves on the Aspen and Birch began to turn bright yellow. It appeared as though autumn was arriving. The only difference is that the yellow leaves did not naturally senesce (detach and fall off), but rather they stayed on the trees and turned dead brown. The pre-mature color change was directly related to the drought conditions.

Dagwaaginaagwad is a term that identifies the impact of drought conditions that prematurely changes the color of the leaves in the summer months. According to numerous climate assessment reports, droughts are expected to increase in the upper Midwest region. Thus, "It appears like fall" is an appropriate term to identify this climate anomaly that impacts the trees.

Zaasigaakwii — "Barely Hanging On"

[zaasig=barely hanging onto something; -aakw=wood, stick; -ii=state or condition]

This term is used to describe the struggle for survival. "Barely hanging on" describes the state of birds and animals clinging onto branches and limbs trying



Long-term decrease of precipitation will have detrimental impacts on many cultural resources that Anishinaabe people have relied upon for centuries.

to survive a severe late-spring snowstorm or ice storm. Upon returning to their northern nesting areas in the spring, many birds arrive from the south eager to mate and prepare for their hatchlings. But, when a severe ice storm or snowstorm occurs after their arrival, many birds struggle to survive in these adverse conditions. Freezing rain and ice coats their wings; snow buries their food supply; the wintery conditions make both birds and animals vulnerable to sickness and predation. Many migrating birds perish from these abnormal weather anomalies.

These late-spring anomalies also impact animals coming out of hibernation. After a long winter's sleep, many mammals need to eat to replenish their body's fat stores. During a late snowstorm or ice storm, food may become inaccessible causing the animal to struggle for survival.

Zaasigaakwii is a word used to describe the struggle for survival caused by unusual and out-of-sync weather conditions. Though this struggle is not something new to the animal world, climate change may increase the frequency of these weather anomalies that adversely impact many of our animal relatives throughout northern Great Lakes region.

Baatekamigaa — "The land is dry"

[Baate=it is dry; -kamig=earth, land; -aa=state or condition]

I could not find a word for drought in the Ojibwe dictionaries, but I am confident that many of our Anishinaabe ancestors had words to describe the landscape during drought conditions, especially during the Dust Bowl (1930-1940) where the southern regions of Minnesota and Wisconsin were adversely affected. According to the IPCC's Physical Science Report in 2007, North America would experience intermittent drought and flooding as a result of increased Greenhouse gas emissions into the atmosphere. The long-term decrease of precipitation will have detrimental impacts on many cultural resources that Anishinaabe people have relied upon for centuries. The potential for wildfires in the northern woodland regions is also exacerbated by extended periods of drought.

Baatekamigaa describes the drought periods brought on by climate change that can last for several months to many years. As mentioned earlier, Minnesota experienced a severe drought that altered the lifecycle and senescence (naturally detaching leaves) of many hardwood trees including Aspen and Paper Birch. This drought fortunately only extended through the summer months, then the rains returned and replenished the parched landscape. Having a word for "The land is dry," will assist Anishinaabe people in remembering those drought years and what impacts there were to the land as well as all living beings inhabiting that particular landscape.

(see Anishinaabe insights, page 14)



Boozhoo! Practice describing spring arriving in Ojibwe

Supplies!

1. Find some pinecones
2. Almost any string will do
3. Scissors
4. Peanut butter
5. Birdseed



Give the pinecone a good coating of peanut butter and then a pat on some bird seeds all around



Tie the top up with some string and find a branch to hang your masterpiece safely.

What do you notice about outside when you're looking for pine cones?

What's the date and temperature?

Was it like this last year during this time of year?

Do you notice any birds, bugs, mud or plants that stand out to you?

Write them down.

What's the weather like? Can you choose the Anishinaabe words that fit best?

Jot it down in your explorer journal

Gimiwan (Gih-me-won).
It is raining.

Zoogipon (Zoo-gih-poun.)
It is snowing.

