

Mazina'igan

A Chronicle of the Lake Superior Ojibwe

Published by the Great Lakes Indian Fish & Wildlife Commission

Summer 2021

Spring season marked by good fishing returns & unexpected heartbreak Troubled fishing season at Mille Lacs



On a misty April 11 evening, Sokaogon Band's Nolan Thorbahn found walleyes while spearfishing along the shore of North Twin Lake in northeast Wisconsin. (CO Rasmussen photo)

By Charlie Otto Rasmussen, Editor

From the swirling, tannin-hued waters of the Wolf River, the first fish of the Ojibwe treaty season entered the tribal creel March 29 near Elcho, Wis. Sokaogon spearfishermen plucked a modest, half-dozen walleyes from a network of boulders and rocks that break up this stretch of the river. The ancient spring tradition had begun anew once again..

Within a week of the inaugural harvest on northeast Wisconsin's Wolf, inland lakes began releasing their ice, offering more open water fishing opportunities for native harvesters along the southern tier of the Ceded Territory. Before the last fish was counted and measured in May, the season produced both bounty and tragedy, an intimate connection to the natural world tempered by unfortunate dissonance from users of a shared resource.

Minnesota Ceded Territory

For the first time in two years, all eight treaty tribes fished the expansive waters of Lake Mille Lacs. Snow, rain, and cold temperatures blanketed the lake for much of April. Following preliminary spearing outings April 5, formal ice-out two days later brought spearfishers and netters across the lake as tribal members boated a mix of food-fish species dominated by walleye and northern pike. Many excursions (see **Troubled fishing season**, page 3)

Niibin is berrypicking time across the Great Lakes region



blueberries — miinan



chokecherries — asasaweminag



raspberries — miskominag

Build on your Ojibwemowin knowledge with a youngster at glifwc-inwe.com

2021 State of the Tribes

GLIFWC Voigt Intertribal Task Force Chair highlights progress and challenges

By Bizhikiins Jennings, Staff Writer

Madison, Wis.—President John D. Johnson of the Lac du Flambeau tribal community humbly approached the podium. His grandsons sitting at the Wigwam Junior's drum had just finished singing the opening songs—acknowledging the eagle staffs, flags, and of course all ogichidaag (veterans).

"I'm very proud of these young boys. They love to sing and learn their language and culture," said Johnson of the young drum group.

A proud grandfather, Johnson looked to the masked crowd of participants in the Wisconsin Capitol on May 11. He respectfully asked for a moment to acknowledge all of the elders and community members that have passed from the Covid-19 pandemic.

Native American communities often maintain glaring health disparities and have proven to be extremely vulnerable during the Covid-19 pandemic. All across Wisconsin, Michigan, and Minnesota, tribal nations have lost elders, knowledge holders, ceremonial chiefs, family matriarchs and patriarchs. Johnson reiterated: "The pandemic has hit hard the most vulnerable people. This includes our elders and those with susceptible health conditions within our communities."

President Johnson also segued into other health related crises, including the opioid and methamphetamine epidemic, the effects of pandemic life, other stressors on mental health and overall well-being. Johnson eloquently advocated for



Watch the video of the State of the Tribes Address at: wiseye.org/2021/05/11/2021-state-of-the-tribes-address-and-wisconsin-state-assembly-floor-session. (WisEye photo)

budgetary support of a proposal put forth by Governor Tony Evers that would fund a regional medical facility with a strong focus on mental health treatment and addiction treatment.

Other big topics that Johnson addressed dealt with treaty rights, education and proper resource management. He described how important ogaawag (walleyes), manoomin (wild rice), and other species are to the survival of the Ojibwe (see **State of the Tribes**, page 6)



Adult walleye surveys in full swing see pp 12-13



Lessons from tree-ring records of ishkode

An ecological and cultural process in the Great Lakes

By Melonee Montanto, GLIFWC TEK Outreach Specialist & Evan Larson, Professor of Geography, UW-Platteville

Tree-ring records of fire history found across the Great Lakes Region offer teachings about reengaging with our stewardship responsibilities to fire, *ishkode*. Created during a time when fire was a ubiquitous eco-cultural process, the rings of grandmother red pine and remnants of their relatives—stumps, snags, and logs—carry place-based accounts of the deep relationships between earth, forests, people, and fire.

Today, tree-ring records are shedding new light on old knowledge of the ecological importance of fire in the Great Lakes landscape. In pine and oak forest types, fire was historically frequent, self-regulating, and as vital to the health of the land as sun and rain. Often forgotten, but most important, people were integral to the interplay between fire and landscape that shaped these diverse forest communities.



The physical appearance of fire scars (A) as seen on living trees, (B) up-close with healing lobes indicating at least 7 fires that scarred this tree, (C) on a well-preserved cat-face from a long-dead red pine tree, and (D) as seen on a highly polished cross section of an old stump from a tree that began growing in 1679 and recorded 10 passing fires from the years 1702 and 1850.

Prior to the era of Smokey Bear, wildfire and planned cultural burns were commonplace. Forest openings and barrens were rich with blueberries and other medicinal plants; thickets of grasses, shrub oak, and young popple offered abundant forage for deer, elk, moose, and woodland bison; flocks of passenger pigeons swarmed fruit trees laden with sun-baked fruit; tall and proud groves of red and white pine with charred bark had open space for a young forest to establish; thriving Anishinaabe communities were afforded a plentiful subsistence from the land; these were some of the results of intentionally-set fires.

In woodland and forest settings, fire-resistant trees noted the passage of these frequent fires as distinct patterns in their annual growth rings. Trees injured at ground level by the heat of passing fires responded by healing over the wound and impregnating the scar with resin. This created a waterproof and rot-resistant “catface,” a catalog of fire years, that can remain intact for decades following the death of the tree.

The stories of fire held in the rings of red pine remnants can be interpreted through dendrochronology, the science of tree-rings. Linking growth patterns in the rings of long-dead pine to those of living trees can produce precise records of where and when fires burned in the past, including both the year and season of the burn. Records combined from many trees describe patterns of fire size and severity, along with the climate and cultural practices that influenced them.

Based on tree-ring records, the frequency of fire at many sites in the Great Lakes is too high to be explained by the occurrence of lightning fire alone. These sites are often islands, peninsulas, and flat lakeside terraces along navigable water routes, as well as high ground and rolling plains that served as overland travel corridors, hunting grounds, and seasonal gathering areas. In these places, tree-ring records of fire tell us to listen to the long history of Native use that is known from oral history, written accounts, and archaeological records to better understand relationships between people and the land in the past, with important lessons for today.

Tree-ring research, with proper cultural context, substantiates the insights that Indigenous Knowledge has offered all along. The spirit of fire is often a spirit of renewal. Fire adds richness and resiliency to the land. Rebirth through the process of burning allows the whole community of life to flourish. The removal of fire from many systems over the past century has caused changes in the land. Forests are denser and landscapes less diverse; both are more susceptible to drought, extreme fire conditions, and the impacts of insects and disease. These undesirable conditions will be exacerbated by our changing climate.

(see *Ishkode*, page 6)

Mixed results in 1854 Treaty property tax case for Wisconsin Bands

A legal case dealing with taxation of tribal lands got one step closer to resolution with an April 9th decision by Judge James Peterson of the United States District Court for the Western District of Wisconsin. The civil case, 18-cv-992-jdp, was brought by four Ojibwe tribes in what is now known as Wisconsin: Lac Courte Oreilles, Lac du Flambeau, Red Cliff, and Bad River. The tribes' case asserted that lands held by them or their members within their Reservations are not taxable by municipal authorities.

The four Ojibwe tribes brought the suit hoping for a result similar to the *Naftaly* decision out of Michigan (Indian-owned lands within the Keweenaw Bay Reservation that were allotted to individuals based on the language in the 1854 Treaty of LaPointe are not taxable because of the language in the treaty).

However, Judge Peterson's decision did not go as far as the tribes were hoping. Instead, citing a federal case out of Minnesota involving the Leech Lake Tribe, the court “held that Indian tax immunity does not lie dormant during periods of non-Indian ownership only to be revived when the property returns to Indian ownership.” The result is that lands that had passed out of tribal or individual Indian ownership at some point in history may be taxed by the municipal government, even if the land has since been reacquired by the tribe or a tribal member.

However, the tribes did achieve a partial victory as the court found that lands allotted by the Treaty of 1854 that had remained in Indian ownership are not taxable by local authorities. The decision may be appealed to the Seventh Circuit.

Land ownership within Indian Reservations is complicated by history and the cyclical “pendulum swing” of US relations with Indian tribes. Some historic laws, such as the General Allotment Act of 1887, sought to divest tribal members of lands and push individual Indians towards assimilation. Others, such as the 1934 Indian Reorganization Act, were intended to strengthen tribal sovereignty and allowed for the return of lost lands to tribes, among other things.

As a result, some land within Reservations today is Indian-owned (whether by a tribe or an individual) and taxable, some is Indian-owned and non-taxable, and some land is retained by non-Indian owners and is generally taxable by municipal governments.

—S. Bichler

Treaty rights acknowledged by State & Federal leadership

By Bizhikiins Jennings, Staff Writer

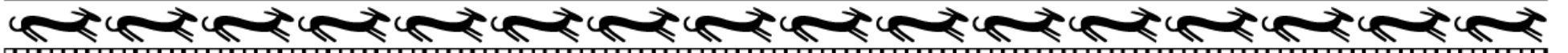
The spring 2020 tribal harvest season began on a contentious note. Tribal spearfishing groups reported multiple instances of harassment on various lakes, and gunshots rang out on Little St. Germaine Lake. Thankfully there was no physical harm caused to tribal harvesters, however, the emotional and mental trauma are still experienced by Ojibwe communities nearly 38-years after the Voigt Decision reaffirmed treaty rights within the Wisconsin Ceded Territory.

This year, both State and Federal leadership rose to the occasion and took a proactive approach to acknowledging tribal harvester harassment.

“It's unfortunate that we still have to ask for protection in this day and age. We are over 35 years beyond the Voigt ruling, yet people still do not understand our rights,” Lac du Flambeau President and Voigt Intertribal Task Force Chair John Johnson said.

President Johnson's remarks coincide with in-person harassment experienced by tribal harvesters, but also with social media-based harassment. The Department of Natural Resources released multiple Facebook posts this season reminding Wisconsin citizens of treaty rights and their federal protections. Unfortunately, social media posts that are meant to spur critical dialogue and educate citizens, oftentimes create space for anti-treaty sentiment and outright racism. A post on April 12 to the Wisconsin DNR Facebook page retraumatized readers with a threat in the comments. “I see you fishing by my house at night with a spear and you will be chased by some angry lead I've trained to keep you the f**ck away from my shore.”

(see *Treaty rights*, page 4)



Ceded Territory news briefs

Regulation changes aim to control CWD spread in Minnesota

In 2019, the Minnesota legislature amended the statute governing farmed cervidae (deer, elk, reindeer, etc.) to better control the spread of Chronic Wasting Disease (CWD) in captive facilities. These changes prompted the Minnesota Board of Animal Health (BAH) to begin amending its regulations covering captive cervid facilities in 2020.

GLIFWC staff have been engaged in the rulemaking process, participating in the Farmed Cervidae Advisory Committee and developing comments on the proposed regulation amendments. Tribes in Minnesota have also submitted comments and tribal representatives have engaged with officials from the BAH, Minnesota Department of Agriculture and the Minnesota Department of Natural Resources on regulatory changes needed to address the spread of CWD from captive cervid facilities. The BAH is expected to release a revised regulation draft soon, with an open comment period to solicit feedback from the public and the Tribes.

In late April 2021, BAH issued an emergency rule change to limit the ability of captive cervid facilities located within CWD endemic zones to move their animals to different facilities. This emergency rule is currently under review by an administrative law judge at the Minnesota Office of Administrative Hearings.

Follow the *GLIFWC Facebook page* or visit the Minnesota BAH website at www.bah.state.mn.us for updates.

—P. Kebec

Harassment incident on Mille Lacs Lake, Mille Lacs County, Minnesota

GLIFWC Enforcement, Mille Lacs Co. Sheriff respond

On the evening of April 10, at approximately 10:00 pm, tribal harvesters reported harassment on Mille Lacs Lake in Mille Lacs County, Minnesota. GLIFWC Conservation Enforcement responded to a location marked with a smartphone app, and later to a local residence, along with the Mille Lacs Co. Sheriff's Department. The incident remains under investigation.

Hostile and violent acts of aggression, including rock throwing, racial slurs, and threats of physical violence, occur during tribal spearfishing every year. Obstruction or harassment of individuals practicing their federally protected rights can lead to fines and even arrest.

The Mille Lacs Co. Sheriff's Department has submitted a report of the incident to the Mille Lacs County District Attorney's Office for an assessment of potential charges. At least two separate spearing parties reported being subject to various types of harassment from the same source, including yelling, rock throwing, indecent exposure, and threats of physical violence.

GLIFWC is grateful to the local law enforcement and GLIFWC enforcement personnel that responded to the incident so promptly, helping to ensure the safety of everyone involved.

GLIFWC Chief Conservation Enforcement Officer Adam McGeshick reiterates, "If you hear or see anything that resembles harassment of tribal harvesters, please report it to us or the State DNR immediately. If it's a potentially life-threatening incident, please call 911. Everyone has the right to harvest safely." The non-emergency response GLIFWC enforcement line can be reached at (715) 685-2113.

Laguna's Haaland, American Indians take up leadership roles at Dept. of Interior

Former New Mexico Representative Deb Haaland was confirmed by the US Senate to be Secretary of the United States Department of the Interior on March 15. Haaland, enrolled at Laguna Pueblo, is the first tribal member to serve as Interior Secretary, a position that oversees the Bureau of Indian Affairs as well as numerous federal land-management agencies such as the Bureau of Land Management and the US Park Service.

Haaland was confirmed by a Senate vote of 54-42, with several Republicans crossing over to support her nomination. Notably, both Senators of the Alaska delegation voted to confirm Haaland after outspoken support from Alaska tribes and "Dean of the House" Representative Don Young (R-AK).

Haaland takes office as the first ever Native American member of a US Cabinet and only the third woman to ever head the Interior Department. No stranger to making history, Haaland became one of the first two Native American women ever elected to the US house along with Ho-Chunk Nation citizen Sharice Davids (D-KS) in 2018. Haaland has already made an impact in her short time in office, with the Department of the Interior recently overturning a Trump Administration opinion that had stripped mineral rights to the bottom of the Missouri River from the "Three Affiliated Tribes" of the Mandan-Hidatsa-Arikara Nation and given them to North Dakota.

The Biden administration has nominated more tribal members to round out Secretary Haaland's leadership team at Interior. On April 7, Bois Forte Ojibwe member and noted Attorney Robert Anderson was appointed as Solicitor of the Interior Department after serving as Principal Deputy Solicitor since January 20, 2021.

Also, awaiting Senate confirmation is former Bay Mills Tribal Chairman Bryan Newland, recently appointed by President Biden to be Assistant Secretary for Indian Affairs at the Interior Department.