Ningwakwad (nihn-gwuh-kwuhd).
It is cloudy.

Gisinaa (Gih-sih-naah).
It is cold.

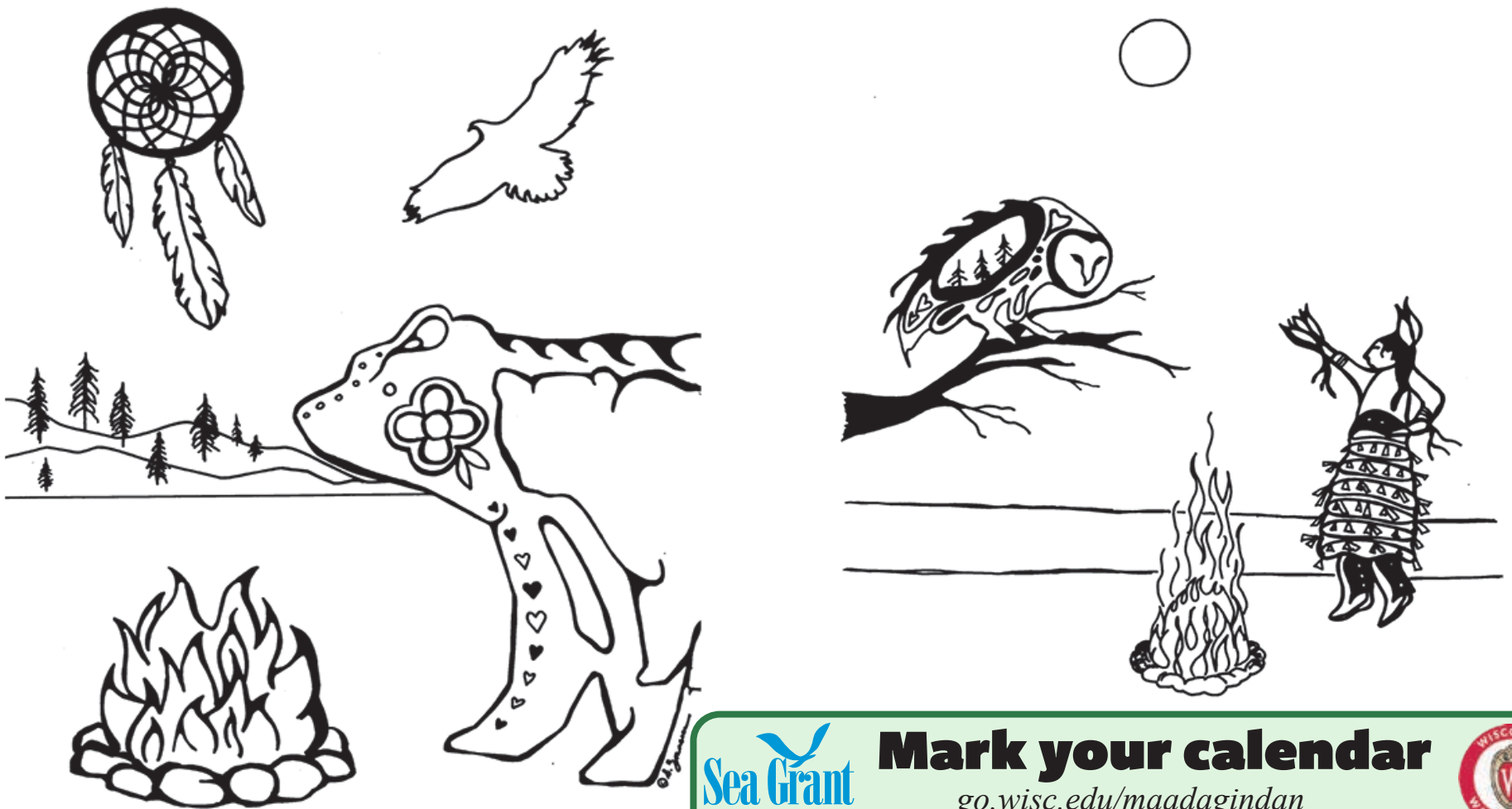
Noodin (New-din). It is windy.

Mino-giizhigad (Mih-noh-gee-zih-gut).
It is a good day.



Reprinted from onelittleproject.com.

Giga-zagibinaamin bagwajiing. (We connect in nature, the wild.)

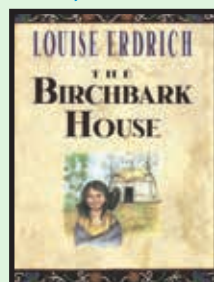


Sam Zimmerman, Grand Portage Ojibwe, created these illustrations for the Minnesota Department of Health and the American Indian Community Housing Organization.



Mark your calendar

go.wisc.edu/maadagindan



Log in to register and join our free monthly, virtual book club **April 13, 2022 at 4:00 pm** *The Birchbark House*
Follow a young Ojibwe girl named Omakayas throughout an eventful year on Mooningwanekaaning, now known as Madeline Island

About the Author: Louise Erdrich is a member of the Turtle Mountain Band of Chippewa Indians. She is an acclaimed and award-winning novelist who was just awarded the Pulitzer Prize for her latest novel, *The Night Watchman*.





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

Aaniin, boozhoo! Eya' zii-gwan. Niminwendam ani-zii-gwang. Zii-gwanong, ingii-mikaan o'ow gete-apabiwin. Ingii-saagidinaan agwajiing megwayaak. Ingii-tazhi-goshkwaawaadab bangii. Giiwediong, indebaabandaan endayaan. Nibiindaakoojige. Bangan. Indikwanaam. Niwaabamaag ingiw bineshiinyag. Ingwi gijigijigaaneshiinyag niwaabamigoog. Aandegwag bi-izhaawag wayiiba. Niwiidabimaag ingiw zhingwaakoog. Minwaanamad nanaamadabiyaan megwayaak. Geget nizaagitoon i'iw apabiwin."

(Hello, greetings! Yes, it is spring. I am happy as spring begins. Last spring, I found this old chair. I put it out outside in the woods. I sat there quietly for a bit. To the north, I see my house in the distance. I make an offering of tobacco. It is quiet/peaceful. I take a deep breath. I see the birds. Those chickadees see me. The crows come this way in a bit. I sit with those red pines. There's a good breeze as I sit out in the woods. Indeed, I like that chair.)

Bezhi-g-1 **OJIBWEMOWIN**
(Ojibwe Language)

Double vowel system of writing Ojibwemowin.
—Long vowels: AA, E, II, OO
Waabooz—as in father
Miigwech—as in jay
Aaniin—as in seen
Mooz—as in moon

—Short Vowels: A, I, O
Dash—as in about
Ingiw—as in tin
Niizho—as in only

—A glottal stop is a voiceless nasal sound as in A'aw.
—Respectfully enlist an elder for help in pronunciation and dialect differences.

Zii-gwan.—It is Spring.
Iskigamizige-giizis.—Maple sap boiling moon/April.
Iskigamizige.—S/he is sugaring.
Iskigamizigan—Sugar bush
Ininaatig(oog)—Maple trees(s)
Ziinzibaakwadwaaboo—Maple sap
Mitigo-negwaagwaan(an)—Wooden-tap(s) NI
Akik(oog)—Kettle(s)/ Bucket(s) NA
Naadoobii.—S/he gathers sap.
Ziinzibaakwad—(Maple) sugar
Zhiywaagamizigan—(Maple) syrup
Ombigamizige.—S/he boils sap down to sugar.

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

A. Indoombendam. Niwii-izhaa iskigamiziganing noongom.
B. Nindayaan negwaagwaan. Indayaawaag akikoog.
C. Zii-gwan, nimishoomis iskigamizige. Niwiidookaaz.
D. Nindizhaamin iskigamiziganing. Maajigaa.
E. Ninaadoobii endaso-giizhik. Ininaatigokaa.
F. Onde. Iskigamizo. Ninase'ige.
G. Megwayaak, maamakaa-dendaagwad.
H. Nibagidinise dasing.