—S. Bichler



GLIFWC Warden Roger Weber reviews harvest data at North Twin Lake boat landing with Joleen McGeshick, creel clerk. (CO Rasmussen photo)

Troubled fishing season at Mille Lacs

(continued from page 1)

were productive, yielding nutrition for the year ahead, and offered time for cultural teachings and fellowship. The oga harvest, divided between daytime net-pulls and evening spearfishing, topped out at 50,523.4 pounds of walleye, representing 26,818 fish. In typical fashion, Ojibwe harvest totals came in well below the quota established by tribal and state biologists at 62,200 lbs. The remaining oga balance provides opportunities for fall netting and special harvests conducted by the Mille Lacs Band members for ceremonies and funerals.

The spring season at Mille Lacs Lake, however, was not a smooth one. Only days following ice-out on the big lake, tribal harvesters aboard fishing boats were harangued by occupants of a riparian household near Liberty Beach Public Water Access. Video of the incidents documented verbal taunts and threats of violence. In addition, the Mille Lacs County Sheriff's Department reportedly verified rock throwing and indecent exposure from the same property—all directed at tribal harvesters. The Mille Lacs County District Attorney's Office is reviewing the case for possible charges.

Four nights later across the lake on the west shore, the Mille Lacs Ojibwe community was shocked and heartbroken to learn that one of their own drowned while fishing near Iskigamizigan landing. Three additional men aboard the fishing boat, which overturned in rough seas April 14, were rescued by Mille Lacs' Curt Kalk and Luther Sam from a privately-owned boat. Mille Lacs Band Commissioner of Natural Resources Katie Draper called on area communities to come together and be respectful of all those grieving for the deceased, John Holmquist. During a time of promise following the year-long pandemic, the Mille Lacs area instead had more difficulties to manage.

And while dozens of smaller lakes were available for treaty harvesters in the 1837 Ceded Territory, Ojibwe fishermen and their relations remained at Mille Lacs Lake to finish the spring season. In addition to ogaawag, GLIFWC creel clerks stationed on Lake Mille Lacs also tallied 2,584 lbs of northern pike and 114.8 lbs of perch from tribal fishers.

Wisconsin Ceded Territory

Like much of the Ojibwe Country, April delivered frequent precipitation in northern Wisconsin, oftentimes rolling in at night as snow, rain, mist, or sleet. On North Twin Lake near Phelps, Wis, Sokaogon's Nick Van Zile and Red Cliff member Mike Dailey got a break from the rain April 11, but still had to contend with wind and a heavy mist blowing in from the northeast. Drawing from years of experience, the pair worked the northern shore—gaining some shelter from the wind along a stretch of gravel and sand lake bottom.

"Wind makes for tougher fishing," Van Zile said, noting that a strong breeze creates ripples, or a chop, on the surface water. "You want to wait for the fish to start moving to get oriented, to get your aim right."

Their technique proved rewarding as the duo were the first among four boats to successfully fill their walleye permits. They even topped off the outing with an opportunity to fill their muskie permit on the way back to the boat landing.

"We saw three muskies right away, but we're focused on walleyes," Van Zile said. "Coming back we checked the spot where we'd seen them hanging out in some cabbage."

By the time Dailey guided the boat back to the patch of aquatic plants holding the muskies, Van Zile had swapped out his walleye rig for a stout muskie spear. They soon had a thick, 44" muskellunge in the boat and the makings of a welcome delivery of fresh fish for their families back home.

Spearfishers did well across the inland waters of Wisconsin, bringing in 34,436 walleyes and 224 muskies. Small numbers of other fish species including bass, northern pike and panfish varieties were also recorded by GLIFWC clerks during nightly counts at boat landings.

(see *Michigan Ceded Territory fishing*, page 19)



Aquila Resources proposes drilling for minerals in Taylor County, Wis

By John Coleman
GLIFWC Environmental Section Leader

Highlights

Exploration for copper, gold and other metals has occurred periodically in Taylor County, Wisconsin since the 1980s. That exploration has primarily been focused along a line running from the north end of Chequamegon Waters Flowage north-east to the Mondeau Flowage. The area contains many treaty-protected resources of interest to local Ojibwe bands (Figure 1).

Recently, Aquila Resources applied for permits to drill exploration holes on U.S. Forest Service lands near the Yellow River. The Forest Service is now beginning the process of developing an Environmental Assessment, a process that will involve conversations and input from the tribes and the general public.

Previous exploration

Prospecting for minerals has been occurring on the Medford-Park Falls Ranger District for almost four decades. Most of the drilling has been at the "Bend site," which is on the North Branch of the Yellow River where 37 holes were drilled prior to 2002. In 2002-2003, Sharpe Energy & Resources Ltd. applied for and received permits for exploration in Taylor County but apparently never conducted any drilling. In 2011-2012, Aquila Resources applied for and received permits to explore for minerals at the "Bend site" and Mondeau Flowage site. While Aquila did conduct drilling of 14 or 15 holes at the "Bend site," it never exercised its permits near the Mondeau Flowage. Since that time, Aquila has periodically renewed its permits but has not conducted any drilling

Current proposal

Aquila Resources recently applied to the Bureau of Land Management (BLM) and the Forest Service for permits to drill at the "Bend site" and to the north-east, but not as far north as Mondeau Flowage (Figure 1). The Forest Service and BLM decided that they must complete an Environmental Analysis (EA) to determine the potential effects of the proposed activities. GLIFWC staff have reviewed the preliminary material available from the Forest Service and are in discussion with agency staff on topics such as hydrogeology at the "Bend site".

Eventually, the Forest Service will start a public scoping process with the goal of developing an Environmental Assessment (EA). Based on that EA the Forest Service will make recommendations to the BLM on what stipulations (conditions) should be included in any prospecting permits issued. GLIFWC Environmental Section's experience with exploration and stipulations will be used to provide the Forest Service with recommendations on this proposal.

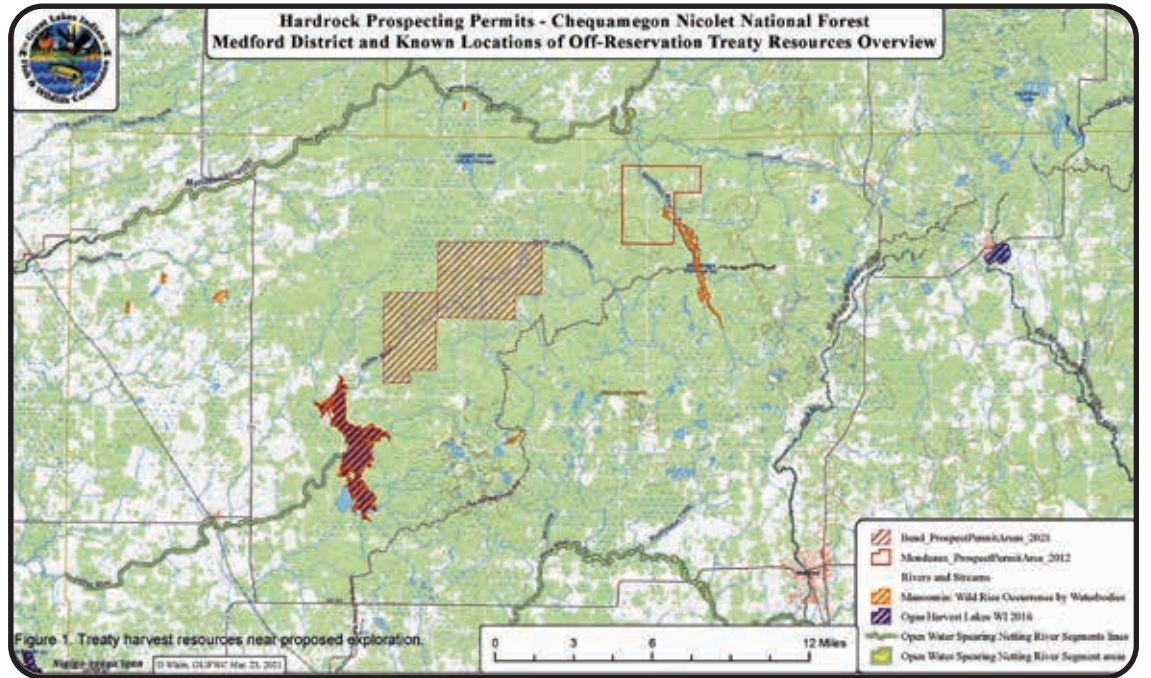


Figure 1. Treaty harvest resources near proposed exploration.

Treaty rights

(continued from page 2)

Another comment read "Save a walleye spear an..." reiterating a slogan heard often during the 80's treaty protests "save a walleye, spear an Indian." This is just one of the many disturbing chants aimed at dehumanizing tribal citizens and insinuating that the life of a walleye is worth more than that of a human being.

Amidst the social media chaos, Wisconsin Attorney General Josh Kaul released a statement condemning tribal harvester harassment and identified multiple State and Federal laws and consequences that could be enacted if these rights were interfered with. Wisconsin Governor Tony Evers and Lt. Governor Mandela Barnes released a video PSA that also acknowledged a similar sentiment. Evers reminded Wisconsin citizens: "In the 1800s the Ojibwe Bands signed treaties with the federal government, which ceded millions of acres of land- land that all of us benefit from. I ask each and every one of you to join me in honoring these treaties and encourage everyone to please be respectful of Ojibwe harvesters and don't infringe on their guaranteed right to hunt and gather."

Wisconsin Lt. Governor Mandela Barnes acknowledged some of the "ugly" protest times in the late 80's and early 90's. "I know that today we are better than the racism and vitriol that we saw then. Everyone has the right to be safe while exercising their rights and practicing their traditions."

Lac du Flambeau President Johnson nods his head towards two young boys playing out in the yard. "My hope is that someday, my grandchildren and great grandchildren will be able to exercise their rights and express their cultural identity without fear of what awaits them in the dark. We still have a lot of ground to cover."

Indeed, there is yet a lot of work to be done to educate and protect tribal citizens that choose to practice their way of life. Differences in culture and way of life make the Midwest both rich and diverse.

What can be done?

Visit GLIFWC.org and ogichidaa.org for more resources on Ojibwe life-way and treaty rights. Also Wisconsinfirstnations.org has fantastic information and resources regarding tribal nations in Wisconsin. Visit these sites, learn, and educate. Be active in local, State and Federal government! Vote for leadership that will uphold federal treaty rights and obligations. Support initiatives that protect and educate about tribal nations and treaty rights.



Lac Courte Oreilles School moved the classroom onto pontoon boats last April where 9th graders learned to harvest and clean walleyes. Students also collected eggs and milt for hands-on lessons in fish hatchery production. Pictured from left Jada Balber, Ayasha Corbine, and Sam Bisonette. (J. Bisonette photo)

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

- Charlie Otto Rasmussen..... Editor
- Lynn Plucinski Assistant Editor
- Dylan Jennings PIO Director
- Paula Maday..... Writer/Photographer



MAZINA'IGAN (Talking Paper) is a publication of the Great Lakes Indian Fish & Wildlife Commission, which represents eleven Ojibwe tribes in Michigan, Minnesota and Wisconsin.

Subscriptions to the paper are free to United States and Canadian residents. Subscribe online at: data.glifwc.org/mazinaigan/subscribe.php; write MAZINA'IGAN, P.O. Box 9, Odanah, WI 54861, call 715.682.6619, or e-mail: lynn@glifwc.org. MAZINA'IGAN is also available in electronic format.

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

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

On the cover

A pair of asemaa ties wreathed in sumac, bearberry, red willow, and tobacco flower from the Maajii-Ojibwemowag (They Begin to Speak Ojibwe) storybook. Learn more at glifwc-inwe.com/zhaawanong.html. (Niyogiizhig Wesley Ballinger illustration).

A look back on Wisconsin's February wolf season

By Peter David
GLIFWC Wildlife Biologist

A “wolf season”—it’s what many called the killing that occurred over a few days in late February. Looked at in its entirety, use of the word “slaughter” seems totally justified. My thoughts on it could fill a substantial book. I think about it from cultural, biological and social justice perspectives, and ponder what it reflects about human’s relationship with non-human beings.

Finding the words is a struggle. I can say this: in my 35 years with GLIFWC, working in three states, there is literally nothing that I have witnessed that fell so far below the bar of professional wildlife stewardship.

So what does one say in a brief review? Enumerate all the things that went wrong? I’m not going

to list them all here, but you can believe it will be articulated and analyzed, to see how we can work to better protect tribal interests going forward. There is plenty to address.

Figure out who is to blame? A step that is not without justification, but useful only if it leads to a better outcome next time. I will say there are many who hold responsibility.

Dissect the biological impacts? A necessary step, and one that GLIFWC staff is working on, in cooperation with other wolf stewards, but for the near term that discussion will be saved for the meetings with biologists.

Strangely perhaps, as spring unfolds to summer, my thoughts go to the few positives related to what happened in February. With the most obvious one being: we have wolves in Wisconsin.

Wolves have once again demonstrated their tremendous resiliency, and it is now possible for a tribal member to encounter a wolf nearly anywhere in the Ceded Territory, and even beyond, something that was just a proverbial pipe-dream early in my career. That is no justification for treating wolves the way they were this past February, but their endurance does give me hope.

While we have seen the return of wild turkeys, eagles, cranes and other species in this state, the

return of ma’iingan represents so much more than these other species, because it suggests a meaningful shift in attitudes is taking place.

More and more people are coming to understand, accept and embrace the idea that wolves are not vermin, that wolves have function and value, ecologically and culturally, and belong on the landscape. This is not a small thing, and it suggests brighter futures for the intertwined fates of social justice and ecological ethos.

But the February debacle also vividly shows how far we have yet to go, and in particular it depicts the problem of having “natural resource” agencies that are driven by a tiny subset of the population they are supposed to serve.

Social surveys in Wisconsin (2014) and more recently in Minnesota (2020), and the overwhelming written and oral testimony given at recent Wisconsin Natural Resources Board meetings consistently reflect that the general public has moved beyond the fallacy of the Big Bad Wolf. Someday, decision makers will catch up to them. With chronic wasting disease threatening the northern Wisconsin deer herd, it can’t happen soon enough.

Finally, on a personal level, I have to add that while what happened in February was a failure on so many levels, it also has only deepened my appreciation of the Ojibwe world view, expanded my gratitude for the opportunity I’ve had to work on behalf of the tribes, and increased my regard for the multitude of people in both the tribal and non-tribal communities who are working harder than ever on behalf of ma’iingan. Miigwech to all of you.



Meet the warden— Roger Weber

Mole Lake warden recalls the path from student to mentor

Roger Weber grew up in Mole Lake. As a student at Crandon High, he had no plans to attend college after graduation. That is, until a chance conversation led him down his career path.

“Michael Preul, a fisheries biologist with the tribe, approached my mom one day. He needed help with some fyke nets and knew she had four boys. I said, ‘Sure, I’ll help out.’ And that was the beginning of it right there. From my sophomore year on, I would go back and help him out every summer.”