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




Niswi-3

IKIDOWIN ODAMINOWIN
(word play)

Down:
1. those
2. chair
3. bucket
6. yes
7. It is peaceful.

Across:
4. my home
5. maple trees
8. soon
9. this (animate)



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

waabigwan(iin)—flower(s)
mashkowiwan(an)—grass(es)

Niiwin-4

Inendam.—S/he thinks in a certain way.
Inendan!—Think of it a certain way!
Nindinendaan.—I think of it a certain way.
Gidinendaan.—You think of it a way.
Inenim!—Think of him/her a certain way!
Nindinenimaa(g).— I think of him/her (them) a certain way.
Gidinenimaa(g).—You think of him/her (them) a certain way.
Nanda-mikwendan!—Seek to remember it!
Ninanda-mikwendaan.—I seek to remember it.
Ginanda-mikwendaan. You seek to remember it.
Nanda-mikwenim!—Seek to remember him/her!
Ninanda-mikwenimaa.—I seek to remember him/her.
Ginanda-mikwenimaa(g).—You seek to remember him/her (they).
Mikwendan!—Remember it!
Mikwenim!—Remember him/her!
Mii'iw.—That's it.

1. _____ wii-kikenim _____ a'aw gichi-anishinaabe.
2. Ni _____-mikwendaan ikidowin.
3. Bii-jinaago _____gii-inenim _____ Devin, onzaam onizhishi.
4. _____ mikwendaan gii-panishinaan iwidi.
5. _____ mikwenim _____ a'aw inini. Gikendaaso.
6. Ani-zii-gwang, apegish wii-minwendamowaad agwajiing.

Gi- -aa
nanda-
Ninga- aa
Ni-
Gi- -aa

Translations:
Niizh-2 A. I am excited. I am going to the sugar bush today. B. I have the taps. I have the pails. C. When it is spring, my grandfather sugars. I help. D. We go to the sugarbush. Sap starts to run. E. I gather sap every day. There are a lot of maple trees. F. It boils. S/he boils sap down. I stir to form sugar. G. In the woods, it is amazing. H. I put wood on the fire so many times.
Niswi-3 Down: 1. ingiw 2. apabiwin 3. akik 6. eya' 7. bangan Across: 4. endayaan 5. ininaatigoog 8. wayiiba 9. wa'aw
Niiwin-4 1. I want to know that elder (him/her). (Ni- -aa) 2. I seek to remember the word. (nanda-). 3. Yesterday, you thought of Devin (him/her), because he is nice. (Gi- -aa) 4. I remember when I fell down over there. (Ni) 5. I remember that man. He is smart. (Ni- -aa) 6. As spring begins, I hope you all will be happy outside.
There are various Ojibwe dialects; check for correct usage in your area. The grammar patterns may help a beginner voice inanimate and animate nouns and verbs correctly, as well as create questions and negate statements. Note that the English translation will lose its natural flow as in any world language translation. This may be reproduced for classroom use only. All other uses by author's written permission. Some spellings and translations from *The Concise Dictionary of Minnesota Ojibwe* by John D. Nichols and Earl Nyholm. All inquiries can be made to **MAZINA'IGAN**, P.O. Box 9, Odanah, WI 54861 lynn@glifwc.org.



New Ojibwe language learning platform Rosetta Stone is here

Language is a core part of Ojibwe identity. The Mille Lacs Band of Ojibwe (MLBO) has partnered with Rosetta Stone to create a learning platform for the Ojibwe Language to empower communities, to maintain identity, and to help nations be successful.

Native languages are more than just words, as cultural values, tribal customs, and ceremony are embedded in them. Additionally, Indigenous languages serve as protective factors for Indigenous communities.

UW-Madison Psychology Professor Gary Lupyan, studies how language influences people's thoughts. His studies show that the language a person speaks determines which aspects of life they attend to and that language is also crucial to culture.

Cumulative culture is the ability for a generation to start from a place of higher advancement by benefiting from their ancestors' knowledge. Lupyan states language is a key part of this. "In the absence of language, you can't really have too much in the way of complex culture because so much

of what we learn culturally, we learn through language."

At Mille Lacs, we know that gaining knowledge of our Ojibwe language and culture as well as participation in cultural activities has played a significant role in the wellbeing and success of our community. Knowledge of language and culture builds confidence and self-esteem.

MLBO members, descendants, and Mille Lacs Band Schools will have free access to the Ojibwe Rosetta Stone program.

To register as an individual: mlbo-laserfiche.millelacsband.com/Forms/Rosetta. To register as a school or group: culture.aanji.org/language/ojibwe-rosetta-stone/rosetta-stone-groups. A welcome email from Rosetta Stone will arrive in one to two business days with information to set up your account.

If you have questions, or would like to learn more visit culture.aanji.org/ojibwe-rosetta-stone or call Aanjibimaadizing at 320-532-7407.

(Reprinted from MLBO Aanjibimaadizing Program.)



Returning omashkoozoog

(continued from page 5)

of six bulls that year, the Natural Resources Board unilaterally bumped the quota 40% to 10 elk to be shared evenly by state and Ojibwe hunters.

Concerned at the Board's disregard of the science behind the Elk Committee's recommendation, Ojibwe leaders decided to forego the season, in effect leaving its share of the elk quota on-the-hoof. It's a management prerogative GLIFWC tribes have also used during state wolf hunting seasons.

"Using the best available science is a critical part of our decision-making process," said John D Johnson, chairman of the Lac du Flambeau Band as well as the Voigt Intertribal Task Force. "The health of resource comes first. Always remember that."

Northern pike population available for harvest

(continued from page 1)

for 2022 (15,000 lbs lower than 2021). The shared quota includes 80,300-lbs for state-licensed anglers and 54,700-lbs for the eight Ojibwe treaty tribes.

The reason for the below average incoming year-classes is unknown, but the lake ecosystem has been in a period of change after water clarity began increasing in the late 1990s, and exotic zebra mussels and spiny water fleas hitched a ride into the lake in the early 2000s. Walleye remain the most abundant predator fish in Mille Lacs Lake, but they do not seem to have benefited from the changes, while other species such as smallmouth bass and northern pike appear to be increasing.

The northern pike population provides additional harvest opportunity in 2022, with the state and bands agreeing to split a 100,000 lb harvest cap evenly (50,000 lbs for the bands and 50,000 lbs for the state). Population models suggest that the northern pike population remains healthy in the big lake and can withstand additional harvest.

Northern pike are known to provide a tasty and healthy protein source. They have an extra set of bones above the rib cage, known as Y-bones, but these can be removed during the fish cleaning process with just a little practice (see GLIFWC's YouTube channel at youtube.com/watch?v=gez3KVixTDY).

Pike typically spawn earlier than walleye, sometimes right at ice-out or under the ice in marshy habitats and inflowing creeks.

The MNFC will re-evaluate northern pike and walleye populations in January 2023, after 2022 fall survey data have been collected, and the population models are run. Additionally, if all goes as planned, both species will get another close look during a cooperative mark-recapture population estimate in spring 2023.

Anishinaabe insights

(continued from page 11)

Animikiikaa—"There are many Thunderbirds"

[Anim=to hit; -aki=earth, land; -kaa=abundance]

Animikii is the name of the Thunderbird. In Anishinaabe cosmology, the Thunderbirds are animate beings that were instructed by Gizhe-Manidoo (Benevolent Spirit) to nurture and care for the earth by bringing the rain, wind, and lightning. The rains nourish the landscape and vegetation with life-giving water; the winds scour the forests by sending leaves, limbs and dead trees down to the forest floor; the lightning provides an occasional fire that cleanses the land of debris and transforms that debris into nutrients. Animikii translates to "the one who hits the earth" referring to the Thunderbirds' lightning bolts that strike the earth.