Weber credits Preul—a non-tribal member who made his way to Mole Lake from Colorado as a graduate student researching walleye and mining—as being an important mentor in his life. He helped connect him to Fox Valley Technical College in Appleton, where Weber earned a Natural Resources Technician degree in 2016.

“Mentors within Indian Country are so important,” Weber said. “My mom and I, we didn’t know what we were doing when it came to enrolling in college and filling out the financial aid paperwork. Michael helped me sign up and fill out all the necessary forms. He acted as a real stepping-stone for me in getting my degree.”

Weber went on to work in the Mole Lake Forestry and Fisheries Department for a couple years. Then, in 2018, GLIFWC warden Roger McGeshick and former Mole Lake Tribal Chairman Chris McGeshick approached Weber about becoming a conservation warden. After learning more about the process, Weber decided to go for it. He was hired on by GLIFWC as a conservation warden in May of 2019, attended the police academy at Nicolet Technical College that summer, and graduated in October.

“I will always look up to those guys—Roger and Chris McGeshick. My Field Training Officers and fellow wardens too. I’ve learned a lot from them along the way.”

Over the past couple years, Weber has started stepping into the shoes—or cleats—of a mentor himself. As a long-time baseball player (“Every rez has that one thing,” he says. “We had baseball.”), he poured his passion for the game into umpiring and coaching. As a freshman and JV baseball coach in Antigo, he guided and trained high school players to pursue their highest potential. And the leadership and mentorship he experienced throughout his journey came full circle. As he worked through his police academy training in June 2019, the Antigo Red Robins won the WIAA Division 2 State Baseball Tournament. For the team, and for Weber, it was the end of a long path designed to show what’s truly possible with a little hard work and some supportive fans cheering you on.

—P. Maday



Request for proposals GLIFWC app development project

Overview

The Great Lakes Indian Fish & Wildlife Commission (GLIFWC) is an intertribal agency consisting of eleven member Ojibwe Bands in Wisconsin, Minnesota, and Michigan. GLIFWC provides assistance to the bands in activities necessary for the implementation of treaty-reserved rights and the effective management of treaty-protected resources.

GLIFWC is seeking a qualified contractor to create a GLIFWC cross-platform app to house agency information, facilitate communication amongst tribal harvesters and provide educational tools to further its outreach.

Expectations

Qualified contractors will submit a proposal for the design and construction of a cross-platform app for GLIFWC staff, and tribal harvesters. The app will serve as the central meeting point for members to learn pertinent information regarding GLIFWC services, regulations and best practices. The app will also serve as a communications hub to share in-the-field information and timely updates from GLIFWC staff.

Furthermore, the app will provide geo-locational service function with layered maps for identifying harvestable areas within the ceded territories. The contractor will work closely with GLIFWC parties and the internal IT department to identify needed functionality within the first version of the app, along with provided necessary training and on-boarding materials for new users. The contractor will also provide a multi-year strategic plan to build out additional app features.

Qualified contractors must prove their ability to adequately provide safe storage of information, ongoing platform maintenance, app store updates and technical support when needed. Preference will be given to contractors who can also provide a strategic roadmap to address GLIFWC website updates and seamless integration into the app-based platform.

Requirements

All interested contractors must submit bids to the GLIFWC IT Director at jaufderheide@glifwc.org by May 30, 2021. Bids must include: project outline/proposal, timeframe, budget, and work samples. The budget may include reasonable travel expenses associated with the project. Contractors will be required to abide by GLIFWC’s financial policies and procedures.

Any questions can be directed to the GLIFWC Public Information Office at djennings@glifwc.org.

Walleye rehab plan proposed for lakes in Oneida, Vilas Co.

GLIFWC, the Lac du Flambeau Band, and the Wisconsin Department of Natural Resources have been working cooperatively on a walleye rehabilitation plan for Clear and Katherine Lakes in Oneida County, and Anvil and Laura Lakes in Vilas Co. Over the last three decades, the adult walleye population in this four-lake suite has seen a substantive decline.

In Anvil Lake, data as far back as 1991 indicated a population of 11 adult walleye per acre. More recent population estimates from 2017 indicate a population of 2.8/acre. What is causing the population decline? GLIFWC Inland Fisheries Biologist Mark Luehring indicated several possibilities. "Natural reproduction has lessened in Anvil Lake. The lake has also endured dramatic habitat changes as the ground water levels have fluctuated. Eurasian milfoil also invaded at some point, and the extent to which this has impacted the habitat is not yet completely understood," he said.

The draft plan includes a reduction in angling and spearing harvest, stocking strategies, habitat surveys, and fish population monitoring. Special angling regulations were viewed favorably during the Wis DNR's spring hearing on April 12, and could go into effect in May 2022. These regulations would restrict walleye harvest to one per day for anglers and enact size limitations. Walleye must either be between 18-22 inches, or over 28 inches.

"Protecting the walleye until at least 18 inches would allow for most walleye to spawn more than once before becoming susceptible to angling harvest and preserve many of the egg-producing females," Luehring said. GLIFWC plans to complete habitat surveys on all four lakes this summer. The surveys will measure whether there is adequate habitat for all life stages of walleye within the water bodies, as well as where it might be deficient. —P. Maday



Dramatic swings in water levels on some lakes appears to be part of a long-term trend in declining walleye spawning success. As seen from a GLIFWC research boat, high water levels on Anvil Lake reached well into lakeshore properties in April. (E. White photo)

Ishkode continued

(continued from page 2)

Tree-ring records offer guidance for the stewardship of the fire-dependent landscapes we care about, but these science-based records are most useful when set in cultural context. Controlled burns implemented strategically can lessen the negative effects of unplanned wildfires while maintaining a diverse forest landscape.

Likewise, fire restoration can facilitate forest adaptation to a warming climate and shifting patterns of precipitation. Cross-cultural exchange of place-based information can help merge Western Science and Indigenous Knowledge to address the eco-cultural needs of human and non-human communities. We collectively benefit from the co-production and synthesis of knowledge on how to live in, and be caretakers of, fire-dependent landscapes. After all, humans are fire-dependent beings, too.



Hatchery production results under investigation

A Wisconsin Department of Natural Resources report released last March revealed that resource officials were analyzing two different state fish hatcheries due to an initial finding of disproportionate amounts of female extended growth walleye. These only involve hatchery-reared walleye that have not seen natural habitat. Multiple samples from fish hatcheries in 2019 and 2020 showed preliminary evidence that there are considerably more female walleyes compared to male walleye numbers.

"Typically we'd expect to see closer to a 1:1 sex ratio of juvenile walleye in naturally reproducing systems, although we have not studied the natural ratio specifically in Wisconsin lakes and rivers," said GLIFWC Fisheries Biologist Mark Luehring. "The strange ratios being observed in some hatcheries may be caused by hatchery practices, but more research is needed to understand what is happening here."

GLIFWC fishery managers are keeping a close eye on this research and the results. Many Tribal Nations throughout the Ceded Territory have successfully operated fish hatcheries for decades, using similar techniques to those used in state fish hatcheries. Imbalance in sex ratios of stocked fish could have a negative effect on the ability of formerly naturally reproducing populations to be rehabilitated.

Wisconsin DNR plans to expand the study this year to sample fish from more hatcheries, and some natural populations as well. In addition, a comprehensive review of stocking and population data will be conducted to determine how prevalent this phenomenon might be, and how it has affected walleye populations.

—B. Jennings

State of the Tribes

(continued from page 1)

lifeway. Most notably, each of these significant beings are "dependent on a healthy ecosystem."

Johnson also referred to the 7th generation philosophy which compels many leaders to think well beyond the foreseeable future. He called upon all decision-makers to lead by example and think about future generations to come.

Finally, as expected, the tribal leader condemned racism and bigotry that manifest through mascots, and other forms of discrimination and harassment. Johnson's younger brother was part of the spearfishing group that experienced harassment and gunshots in the spring of 2020 on Little Saint Germaine Lake in Vilas County.

He called for both the continued and increased investment in education surrounding treaty rights and Wisconsin indigenous communities. He cited education as one of the many tools that can be utilized to effectively combat racism and bigotry.

This year's State of the Tribes Address was held with a very minimal crowd, but the emotion and sentiment could be felt and understood by those tuning in virtually. This year marked the 17th address by tribal leadership, and also marks the importance of tribal sovereignty and maintaining strong relationships between the state and the respective tribal nations.



Lac du Flambeau drum Wigwam Junior appears outside the Wisconsin State Capitol prior to playing opening songs at the State of the Tribes. (J. Johnson photo)



Always fatal CWD continues to pose challenges for hunters, wildlife managers

By Travis Bartnick, GLIFWC Wildlife Biologist

Chronic Wasting Disease (CWD) is a complex, fatal disease that infects members of the Cervidae (deer) family (also known as cervids). In the Ceded Territory, this includes waawaashkeshi (white-tailed deer), omashkooz (elk), and mooz (moose). CWD causes degeneration of brain and nervous tissues of infected animals. The disease has been spreading throughout North America for the past several decades, and there is no known vaccine or treatment for the disease.

CWD is not caused by a virus or bacteria. Instead, CWD is caused by an abnormal or misfolded protein, known as a prion (pree-on). When these prions enter the body of an animal such as a white-tailed deer, the prions cause other proteins to become misfolded and become infectious prions. These infectious prions continue to multiply and accumulate throughout the animal's body – primarily in the lymphatic and nervous systems. The infectious prions travel through the body and eventually begin to accumulate in the animal's brain and nervous tissues. Eventually, this leads to the advancement of the disease, causing health complications and eventually death.

CWD was first described in Colorado the late 1960s and has been spreading across North America for several decades. The most likely causes of long-distance spread of the disease has been attributed to the movement of live cervids by the captive cervid industry, and by the movement of infected carcasses by hunters. The disease spreads more locally in cervid herds through urine, feces, blood, and saliva.

The primary source of infection is through the ingestion of infectious prions. Infected deer will often show no signs of the disease during an extended incubation period of 18-24 months (upwards of two years). During this incubation period, a deer will look and act normal. However, they can be shedding and spreading infectious prions to other deer and throughout the environment this entire time. Once an infected deer reaches the clinical stage of infection, they begin showing signs of being sick. Common clinical stage signs of infection include loss of awareness, reduced fear of humans, increased drinking and urination, excessive salivation, weight loss, and poor body condition.

Relatively few detections of CWD in wild white-tailed deer have occurred in the Ceded Territory. However, in recent years, the disease has continued to spread from endemic areas, where the highest concentration of infected animals have been detected. In 2020 CWD was detected in wild deer within two additional Wisconsin counties (Shawano and Wood) that border the ceded territories in Wisconsin. Both detections were outside of the Ceded Territory boundary.

Fortunately, no additional wild deer tested positive within the Wisconsin portion of the Ceded Territories in 2020. A few additional wild deer did test positive in the extreme southern portion of the 1836 Ceded Territory in Michigan in 2020, but no additional CWD-positive deer have been detected in Michigan's Upper Peninsula since the detection of a single positive deer in Dickinson County in 2018. You can see the distribution of where CWD has been detected in Minnesota, Wisconsin, and Michigan using GLIFWC's interactive CWD map at data.glifwc.org/cwd or use your internet search engine by searching for "GLIFWC CWD."

Several captive cervid facilities have detected CWD in their captive herds within the Ceded Territory. Sometimes these herds are depopulated after CWD has been detected. In other cases, the captive cervid facilities are allowed to continue to operate by the state's regulatory agency. The rules and regulations of captive



Waawaashkeshi. (T. Bartnick photo)

cervid facilities vary from state to state, which can be confusing when considering that the Ceded Territories span portions of Minnesota, Wisconsin, and Michigan. The number of captive cervid facilities in each state varies from year to year, but number in the hundreds in each state. For example, according to the Wisconsin Department of Agriculture, Trade, and Consumer Protection (DATCP), there were 311 registered captive cervid facilities in Wisconsin as of early 2021. Michigan and Minnesota have had similar numbers of captive cervid facilities in past years, although the number of facilities in Minnesota has been declining more recently.

The current methods used to test cervids for CWD involve removing the retropharyngeal lymph nodes or the obex (brain stem) and sending those tissues to a lab that can perform the diagnostics process. The retropharyngeal lymph nodes are located in the upper part of the neck, just below the jawline. The obex is located just above the first vertebrae, inside the base of the skull. This means the animal has to be dead to test it for CWD. Currently there is no widely accepted and validated "live" test for CWD and this poses a huge problem when it comes to the captive cervid industry, which regularly transports live cervids from one facility to another. Insufficient regulations on the transport of live captive cervids has contributed to the long-distance spread of CWD throughout North America.

For example, a captive deer breeding facility in Marinette County, Wisconsin has moved deer to a captive hunting facility in Forest County, Wisconsin. Deer in the Forest County facility have since tested positive for CWD. A captive hunting ranch in Waupaca County, Wisconsin sourced CWD-positive deer from a breeding facility in Lancaster County, Pennsylvania. In Minnesota, a Winona County breeding facility transported live deer to a captive facility in Beltrami County. In April 2021, the Minnesota Board of Animal Health announced that the deer sent to the Beltrami County facility from the Winona County facility had tested positive for CWD.

The limitation of only being able to test deer once they have died and insufficient regulations in the captive cervid industry has undeniably contributed to further spread of the disease across the country. It is likely that the transport of hunter-harvested cervid carcasses from CWD-infected herds to areas where CWD has not yet been detected in wild herds has also contributed to the long-distance spread of the disease. Fortunately, prion researchers are focusing on novel diagnostics methods for CWD.

Several research labs across the United States are currently working to develop a CWD test that could be used on recently harvested deer or live deer that could provide deer hunters and captive cervid facility owners CWD testing results in a matter of hours instead of the current 1-2 weeks it takes for traditional CWD testing methods. Some researchers are also looking into ways to detect infectious CWD prions in the environment, which would help us understand how long infectious CWD prions persist in the environment and determine alternative routes for the disease to spread on the landscape.

In April, 2021, the University of Minnesota's Center for Prion Research and Outreach (MNPRO) announced that they had developed a field-deployable CWD test using a technique known as RT-QuIC. RT-QuIC is a highly sensitive assay for prion detection. The RT-QuIC method uses nanoparticles to identify CWD prions in tissue samples. The RT-QuIC method is not only much faster than current CWD diagnostics methods, but researchers also say that it would be less expensive, can be run on field-deployable equipment, and is more sensitive than current CWD testing methods. Although the RT-QuIC method is still in the research phase, this news is very promising.

2021 Tribal CWD surveillance

In 2020, GLIFWC wildlife staff worked with tribal wildlife staff in Wisconsin, Minnesota, and Michigan to develop a regional tribal CWD surveillance network through funding made available by USDA-APHIS. The funding will be used to purchase supplies and equipment necessary to establish CWD sampling stations (see [Tribal CWD surveillance](#), page 9)

Neonicotinoids found in wild deer across Minnesota

In early March of 2021, the Minnesota Department of Natural Resources (MN DNR) announced the preliminary results of a study testing waawaashkeshi (white-tailed deer) for the presence of neonicotinoids—a type of pesticide that has become widely known in recent years for decimating pollinator (insect) populations.