Just like our winged bird relatives, the Thunderbirds leave this region in the autumn and travel to their celestial wintering grounds. This is why we usually do not hear thunder during the winter months at this latitude. In the spring, Anishinaabe people listen for the first thunders. When they are heard, traditional people will lay an offering of tobacco on the ground welcoming the Thunderbirds back to the region. At the same time, many migratory birds are also returning from their wintering grounds as well.

Animikiig were also instructed to protect the earth from anyone who would attempt to do harm to her, even human beings. Droughts, flooding, increases in storm surges are believed to be the actions of Thunderbirds in response to adverse human activity; the Thunderbirds are responding to the imbalance of our sacred ecology. Once regarded as benevolent spirits, the Thunderbirds are believed to be directing their ire toward the human world and they won't stop until there is balance in our cosmos. From an Anishinaabe perspective, Animikiikaa—"There are many Thunderbirds"—is a response to a damaged atmosphere brought about by human-induced climate change.

(Michael Waasegiizhig Price is Anishinaabe, an enrolled member of Wikwemikong First Nations, and serves as the Traditional Ecological Knowledge Specialist at GLIFWC.)

CITES tags

(continued from page 4)

See the dates below or refer to the off-reservation harvest regulations section at data.glifwc.org/regulations. At the bottom of that website, you will find details as they relate to small game hunting and fur harvesting through trapping.

The Convention on International Trade of Endangered Species (CITES) requires that all nigigwag (otters) and gidagaa-bizhiw bobcats that are exported must be registered and tagged using a CITES tag. GLIFWC operates a furbearer export program on behalf of its member tribes (except Fond du Lac Band) to provide CITES tags for nigigwag and gidagaa-bizhiwag harvested on or off-reservation that are to be exported.

Contact a GLIFWC warden to obtain a CITES tag before selling the fur of any otter or bobcat. Trapping permits and carcass tags can be issued by your Band's conservation department.

Season dates for Wisconsin 1837/1842 Ceded Territories

Ojiig: Saturday nearest Oct. 17–Mar. 31

Nigig: Oct. 1–Mar. 31 (hunting); Apr. 30 (trapping)

Gidagaa-bizhiw: Oct. 1–Mar. 31

Season dates for Minnesota 1837 Ceded Territory

Ojiig: Oct. 1–Mar. 31

Nigig: Oct. 1–Mar. 31

Gidagaa-bizhiw: Oct. 1–Mar. 31



GLIFWC fisheries technician Butch Mieloszyk measures a northern pike on a cool cloudy day during the recapture portion of a northern pike population estimate on Mille Lacs Lake. (M. Luehring photo)



Hitting the books

GLIFWC welcomes Paula Kalmon

GLIFWC is excited to welcome its newest member, Paula Kalmon, to the accounting team where she will be focused on property and procurement.

Paula was born and raised in Washburn, Wis. but has also lived in Eau Claire and now resides in the Ashland area. She earned her Administrative and Accounting degrees from Northwood Technical College. Paula said she's always been drawn to administrative work and aspired to a degree in accounting for as long as she can remember.

So far Paula has enjoyed learning the ropes, taking on new challenges, and learning about purchasing capital assets like trucks, ATV's and other types of equipment. She said: "being at GLIFWC has been a standout positive experience." On the other side of her work duties, she'll be helping to back up payroll, accounts payable, audit processing—supporting the effort to maintain financial smooth sailing.

Building on her on her education, Paula recently completed a multi-faceted training through the Office of Management and Budget, that centered around budget development, coordination, and review of Federal regulations from executive agencies, privacy policy, and information assessment and review.