The MN DNR tested 800 deer spleens that had been submitted by hunters during the 2019 hunting season. Neonicotinoids were found to be present in 61% of the sampled deer spleens. Although it is known that most corn and soybean fields in Minnesota are treated with neonicotinoids, there have been relatively few studies on how these pesticides might be affecting wildlife populations.

A big surprise in the preliminary results of the MN DNR study was that the pesticides were found in deer across the entire state, and not just in agricultural areas. The preliminary study focused on the presence of the neonicotinoids, and the MN DNR is in the process of determining exact levels of the pesticides found in the deer spleens. The MN DNR is also planning on sampling additional deer, and perhaps additional species of wildlife this fall.

Neonicotinoids are often referred to as "neonics." They are the most widely used type of pesticide in the world. The use of several types of neonics has been banned in Europe, but the pesticides are still widely used in the United States. Currently, the Minnesota Department of Health believes there is little or no human health risk in consuming venison from wild deer that have been exposed to neonicotinoids.

—T. Bartnick

Forest edibles offer flavor and nutrition

From ziigwan to niibin

By Owen Holly Schwartz, GLIFWC Community Dietician & Madelyn Wiggins, Community Food Project Outreach Asst.

Since the arrival of spring, edible wild plants and greens have started to become available for harvest, offering different varieties throughout the growing season. Early spring is met with bagwaji-zhigaaggawaanshiig, also known as ramps or wild leeks (*Allium tricoccum*), and followed by other delicious wild plant foods. Here are some of our favorite wild foods to consider adding to your foraging basket this season.



Young stinging nettle shoots. (Wendell Smith is licensed under CC BY 2.0)

Wood nettle in April. (P. Dziuk photo CC BY-NC-ND 3.0 US)



Young stinging nettle (*Urtica dioica*) leaves soon follow ramps' early emergence. If you miss the stinging nettle when it is young, or are still craving it after it has become too woody to eat, look for wood nettle shoots (*Laportea canadensis*) which sprout later, in mid spring,

and are best when harvested before the leaves fully open. Wood and stinging nettles are both members of the nettle family. Stinging nettle is similar to spinach in taste and cooking style, while wood nettle is more like asparagus. Nettles are a good source of fiber and vitamin K and contain a good amount of calcium and iron¹. Wood nettle is often found in moist areas, along riversides, or in shady areas in the forest; while stinging nettle can also be found in these places, it is more attracted to rich moist soils wherever they are found.

Both nettles are native to North America with some European subspecies now in the mix and are all known to be stinging plants (the sting is temporary), so it is good to use caution when harvesting. Consider using gloves to harvest and preparing them to eat, but once they receive some heat or are dehydrated, the stinging property deactivates.

Just around the time stinging nettles are emerging, so are ostrich ferns (*Matteuchia struthiopteris*), which first produce a classic fiddlehead-shaped stalk. However, the young or fiddlehead fern that is traditionally consumed is wewagaagin or wagaagin known as bracken fern (*Pteridium* sp.).



Ostrich ferns generally emerge before the bracken fern. (Aeranthos photo licensed under CC BY-NC 2.0)

The fiddlehead fern that is traditionally consumed is wewagaagin or wagaagin known as bracken fern. (Extemporalist photo CC0 1.0)



Bracken fern is an understory plant which generally emerges after the ostrich fern, appearing as a patch of ferns spread out over an area rather than a grouping or cluster. For more information about harvesting wagaagin please see the Harvesting Bracken Ferns video on the GLIFWC YouTube channel.

In certain, yet to be fully understood conditions, bracken fern can produce ptaquiloside, which is a possible carcinogen. If and in what quantities bracken fern produce this chemical at the fiddlehead stage in Ceded Territory is untested. In 2017, GLIFWC participated in a small study to better understand if and in what quantities the chemicals are produced. The results of that study were released in the Spring 2018 issue of the *Mazina'igan*.

Wild leeks and ramps are a much-anticipated, native spring green and bulb which are traditionally harvested and have a variety of ways they can be cooked or incorporated into meals. Visit our [GLIFWC YouTube page](#) for more information and enjoy a safe harvest! Share your curiosity and language with a little one by reading our flipbook all about ramps [glifwc-inwe.com/2onion_flip/story.html](#)

Looking to late spring and summer, wild carrot (*Daucus carota*), commonly known as Queen Anne's Lace, becomes available to harvesters. Wild carrot is an edible plant that is believed to have arrived in North America with Europeans. The root can be harvested in early spring or fall and looks like small parsnips.

As the plant develops, a flower forms that opens in summer. The flowers can be harvested and used for food. It is a wild carrot, so it will smell like a familiar garden carrot and in the first year of growth the tops will look like carrot greens.

In the second year, it grows tall and stalky, with a flat white flower oftentimes including a tiny dark spot in the middle. It grows in almost any soil as long as it is not too wet and has abundant sun. It is commonly found in abundance in old fields and along roadsides. It is important to know your harvest area and roadsides are often sites of runoff and chemicals which may be on or in the plant. When harvesting to eat, be sure to know exactly what you are harvesting.

A common and harmful look-a-like is poisonous hemlock, though hemlock does not smell like carrot and has other distinguishing features that separate it from wild carrot, this highlights the importance of proper identification and working with knowledgeable harvesters to help verify your harvest. Wild carrot root and its flower can be eaten raw, cooked, fried, and can also be made into jelly.

These are just a select few of the many abundant and delicious foods you can harvest in the Ceded Territory. Before you head out on a foraging adventure, please learn more about how to identify and harvest the plants you are interested in harvesting. Books are great to take into the woods but better yet, invite a knowledgeable harvester to join you.

As always when going out to harvest it is important to start in a good way with thanks and asemaa.



Freshly harvested wild carrots. (h-bomb photo CC BY-NC-SA 2.0)



Queen Anne's Lace flower, also known as wild carrot. (Peter O'Connor aka anemoneprojectors photo. CC BY-SA 2.0)

¹Katherine M. Phillips, et al. "Nutrient composition of selected traditional United States Northern Plains Native American plant foods," *Journal of Food Composition and Analysis*, 34 (2014) 136-152

Queen Anne's Lace Jelly

- 18 large Queen Anne's lace heads
- 4 cups water
- 1/4 cup lemon juice (fresh or bottled)
- 1 package powdered pectin
- 3 2/3 cups



Bring water to boil. Remove from heat. Add flower heads (push them down into the water). Cover and steep 30 minutes. Strain.

Measure 3 Cups liquid into 4-6 quart pan. Add lemon juice and pectin. Bring to a rolling boil stirring constantly. Add sugar and stir constantly. Cook and stir until mixture comes to a rolling boil. Boil one minute longer, then remove from heat.

Skim. Pour into jars leaving 1/4" head space. Process in hot water bath for 5 minutes. Makes about 6 jars.

(Reprinted with permission from [eattheweeds.com/daucus-carota-pusillus-edible-wild-carrots-2](#))



Biological intervention: working with bakaan ingoji gaa-ondaadag in a sustainable way



By Hannah Arbuckle, GLIFWC Outreach Coordinator & Steve Garske, GLIFWC Invasive Species Coordinator

Biological control or “biocontrol” has long been used to control invasive species, or more appropriately, “non-local beings.”* Biocontrol is a way of controlling the abundance of one living organism with another, typically by introducing one or more of the target organism’s natural predators.

An early but well-known example was the domestication of the Middle Eastern wildcat thousands of years ago to control mice and rat populations. These feline friends are now known as the house cat. Since then, the use of the natural enemies of various non-local beings to reduce their abundance has increased tremendously.

Rapid globalization has resulted in a huge increase in long-distance commerce and travel, resulting in the redistribution of plants, animals, and other beings (including fungi and bacteria) around the world. Some of these non-local beings have little impact on native organisms and their habitats, but others aggressively invade native ecosystems and fundamentally change them to the point that they can no longer support many native beings. These non-local beings are often referred to as “invasive species”. With our increasingly globalized world, the use of biocontrol organisms is accelerating to control large populations of non-local beings, without the risks associated with chemical controls.

Herbicides can be very effective at managing relatively small populations of non-local plant beings. But these chemicals also pose risks to human and ecosystem health. When herbicides are used to control non-local beings, native plants may also be harmed, along with the insects and other organisms that rely on them.

Recently an entire class of pesticides called neonicotinoids (or “neonics” for short) have been linked to serious insect declines around the world. These insect declines are one factor leading to a major drop in songbird populations in recent years. Concern about the effects of herbicides on human health is also growing, as researchers link certain pesticides and herbicides to human health problems. In 2015 the World Health Organization determined that “glyphosate,” a chemical found in products such as “Roundup” is a probable human carcinogen.

Not all herbicides have been found to be toxic to humans, but problems associated with these chemicals continue to be discovered. Additionally, some agriculturally problematic plants (commonly termed “weeds”) have evolved resistance to certain herbicides, greatly reducing their effectiveness. With controversy expanding around the safety of chemical herbicides, biological control is increasingly being viewed as a safe and sustainable alternative. This is not to say that biocontrol methods do not come without concerns of their own.

An ongoing concern with introducing new organisms to control a non-local being is the potential harm they might have on local beings. To avoid these potential problems, biological control candidates undergo an intensive screening process to ensure that they will not feed on or harm native plants and agricultural crops.

For example, the USDA may soon approve the release of a root boring weevil from Europe which eats garlic mustard, a non-local being that spreads rapidly in high numbers. This being (with the long scientific name *Ceutorhynchus scrobicollis*) has undergone more than 20 years of testing, to make sure that it does not attack crop plants or wild relatives of garlic mustard. Part of the reason for this very cautious approach is that garlic mustard belongs to the mustard family (Brassicaceae) which also includes wild native plants like common and cut-leaved toothworts (*makopin*), as well as crop plants like cabbage, broccoli, cauliflower, mustard greens, radishes, and canola. Without careful research, these new organisms could potentially cause harm to both native and agricultural plants.



This weevil (*Ceutorhynchus scrobicollis*) is a natural enemy of garlic mustard. The adults eat the leaves, while the larvae tunnel through the roots. The USDA may soon approve the release of this beetle in the United States. (Harriet Hinz and Ester Gerber photo, CABI Biosci-ences, Bugwood.org)

*Bakaan ingoji gaa-ondaadag or “non-local beings” is the Anishinaabe (Ojibwe) term to describe invasive species. This term reflects the Anishinaabe belief that all beings were given specific instructions on how to live and that all are equally important. It has increasingly been used by GLIFWC staff to avoid the negative connotations that may be associated with words like “exotic” or “alien,” or even “invasive species,” and to more accurately reflect Ojibwe culture and beliefs.



Mesh bag of flea beetles. These tiny flea beetles (*Aphthona*) are specialist predators on leafy and cypress spurge. Once well-established, they are very effective at keeping spurge populations at manageable levels. In recent years GLIFWC has been redistributing these beetles from the Douglas County State Wildlife Area in northwest Wisconsin, to northern Bayfield County, to control large patches of leafy spurge. (S. Garske photos)

After extensive testing by the USDA, several species of flea beetles (*Aphthona* spp. *) were approved to control leafy spurge. These flea beetles (so named because they have long back legs and are excellent jumpers!) only feed and reproduce on leafy spurge and cypress spurge.

For over 10 years GLIFWC and its partners have been collecting these beetles and releasing them in areas with abundant leafy spurge. Although it typically takes up to 10 years for flea beetles to build up sufficient numbers to control spurge, they are very effective once established.

Biological control beings will not completely eradicate their plant host because their populations are dependent on the abundance of these beings. Instead, they reduce the host’s numbers and maintain its abundance at levels where it coexists with the other members of the ecosystem. The target plant will still be present but will no longer dominate its environment. Allowing native plants and animals to recolonize formerly occupied areas, and to regain their traditional role in the environment.

The Anishinaabe know that patience can lead to a deeper healing. While biocontrol methods may take longer to control non-local beings than chemical control, chemical control risks negatively affect native beings and humans. Biological control methods can provide a more sustainable approach to managing the negative impacts of non-local beings, while avoiding the use of toxic chemicals that can adversely impact our non-human relatives and the ecosystems on which we all depend.

For GLIFWC and its 11 member tribes, sustainability is a crucial factor when considering the well-being of the next seven generations. Therefore GLIFWC continues to explore the use of biological control beings to reduce the impact of non-local beings in the Ceded Territories.

(*Spp. is the abbreviation for the plural form of species.)

Tribal CWD surveillance

(continued from page 7)

in tribal communities. The funding will also support the cost of collecting samples and sending the samples to a state veterinary lab to be analyzed.

GLIFWC and other tribal wildlife staff will be working with tribal registration clerks to get the sampling stations and detailed instructions for CWD sampling in place by fall 2021. As the planning for this increased surveillance moves along, keep watch on GLIFWC’s Facebook page for updates.

Investigating the past, present and foreseeable impacts of pipelines to the Ceded Territory and the Chequamegon Nicolet National Forest

By GLIFWC Pipeline Team

There are approximately 1,277 miles of crude oil pipeline that run through the Ojibwe Ceded Territories. Each individual pipeline varies in capacity. Additionally, twenty-one pumping stations are scattered throughout the treaty-ceded lands. The estimated maximum capacity of the Enbridge mainline system that connects through the Superior Terminal is approximately 5 million barrels per day (bpd).

In the Ojibwe Ceded Territories, Enbridge Line 5 is the only crude oil pipeline that crosses lands administered by the U.S. Forest Service. The 1953 permitting and establishment of this pipeline segment—located on the Washburn Ranger District of the Chequamegon-Nicolet National Forest—predated the National Environmental Policy Act, National Historic Preservation Act, Clean Water Act, and other laws and policies associated with cultural and environmental protections. Therefore, the past, present, and reasonably foreseeable impacts of the Line 5 pipeline have never been fully characterized.

Over the last three years, GLIFWC, in cooperation with the U.S. Forest Service, has been working to characterize these impacts, with a particular focus on Line 5. This focus is intended to develop information to help guide a Forest Service decision on the potential renewal of a special use authorization for the portion of Line 5 that crosses the Chequamegon-Nicolet National Forest (CNNF).

Back in 2013, the special use authorization that allows Line 5 to cross the CNNF expired. The following year, the Forest Service started the process of renewing that permit.

GLIFWC staff reviewed the permitting documents and submitted extensive comments. It became clear that there were many questions that needed to be answered before any permit could be re-issued. The Forest Service and the Voigt Intertribal Task Force agreed to work cooperatively to develop information in an attempt to answer those questions.

The work focuses on two main scales: 1. The CNNF proclaimed boundary and 2. The 1836, 1837, 1842, and 1854 Ceded Territories. At both of these scales we have defined areas of impact where, according to established science, we expect the effects of an oil spill or pipeline explosion to be felt.



Moquah Barrens landscape.

Work in the Chequamegon-Nicolet National Forest

Work conducted at this scale centers around the approximately 11 miles of Line 5 that crosses the CNNF as well as the study area around it. We compiled available information on vegetation, fish and wildlife, soils, hydrology, etc. and developed information on how the construction and operations of Line 5 has or has not changed these environments.

Much of the area crossed by Line 5 is called the Moquah Barrens, which is a globally rare pine barrens habitat. These areas are characterized by sandy soils and a lack of surface water features like lakes and streams. The area does contain several wetland areas that are likely very important habitat for a number of species.

There is evidence that the pipeline construction filled some areas of wetland and that erosion of the sandy soils along the right of way is an ongoing concern.

Should a release of oil occur in the barrens, it is likely that oil would quickly infiltrate into the substrate. The water table is very deep in this part of the Ceded Territory but it is likely that a portion of the spilled oil would reach groundwater over time.

According to groundwater modeling conducted by the U.S. Forest Service, spilled oil could move through groundwater in a north westerly and south easterly direction and re-emerge at the surface at streams and rivers along that flow path.

Because of these groundwater issues and sandy soils, specialized cleanup methods would be needed should a spill occur. This information is detailed in the analysis.

A Ceded Territory perspective

Developing information for the National Forest permitting process is important but it is also critical to develop an understanding of the cumulative impacts of pipeline construction and cumulative risk of potential oil spills to the Ojibwe Ceded Territories. Pipelines are typically permitted and constructed in piecemeal fashion with each landowner negotiating their own conditions with the company. For this reason, an analysis of the entire crude oil and natural gas pipeline system in the Ceded Territories has never been conducted.

GLIFWC's analysis of impacts of pipeline construction had to be qualitative because of a lack of environmental data from before the pipelines were constructed. Therefore, we used a geographic information system (GIS) to map the pipelines over any available environmental information to infer a range of potential impacts. It is clear that the environments crossed by these pipelines have been altered and given the acreages of potential impacts, we can say that those alterations are important to the ecological integrity of the Ceded Territories.

To assess the impacts that might be caused by a crude oil pipeline spill or potential explosion along the crude oil and natural gas pipelines, we conducted a spatial risk analysis in the GIS system. GLIFWC's approach was to determine the "worst case scenario" of a spill or explosion event. In this way we could properly account for all the areas of the Ceded Territory that might be impacted.

Similar maps will be available for the entire Ceded Territory's lands and waters, but it is important to note that a single spill or explosion would not impact all of these areas at once. The analysis shows all the areas that might be impacted in the future.

What is the risk of a spill from a pipeline?

Given all the discussion of possible impacts, it is important to attempt to quantify the risk of an oil spill. Unfortunately, this is easier said than done because there are many ways of making this statistical calculation. Furthermore, the statistic only gives a partial answer to how people perceive the risk from a pipeline.

For example, a person that lives or harvests berries close to a pipeline may perceive the risk as very high regardless of what the statistics say. In our work we attempt to provide information on both the quantitative statistical risk as well as the risk perceived by an Anishinaabe person as they harvest and live in close proximity to a pipeline.

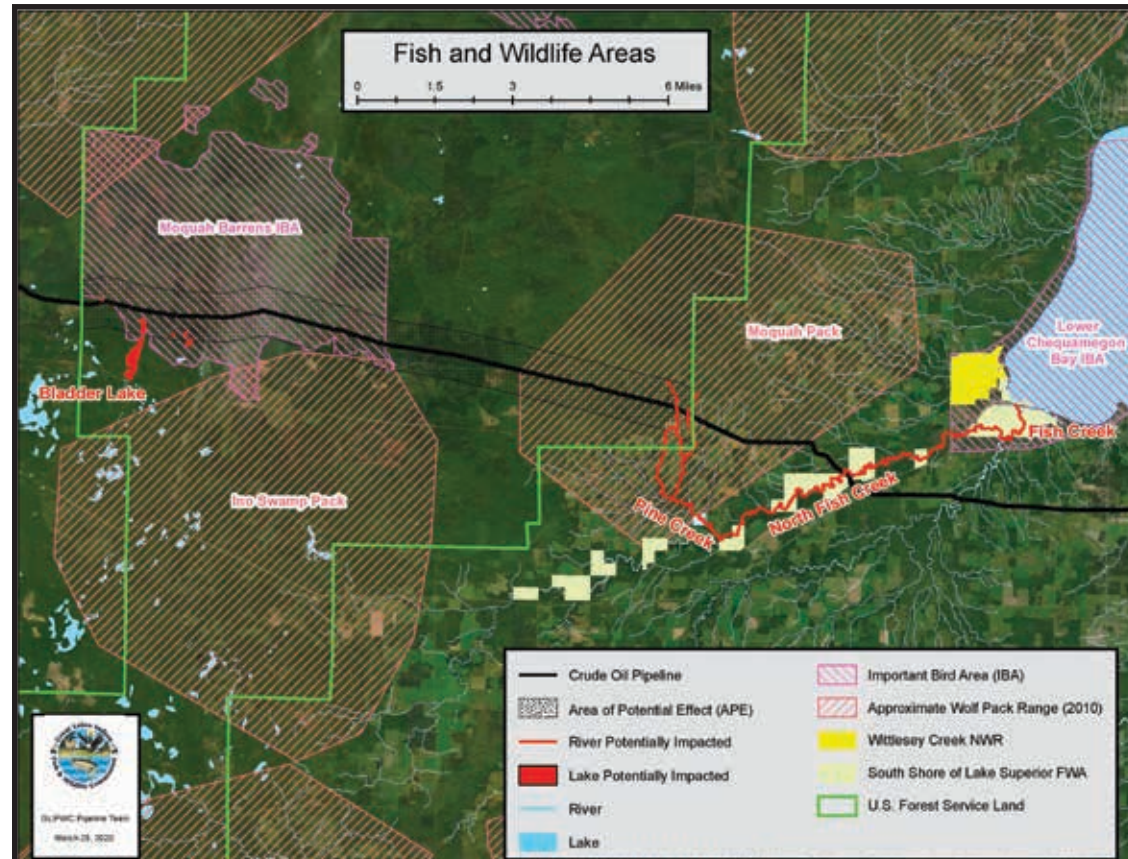
Statistically, the risk of a spill or explosion is not at all insignificant. There have been at least 30 spills on Line 5 alone since it was constructed. It is only logical to assume that spills will occur in the future. However, the statistical risk of a spill occurring at any single location in the Ceded Territory is relatively small. The fact is that the risk is real and planning for such an event is important. In this work we attempt to discuss what this risk means to the exercise of treaty rights in the Ojibwe Ceded Territory.

This article provides a very general summary of the work that GLIFWC has done on pipelines in the Ceded Territory. The full report will be available later this summer.

For more information contact Esteban Chiriboga at esteban@glifwc.org.



The Moquah Barrens is a very productive area for wild berries that is important to traditional harvesters. (P. Kebec photo)

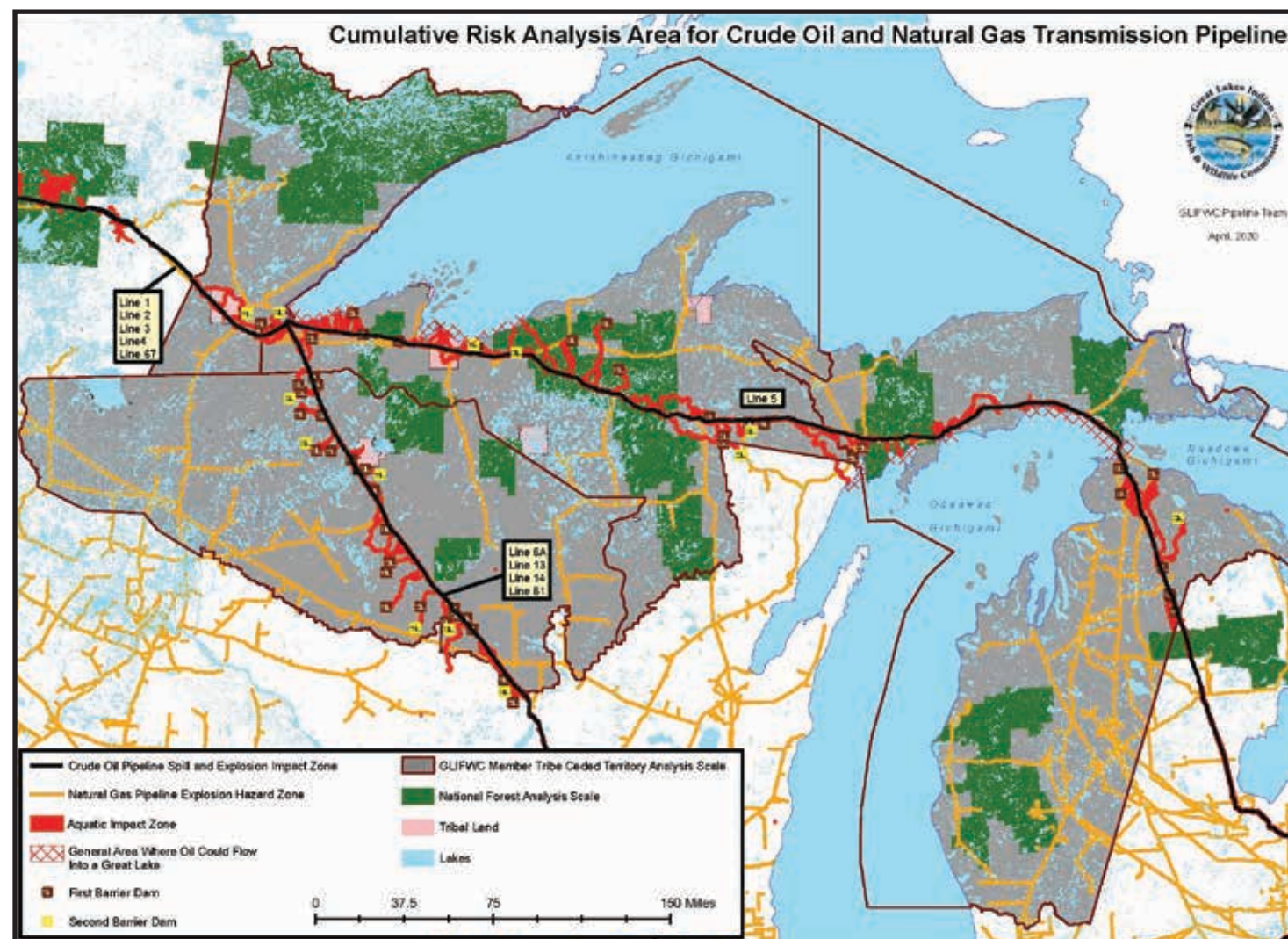


Known wildlife habitats crossed by the Line 5 pipeline in and around the Chequamegon-Nicolet National Forest.

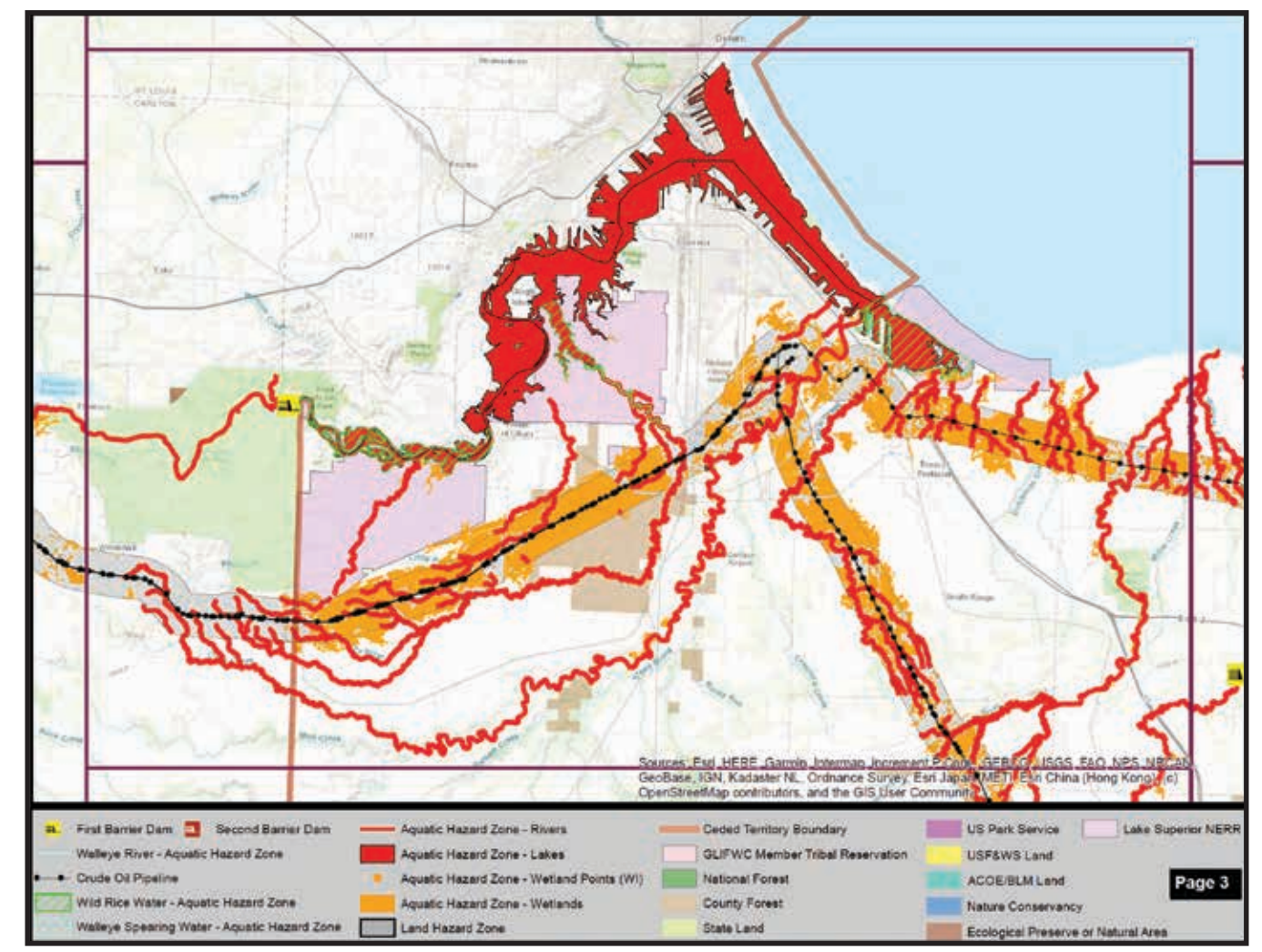


Line 5 pipeline exposed during an integrity dig in the Chequamegon-Nicolet National forest. Note the sandy soils in the excavated area. (D. White photo)

GLIFWC Pipeline Team: Adam Ray, Alexandra Bohman, Ann McCammon Soltis, Ben Michaels, Bill Mattes, Dawn White, Dylan Jennings, Esteban Chiriboga, Hannah Panci, James Thannum, Jen Vanator, Jim Stone, John Coleman, Jonathan Gilbert, Melonee Montano, Miles Falck, Philomena Kebec, Robert Croll, Travis Bartnick, and Waasegiizhig Michael Price.