Paula loves spending time with her kids and family, cooking and fondly remembers one summer where she logged 1,000 miles on her bike! More recently, attending the Voigt Intertribal Task Force and Board meetings have been enlightening, she said. Paula is looking forward to "building relationships across Ceded Territory, with staff, and learning more about GLIFWC's history."

—J. Van Sickle



(JVS)

Cottrell cooks up water resources career path

Amy Cottrell, wetland ecologist, is the newest scientist to wade in GLIFWC's Biological Services Division. The bulk of her work will focus on stewardship, research, and protection of wild rice and waterfowl.

Having grown up in the suburbs of Green Bay, Amy's life outdoors revolved around high school softball, running cross-country, and the occasional family camping trip. After attending culinary school and working as a chef and caterer, she was drawn out west and completed a few AmeriCorps internships in Oregon where she first explored working with wildlife. She assisted in monitoring bird predation on migrating salmonids within the Columbia River and worked as a park interpreter at the Oregon Caves National Monument.

Amy realized her desire to work in natural resource management, so she returned home to finish her bachelor's degree at UW-Green Bay. There she studied multiple taxon (fish, birds, plants, insects) and learned she felt most herself on the water. She studied northern pike larval dispersal and adult spawning patterns and coastal wetland plant communities. Amy then headed south to Alabama to pursue her MS in fisheries from Auburn University where she studied spatial ecology and seasonal movements of a locally endemic species of concern. This opportunity led to her job as a fisheries biologist with the Georgia Department of Natural Resources, where she continued her research and spent much of her time engaging with anglers and other stakeholder groups.

Amy's father is from the Brothertown Tribe and she has a strong background in aquatic fieldwork, data analytics, and community engagement. Amy said she is "looking forward to fostering relationships amongst tribal communities, listening, learning the landscape, and helping to enhance and protect treaty resources."

—J. Van Sickle



GLIFWC Biological Services staff are working up hand-crafted gifts including asemaa blends and ricing sticks during breaks at the central office in Odanah, Wis. All GLIFWC staff are welcome to join the work, which helps maintain a supply of gifts for visitors and special occasions. Pictured, a manoomin knocker takes shape under the blade of Treaty Resource Specialist Dawn White. (COR Rasmussen)

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GLIFWC is hiring

- Administrative Policy Analyst, Division of Intergovernmental Affairs
- Communications Specialist, Public Information Office
- Comptroller, Administration
- Environmental Biologist, Biological Services Department
- Grant Manager/Writer I, Planning & Development Division
- IT Support Specialist, Administration
- Policy Analyst II, Division of Intergovernmental Affairs

Salary & benefits:

Wages vary per job and are dependent on qualifications and experience. Tax exempt status is applied for qualified individuals under Internal Revenue Code s.7873—Tax Exemption for Income Derived from Treaty Fishing Rights-Related Activities.