Crude oil and natural gas pipeline impact areas in the Ceded Territory.

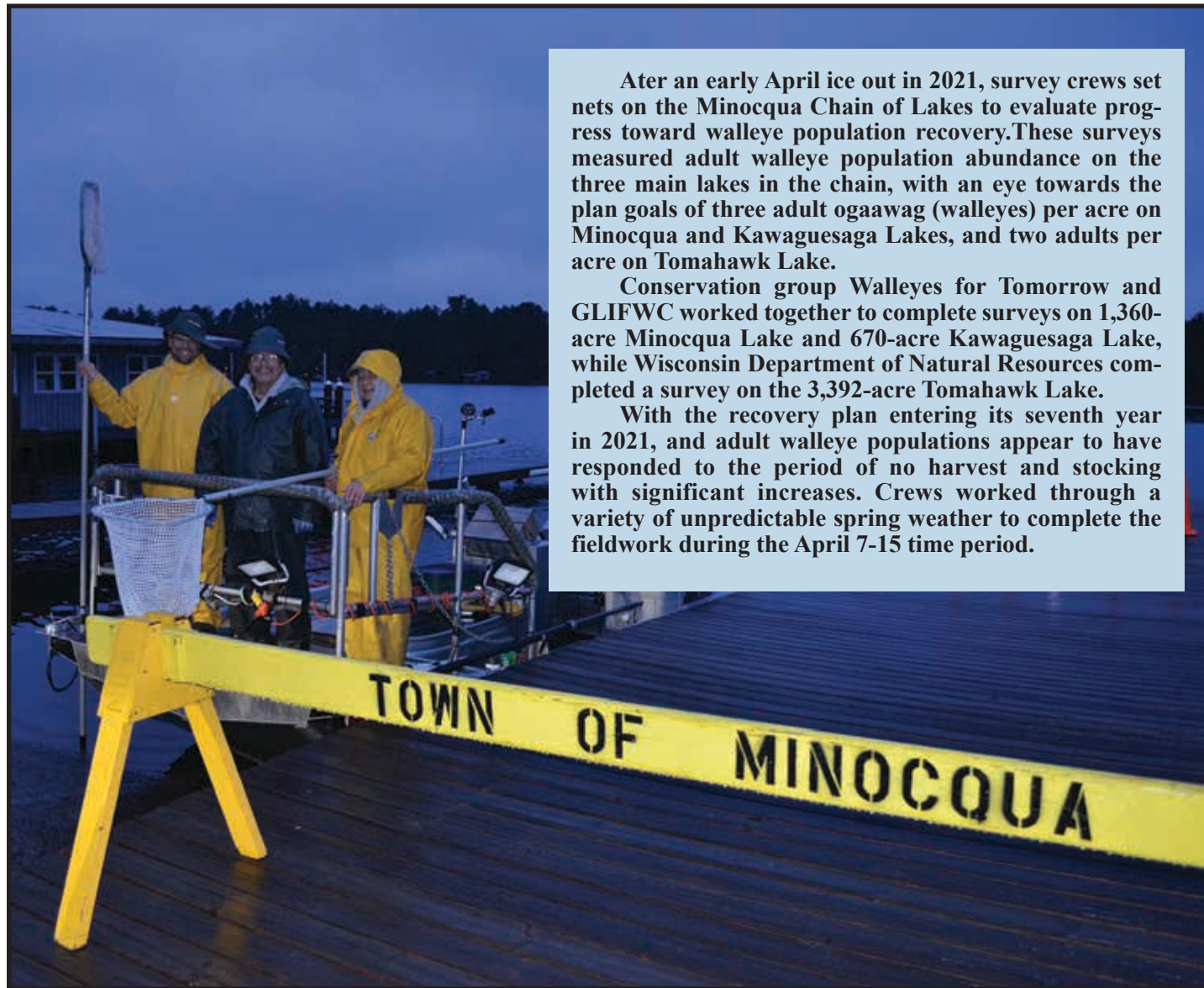


Detailed analysis of lands, and waterways at risk of a crude oil pipeline spill in the Duluth, Minnesota and Superior, Wisconsin area.



Minocqua Chain partnership makes gains

Three large lakes surveyed in 2021



After an early April ice out in 2021, survey crews set nets on the Minocqua Chain of Lakes to evaluate progress toward walleye population recovery. These surveys measured adult walleye population abundance on the three main lakes in the chain, with an eye towards the plan goals of three adult ogaawag (walleyes) per acre on Minocqua and Kawaguesaga Lakes, and two adults per acre on Tomahawk Lake.

Conservation group Walleyes for Tomorrow and GLIFWC worked together to complete surveys on 1,360-acre Minocqua Lake and 670-acre Kawaguesaga Lake, while Wisconsin Department of Natural Resources completed a survey on the 3,392-acre Tomahawk Lake.

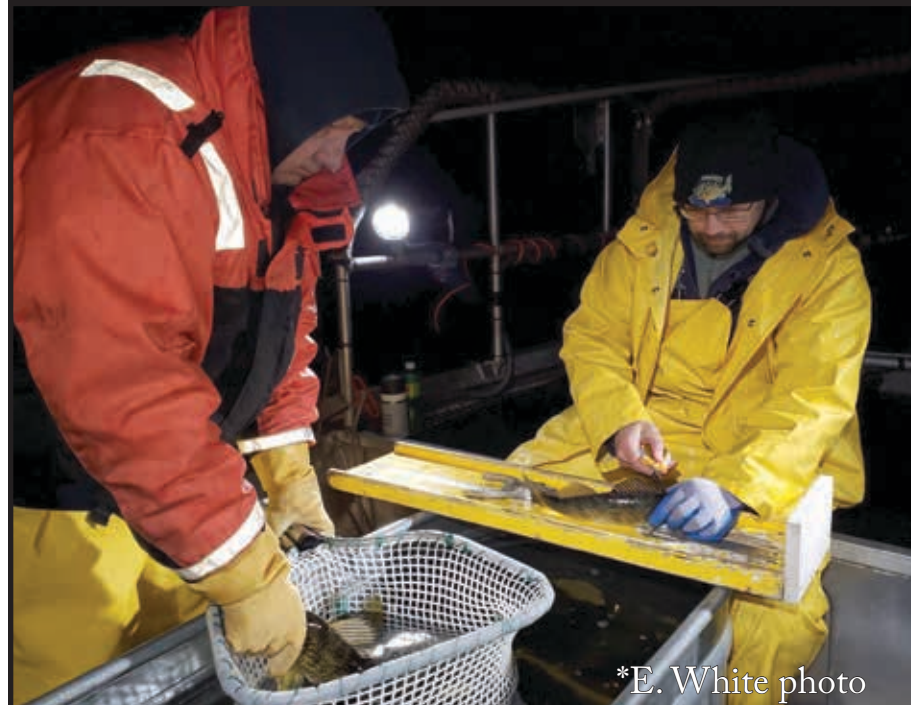
With the recovery plan entering its seventh year in 2021, and adult walleye populations appear to have responded to the period of no harvest and stocking with significant increases. Crews worked through a variety of unpredictable spring weather to complete the fieldwork during the April 7-15 time period.

Back in 2015 it had become clear that walleye populations on the Minocqua Chain were struggling, spurring a partnership between Lac du Flambeau Band, GLIFWC, Walleyes for Tomorrow, and Wisconsin Valley Improvement Company.

Biologists developed a plan for the fishery and collaborators continue working together to complete survey work and consider steps for rehabilitation. While the adult populations appear to have increased, one of the ultimate goals of the plan—a return to a self-sustaining population—has not been met.

On the Minocqua Chain, as in many Midwestern walleye lakes, the cause of the decline in natural reproduction remains unknown. —M. Luehring

Adult walleye surveys on the Minocqua Chain, counterclockwise: a GLIFWC crew with Mark Luehring, Ed White, and Buck Plucinski prepare to launch from the town landing; Luehring prepares for a soggy night; Plucinski and Luehring tag adult ogaawag; Plucinski reacts with a smile as GLIFWC Technician Ed White applies duct tape to a freshly cut opening into a “data dome.” Made from repurposed file folder boxes, White was inspired to devise the rain-shields after several nights of precipitation, which extended into nearly two full weeks of snow, mist and rain. (CO Rasmussen photos)*



*E. White photo



Snow to rain, a wet one aboard GLIFWC research boats *Spring ogaawag assessment crews pick up the pace*

One year after the pandemic limited GLIFWC fishery surveys crews to completing only three walleye population estimates, GLIFWC and its partners ramped up efforts and completed population estimates on 14 Ceded Territory lakes in 2021.

With travel still subject to safety restrictions, GLIFWC leaned heavily on partners from Mole Lake Band, St. Croix Band, Wisconsin Department of Natural Resources, and Walleyes for Tomorrow for local help in completing field work.

For their part, GLIFWC crews drove to survey lakes as far as two hours from the main office in Odanah to get as many estimates done as possible during the spawning season.

One of the biggest challenges of the season was rainy weather. Some form of precipitation fell during 12 of the 14 nights of electrofishing, with thunderstorms causing crews to delay surveying on nights early in the season, and snow hampering visibility during cold nights later on.

Necessity was the mother of invention during this season for GLIFWC crew leaders. The 'data dome' was created by GLIFWC Technician Ed White to keep his paper dry while recording data in the soggy conditions.

One benefit of the challenging spring conditions was a more drawn out spawning season. Slower warming of waters following the early ice out meant that the day length and water temperatures that walleye prefer for spawning were reached more gradually, allowing more time for surveys to be completed.

Data from these surveys are being tabulated and proofed with final estimates of adult abundance available in August.

—M. Luehring



From the Minocqua Chain of Lakes in Wisconsin to Tamarack Lake, Michigan and waters across the Ojibwe Ceded Territory, GLIFWC and its partners surveyed walleye populations, following Covid-19 protocols as well as implementing measures to stop the spread of aquatic invasive species. Spring 2021 GLIFWC survey crew members included: Butch Mieloszyk, Adam Ray, Aaron Shultz, Shane Cramb, Adam Oja, Joe Dan Rose, and Kia Hmielewski. (A Shultz & CO Rasmussen photos)

Analyzing Great Lakes water withdrawal and diversion

By Hannah Arbuckle,
GLIFWC Outreach Coordinator

Water management decisions, climate change, and other factors have expanded the interest of the world in the availability of freshwater. It's no wonder then, that the Great Lakes have increasingly been a hot spot for discussions about water withdrawals and diversions.

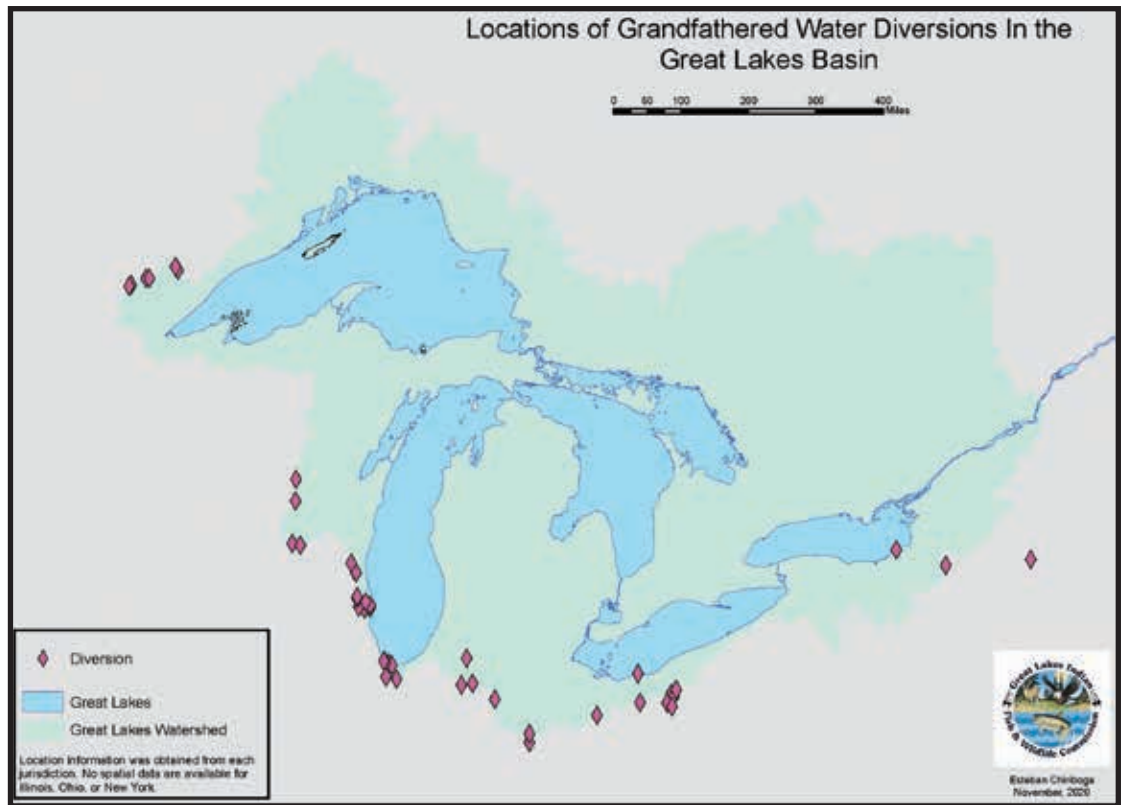
Withdrawals are water from a surface or groundwater source entirely taken and used within the Great Lakes basin, while water diversions transfer water to either outside of the great lakes or between the basins of different great lakes.

Through the decades, arid states have contemplated the feasibility of diverting water from the Great Lakes basin to supplement their water supplies. However, this is an unsustainable route to take not only for the economy but for the health of the Great Lakes basin ecosystem and future generations.

Every day, 40 million people rely on the Great Lakes as a source of drinking water. The cultures, traditions, and lifeways of those living in the Great Lakes basin are threatened by the increased interest in channeling water outside the basin.

This, in part, led to the development of the Great Lakes-St. Lawrence River Basin Water Resources Compact ("Great Lakes Compact") and the Great Lakes-St. Lawrence River Basin Water Resources Regional Agreement ("Regional Agreement").

Here, the eight Great Lakes states and two Great Lakes provinces lay out a joint understanding of management regarding water quantity in the Great Lakes basin. This includes forbidding the diversion of Great Lakes water to outside the basin unless certain conditions are met and the commitments to assess the total impact of water uses are continued.



The Lake Superior watershed is the least developed of all the Great Lakes, so it does not have many of the pollution problems that other great lakes deal with. Much of the ceded territories and the Lake Superior basin have interconnected surface and groundwater systems that include numerous rivers, lakes, wetlands, and springs.

These waterways support a rich and complex lifeway for native people or Anishinaabeg (the Ojibwe people). Manoomin (wild rice), oгаа (walleye), and (see [Great Lakes water](#), page 17)

Tribal off-reservation wiigwaas lodgepole gathering

Commission Order FAQs

Overview

The increasing demand for woods-inspired home/business décor, containing birch saplings, has led to the overharvesting of young birch in certain parts of the ceded territories. The Tribes have been working with their technical staff and public land managers within the ceded territories to better understand the activity and potential consequences.

Paper birch (wiigwasi-mitig/*Betula papyrifera*) and yellow birch tree (wiinzik/*Betula alleghaniensis*) are culturally-significant species and used by the Ojibwe as medicine, building material and for the creation of countless forms of craft and art.

The Tribes are concerned that the overharvest of young birch for the décor industry may have lasting impacts on birch populations throughout the Ceded Territories as well as the availability of birch for future generations. In response to these concerns, the Voigt Intertribal Task Force authorized the issuance of a Commission Order to limit the harvest of young birch in an effort to reduce harvest pressures on this culturally valuable resource.

The Commission Order makes the following changes

- Adds a definition of birch lodgepole ("Birch Lodgepole" means a lodgepole (tree that is less than 5 inches DBH (diameter at breast height)) of a paper birch tree (wiigwasi-mitig/*Betula papyrifera*) or yellow birch tree (wiinzik/*Betula alleghaniensis*).
- Tribal members may harvest up to five birch lodgepoles with a valid "general gathering" permit.

Frequently asked questions

Does this commission order affect my ability to gather birch bark, firewood or lodgepoles of non-birch trees?

No. The commission order only applies to the gathering of birch lodgepoles, which are defined as birch trees, less than 5 inches diameter at breast height (DBH). It does not apply to other gathering activities, such as the gathering of birch bark, firewood or lodgepoles that aren't birch.

What if I already have a permit to gather up to 75 lodgepoles?

The Tribes have determined that there is an immediate need to limit the harvest of young birch (birch poles). Even if you have an off-reservation general gathering permit earlier to gather up to 75 lodgepoles, your harvest is limited to no more than five (5) birch lodgepoles, per year.

Does the commission order apply to all GLIFWC member tribes?

Yes. The commission order amends the gathering codes for National Forest Service lands enacted by all GLIFWC-member tribes. It also amends the conservation codes applicable to the Apostle Islands National Lakeshore (applicable to some GLIFWC-member tribes) and the off-reservation conservation codes for the 1837 and 1842 off-reservation ceded territory (applicable to all GLIFWC-member tribes except Bay Mills). A tribe may rescind the commission order, but if it does, that would only affect its members. Contact GLIFWC Division of Intergovernmental Affairs if you have questions about the applicability of this commission order.

What if I want to gather more than five birch lodgepoles?

If you are interested in large-scale birch lodgepole gathering off-reservation, GLIFWC Biological Services can work with the U.S. Forest Service and/or the Wisconsin DNR to identify an off-reservation site on public lands that is available for the harvesting of more than five birch lodgepoles. If an appropriate site is located, you will be provided a large-scale gathering permit to gather birch lodgepoles in that area, under certain conditions.

What if I need more than five birch lodgepoles for a ceremony or spiritual purpose?

Ceremonial permits are still available for GLIFWC-member band tribal members to harvest birch lodgepoles beyond the limit imposed for general gathering, as long as the harvest does not impact the conservation of the species, within a particular location. If you are in need of a ceremonial permit, please contact your tribal conservation department. Although a permit will be issued directly by your tribe, GLIFWC will work with your tribal conservation department to locate a site with a sufficient number of young birch trees.

I just want to harvest birch poles on reservation.

Does this commission order affect me?



No. This commission order only applies to off-reservation gathering. Some tribes, however, have imposed on-reservation closures on birch lodgepole harvesting. Please check with your tribal conservation department prior to cutting.



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

Aaniin gakina awiya! Aaniin ezhi-ayaayan? Aaniin ezhi-eyaawaad awesiinyag? Awenen gidoodem? Gaawiin mashi gikenimaasiin indoodem. Awenen odoodeman gidede? Awenen odoodeman gimaamaa? Maang ina gidoodem? Ajijaak ina gidoodem? Waabizheshi na gidoodem? Makwan na odoodeman gidede? Migiziwan ina odoodeman gimaamaa? Indoodoodemimaa indede. Indoodoodemindimin, nishiime miinawaa niin. Akiing enishinaabewijig mino-ayaawag.

(Greetings everyone! How are you? How are the wild animals? Who is your clan? I do not yet know my clan. Who is your father's clan? Who is your mother's clan? Are you loon clan? Are you crane clan? Are you marten clan? Is your father bear clan? Is your mother eagle clan? I am the same clan as my father. We are the same clan, my younger sibling and I. On earth, those who are Anishinaabe are feeling good.)

<p>Bezbig—1</p> <p>OJIBWEMOWIN (Ojibwe Language)</p> <p>Double vowel system of writing Ojibwemowin. —Long vowels: AA, E, II, OO Waa<u>bo</u>oz—as in father Mii<u>gwe</u>ch—as in jay Aa<u>ni</u>in—as in seen Moo<u>z</u>—as in moon</p> <p>—Short Vowels: A, I, O Da<u>sh</u>—as in about In<u>gi</u>w—as in tin Ni<u>iz</u>ho—as in only</p> <p>—A glottal stop is a voiceless nasal sound as in A'aw. —Respectfully enlist an elder for help in pronunciation and dialect differences.</p>	<p>NI Noun Inanimate NIBI!—Water!</p> <p>Dakib.—Cold water. Giizhoogamin.—It (a liquid) is warm. Gizhaagamide-nibi.—Hot water. Naadoobii.—S/he gets water. Ninaadoobii.—I get water. Ginaadoobii na?—Do you get water? Gwaaba'ibii.—S/he draws water. Niwii-gwaaba'ibii.—I will draw water. Onda'ibaan.—Water source, well. NI Nibiikaa.—There is a lot of water. VII Ziiga'andan!—Pour a liquid on it! VTI Ziiga'andaw!—Pour a liquid on h/h VTA Agamiing.—At the lake, at the water. Zaaga'igan(an)—Lake(s) Ziibi—River</p>	<p>Niizh—2 Circle the 10 underlined Ojibwe words in the letter maze. (Translations below)</p> <p>A. Gigiizhkaabaagwe na? Giga-mina'in omaa. <u>Minikwen!</u></p> <p>B. Nimina'iwe noongom. <u>Awiya</u> na? <u>Daga odaapinan!</u></p> <p>C. <u>Gojipidan</u> i'iw nibi! Gigii-minopidaan ina o'ow nibi?</p> <p>D. Omaa mikwamii-makakong ginaanaa a'aw <u>mikwam</u> gaye.</p> <p>E. "<u>Nibiikaa</u> imaa!" ningii-ikid, gii- waabandamaan Gichigami.</p> <p>F. Giwii-kanawendaamin <u>ina</u> zaaga'igan?</p> <p>G. <u>Apane</u> ganawendandaa <u>nibi!</u></p> <p>I N A O B A G E W D O N O I M A A W E J A A G E A I O I ' M A G B P O N P A E M I A J I E G I M I N I K W E N Z I D S Z H Y K ' I E A W D A T O O Z G W N Y I N M N I B I I K A A B A A I E G A P A N E I M N B</p> 
<p>Niswi—3</p> <p>IKIDOWIN ODAMINOWIN (word play)</p> <p>Down:</p> <ol style="list-style-type: none"> Maybe, or Eagle Fish And, but Bear <p>Across:</p> <ol style="list-style-type: none"> Wild animal How, what, why Question word Loon Someone  <p>Ma'iingan Ma'iinganag Indoodem—My clan</p>	<p>Niiwin—4</p> <p>Aaniin waayabandaameg?—What do you all see? Niwaabandaan-an i'iw/ingiw.—I see it/those. Nibimose...—I am walking... Lake(s)(to the).—Zaaga'igan(an)(ing). Creek(s)(to the).— Ziibiins(an)(ing). Spring(s)(to the).—Mookijiwanibiig(oon)(ong). River(s)(to the).—Ziibi(wan)(ing). Swamp(s)(to the).—Mashkiig(oon)(ong). There are storm clouds.—Zegaanakwad. (VII) It is a pond/puddle.—Waanzhibiiyaa. Iskaabii.—It dries up/recedes. It is flooded.—Mooshka'an. It is dirty/polluted water.—Wiinaagamin. On shore.—Agamiing. S/he goes inland.—Gopii. (VAI)</p>	<p>ina, na Gi —ikaa Nin —ong</p> <ol style="list-style-type: none"> Mashkiig _____, ina gigii-wanisin imaa? Zaaga'igan _____ omaa Gakaabikaang. Bijiinaago ziibiing gii-chiimeyaan, _____ gii-gop. Dibikong ina _____ gii-siiga'andaan i'iw ishkode? Gii-naadoobiiwag _____ zibiing? Gemaa _____ gii-naadoobiiwag onda'ibaaning?

Translations:
Niizh—2 A. Are you thirsty? I will give you a drink here. Drink it, you! B. I am giving out drinks. Anybody? Please take it! C. Taste that water! Did you like the taste of this water? D. Here in the freezer, you grab that ice too. E. "That is a lot of water there!" I said when I saw Lake Superior. F. Will we all take care of the lake? G. Let's always take care of water!
Niswi—3 Down: 2. Gemaa 2. Migizi 3. Giigoonh 4. Dash 8. Makwa Across: 5. Awesiiyang 6. Aaniin 7. Ina 9. Maang 10. Awiya
Niiwin-4 1. In the swamp, were you lost there? (-ong) 2. There are a lot of lakes here in Minneapolis, Minnesota. (-ikaa) 3. Yesterday on the river when I was canoeing, I went inland (nin-). 4. Last night did you pour water on that fire? (Gi-) 5. Did they get water at the river? Or did they get water from another source of water? (ina or na are always 2nd word question marker for yes/no question).

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 5486; or email lynn@glifwc.org.



Tommy Sky coloring & activity book

miskwaadesi painted turtle color by number

Aaniin gakina awiia! Greetings everyone!
My name is Tommy Sky. I'm 12 years old, and I'm proud to be Ojibwe! Our people have been living subsistence lifestyles for many generations. This means we live seasonal lifestyles and embrace each season for the many life-giving opportunities.

The warmer weather brings many opportunities to spend time on our zaaga'igan (lake) in the jiimaan (canoe or boat).

We harvest giigoonyag (fish), including ogaa (walleye) and ginoozhe (pike). Sometimes we spear fish, and sometimes we catch fish with asabiig (nets). When we bring home good foods, nookomis (grandmother) cooks in her akik (kettle) for us.

We truly live in a beautiful place in present-day northern Wisconsin. We say "present-day" because this place wasn't always a state when our ancestors first inhabited it.

Long ago, we followed our teachings that told us to travel until we reached the food that grew on the water—which was manomin (wild rice).

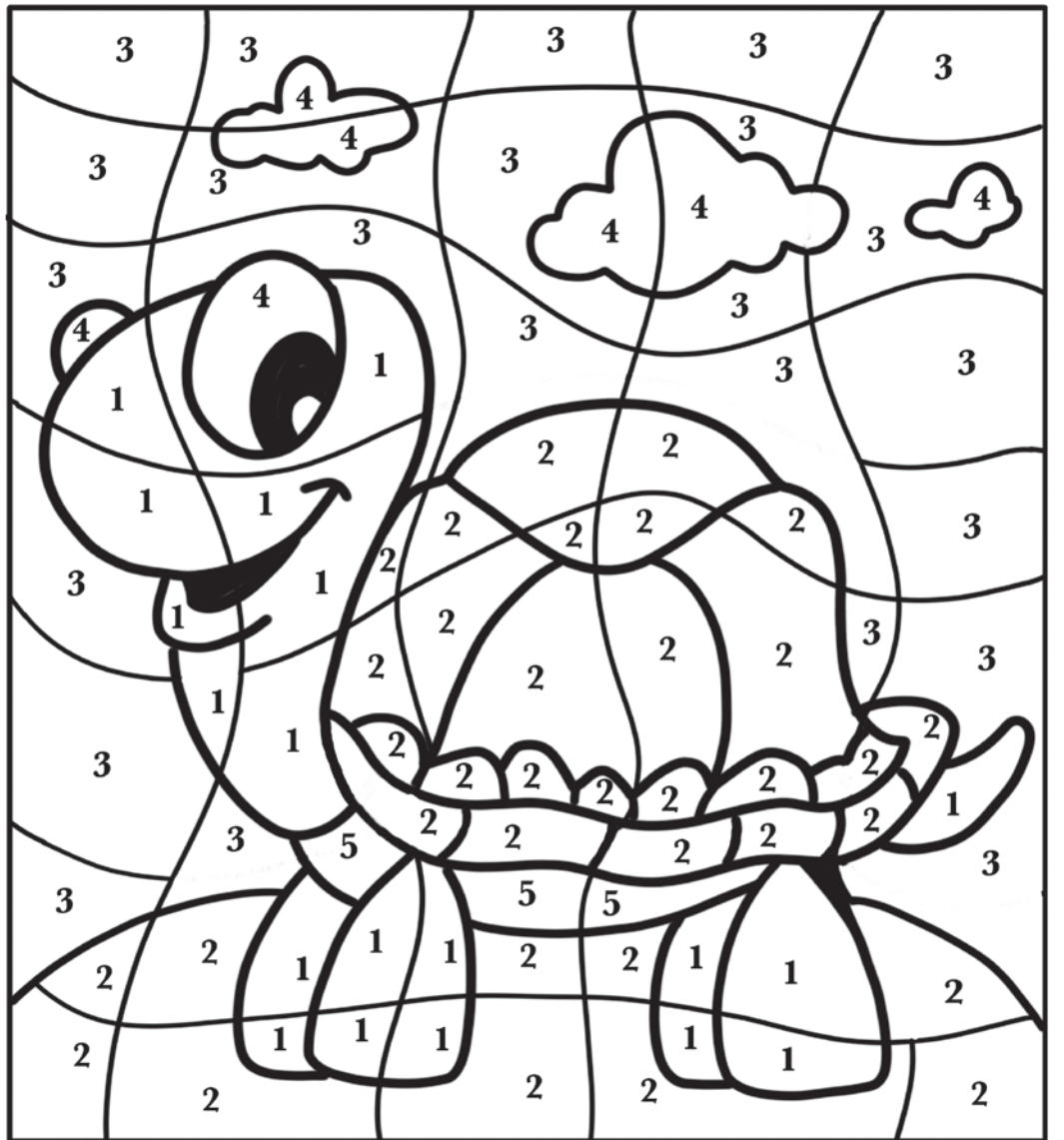
If you are quiet enough out here on the water, you might be lucky enough to see makwa (bear), waagosh (fox), amik (beaver), esiban (raccoon), wazhashk (muskrat), or even migizi (eagle).