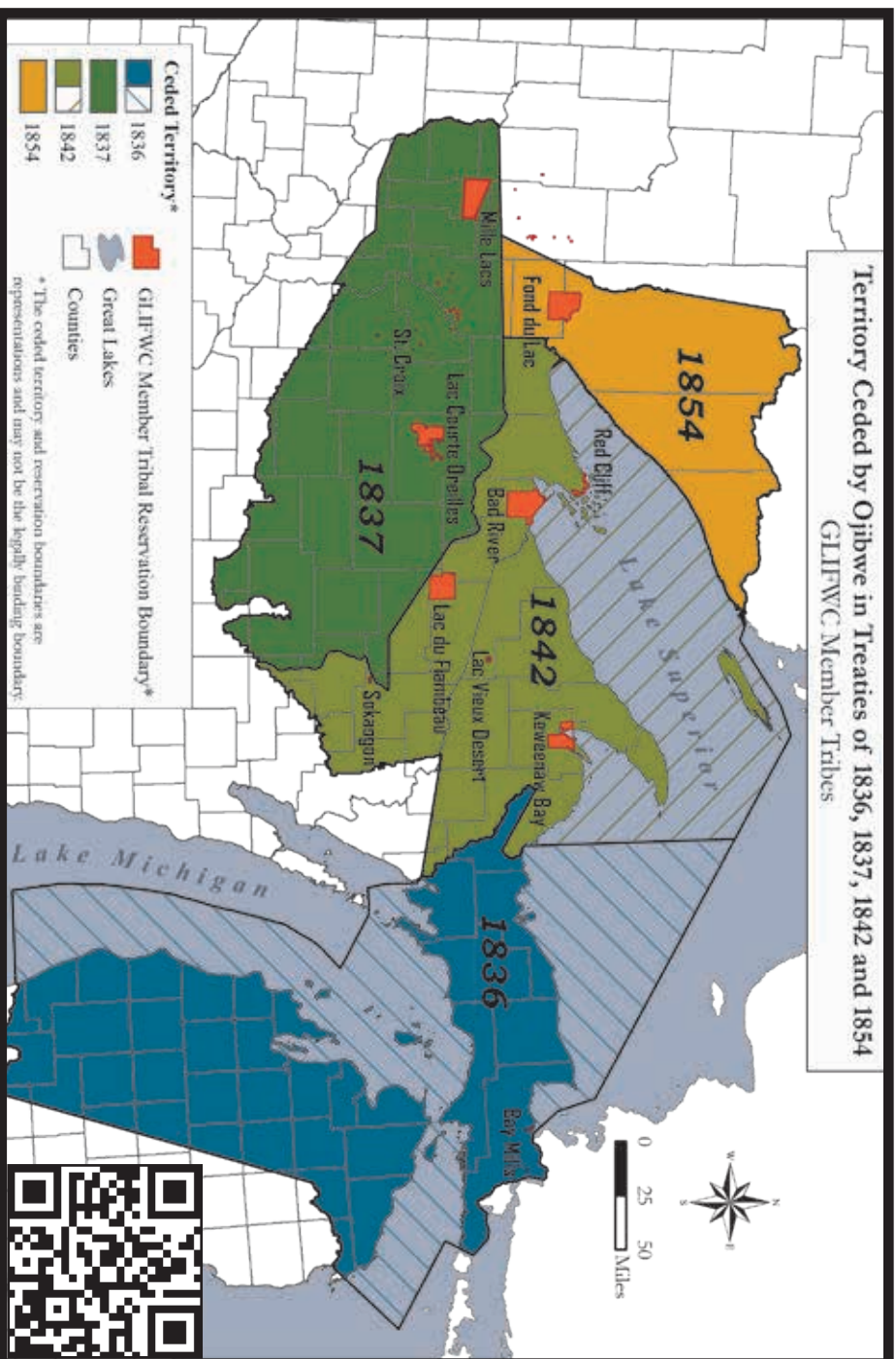
Benefits include health insurance, retirement plan, cafeteria plan, disability insurance, and life insurance. GLIFWC's benefit package includes: Federal Health Insurance (i.e., employer pays 87.5% of annual insurance premium); vision and dental insurance; retirement plan (i.e., employer provides a 6% contribution); cafeteria plan; disability insurance; life insurance; 14.5 paid holidays annually; 12 paid vacation days annually; one paid personal day annually; and 12 paid medical leave days annually.

To view individual job descriptions visit glifwc.org and click on the Employment tab.



RETURN ADDRESS:
GLIFWC
P.O. BOX 9
ODANAH, WI 54861

CHANGE SERVICE REQUESTED



For more Ojibwemowin resources, visit glifwc-inwe.com

miskwemeg (salmon)

ginebigomeg (lamprey)

bijijmaagozens (smelt)

—M. Rasmussen with Waasegizhig

Mazinaigam

A Chronicle of the Lake Superior Ojibwe



ZIGWAN 2022

INSIDE:
Anishinaabemowin meets climate change
Big winter powers camps, games
Omashkooz season success