I'm going to scout some fishing spots today but enjoy this activity book created by Joshua Whitebird from the Fond du Lac Tribe in Minnesota.

The book is filled with fun activities including coloring pages, connect the dots, mazes, cootie catcher, fish-tac-toe, moose mask, and more. We will see you again soon—gigawaabamin (see you later)!

Download this book at glifwc.org/publications/pdf/Tommy.Sky.activity.bk.pdf or email pio@glifwc.org to receive a free copy. To order additional copies go to great-lakes-indian-fish-wildlife-commission.constantcontactsites.com/store.

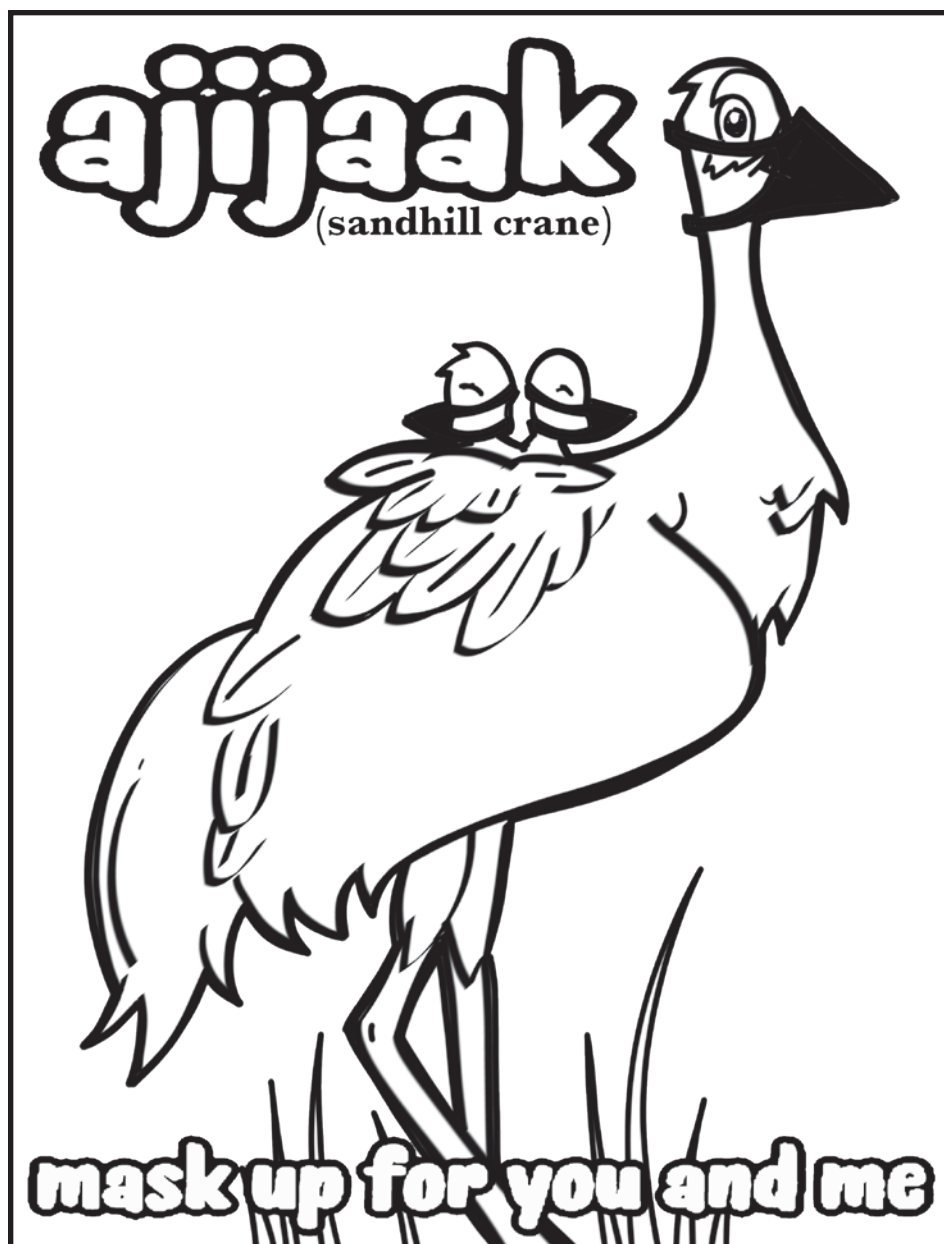
—B. Jennings



bezbig = green
niizh = brown

niswi = blue
niiwini = white

naanan = orange



Collaboration advances efforts to protect manoomin

UMN expands work with Minn, Wis tribes

By Emily Green, For Mazina'igan

Now in its fourth year, the Kawe Gidaa-naagadawendaamin Manoomin (First We Must Consider Manoomin/Psin) tribal-University of Minnesota (UMN) collaboration is entering a new stage in its efforts to protect and restore manoomin and manoomin ecosystems.

The collaboration, which includes the Minnesota Chippewa Tribe, Mille Lacs Band of Ojibwe, St. Croix Chippewa Indians of Wisconsin, Fond du Lac Band of Lake Superior Chippewa, Lac du Flambeau Band of Lake Superior Chippewa, GLIFWC, and 1854 Treaty Authority, prioritizes tribal needs, perspectives, and knowledge in its research agenda and practices.

“Our research is in service to the tribes, recognizing that in the past the University has not always served the tribes well, or respected tribal sovereignty,” said Mike Dockry, Citizen Potawatomi Nation tribal member, UMN professor, and researcher.

The manoomin collaboration began in 2018 with seed money from the UMN that enabled participants to spend substantial time forming relationships, developing trust, listening, and deciding on research goals and protocols together, before proceeding with research activities. Project partner Kari Hedin, Watershed Specialist with the Fond du Lac Band of Lake Superior Chippewa, said the project “has been a collaboration from the outset, coming together, listening to tribal elders, listening across reservations, across tribal communities, and hearing the tribal perspectives [on] what needs to happen before anything else.”



Manoomin project partners prepare to collect data at one of the identified wild rice study lakes. (submitted photo)

Graduate student June Sayers, who is an enrolled member of the Red Lake Band of Ojibwe and half Ho-Chunk nation, also emphasized the project’s essential foundation of listening to tribal views: “The number one thing [has been] to listen to what tribal partners have to say about what is going on with their rice and what they think is happening at their wild rice lakes. These are the people who are there day in and day out, watching what is happening, following the weather patterns, and all the other activity that happens in the ecosystem.”

At the start of this year, the collaboration received a \$1.5 million National Science Foundation (NSF) grant that enables the continuation and expansion of collaborative research activities with tribal partners from the Fond du Lac Band of Lake Superior Chippewa, Lac du Flambeau Band of Lake Superior Chippewa, GLIFWC, and the 1854 Treaty Authority. Specifically, the NSF grant will support UMN and



Manoomin is linked to people and ecosystems through multiple social dimensions and biophysical processes. According to Anishinaabe traditions, Manoomin relies on human relationships. Harvesting and ecosystem management are two traditional and contemporary ways Anishinaabe people steward manoomin.

tribal researchers in collecting and analyzing hydrologic and geochemical data at six wild rice sites identified by tribal partners. It funds tribal-UMN efforts to explore the human influences on wild rice ecosystems through conducting surveys, interviews, and focus groups, and compiling oral histories with tribal and non-tribal harvesters. It also funds undergraduate student researchers, graduate students, and tribal staff as well as equipment. The team also received a grant to fund work to understand the impact of climate change on manoomin ecosystems, which will start in fall 2021.

The collaboration’s approach is intentionally interdisciplinary, exploring tribal knowledge and experience along with the ecological and social dynamics that impact manoomin and its ecosystem.

“The Anishinaabe have long known that manoomin relies on human relationships, and it’s also highly sensitive to environmental conditions and stressors, which in turn are impacted by human management decisions and practices. Protecting and understanding manoomin requires an approach that considers all its dynamic and interrelated natural and human aspects,” said UMN professor Crystal Ng.

Beyond its research and partnership goals, the collaboration also prioritizes the deep involvement of students, both native and non-native, who participate actively in project meetings and help design and carry out research. Since 2018, 10 graduate students and 18 undergraduate students have participated. With the new NSF funding, five new graduate students will be joining the project in fall 2021.

“I have a lot of respect and a lot of gratitude for this project and what has come out of it thus far. It’s not just a partnership where you talk once a day or once a month, it’s a lot more than that. It’s brought some real deep relationships beyond the professional-academic type of relationship. To me, we’ve built a solid foundation for long-term collaboration and lifetime relationships,” said Lac du Flambeau tribal council member and Wild Rice Program Director William “Joe” Graveen.

For more information on the Kawe Gidaa-naagadawendaamin Manoomin project, go to: manoominpsin.umn.edu.

Great Lakes water diversion

(continued from page 14)

medicinal plants that thrive in these systems are central to Anishinaabeg culture and diet.

GLIFWC has spent over 20 years collecting information on the environmental impacts of mining exploration and activities, particularly when they impact water. An important piece of information that has been lacking relates to the use of water as a resource.

In an effort to find this information, GLIFWC received funding from the Joyce Foundation to analyze current and “grandfathered” water withdrawals and diversions. Grandfathered diversions and withdrawals are defined as occurring before the Great Lakes compact council was formed in 2008. Thanks to the Joyce Foundation, work towards understanding consumptive uses of large water withdrawals from the Lake Superior basin is underway.

To begin the work, GLIFWC connected with the Compact Council and Regional Body. All member States and Provinces are required to keep track of the impacts of water use. This is done by developing water conservation plans, collecting water use data, and produce annual water use reports. Additionally, a five-year total impact analysis is undertaken to track

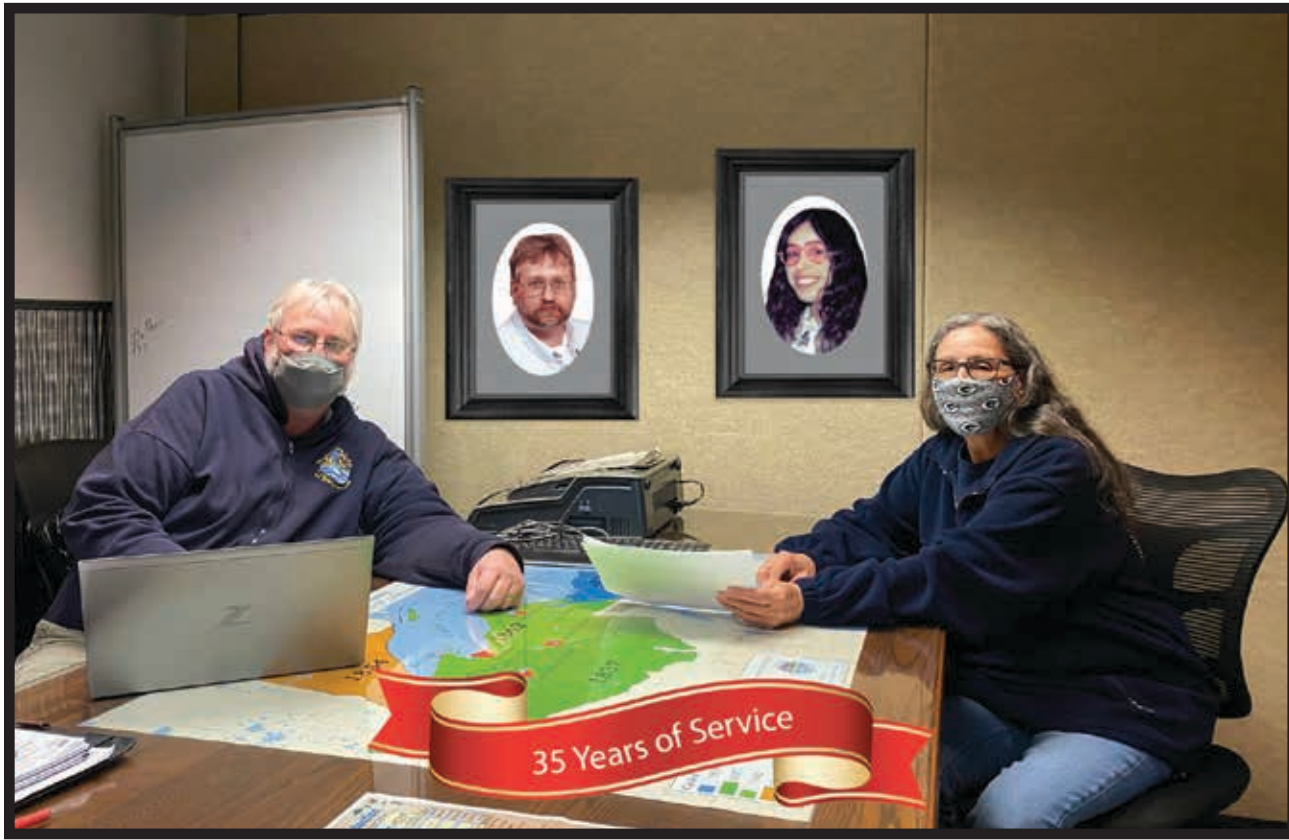
overall water use from the 10 members. However, the current total impact analysis is not detailed enough to understand how future water withdrawals might impact habitats of the Lake Superior Basin. To understand future impacts of withdrawals at specific sites, GLIFWC is working to develop its own cumulative impact analysis.

GLIFWC has been using the data from Great Lakes states to understand large water uses in the basin. Using this information GLIFWC has developed maps of grandfathered diversions, current withdrawals, and consumptive uses in the Lake Superior basin. These detailed maps will help GLIFWC determine if any grandfathered diversions may be close to their allowed limit, opening the possibility of scrutiny in the future.

The ultimate goal is to use this information to measure the impacts of water withdrawals on the ceded territory. With this, we can holistically understand the stressors on treaty guaranteed resources for GLIFWC’s 11 Anishinaabeg member tribes.

Although the process has just begun, GLIFWC hopes that at the end of this project, there will be a useful tool for all who seek to properly examine future impacts of water diversion or withdrawal from the Lake Superior Basin.

35-year milestone: four GLIFWC staffers recognized



Each year we celebrate GLIFWC employees as they reach 5-year anniversaries in service to the Commission and its 11 members tribes. Covid-19 restrictions forced the cancellation of GLIFWC's annual All Staff Day, a singular event when employees from Michigan, Wisconsin and Minnesota come together.

This year we have only one image to share of 35-year employees Jim Thannum and Rose Wilmer. Also joining Club 35, Peter David and Ron Parisien Sr. A chi-miigwech to everyone marking an anniversary in 2021!

Twenty-years: Steve Garske, Ten-years: Kia Hmielewski, Matt Kniskern, Lauren Tuori, and Steven Amsler, Five-years: Christina Dzwonkowski, Gale Smith, Paula Maday, Melonee Montano, Aaron Shultz and Adam Ray. (C & M Rasmussen photo)



GLIFWC language project launches Zhaawanong: Stories of the Plants interactive webpage

By Melissa Maund Rasmussen
GLIFWC Intermedia Web Designer

GLIFWC's ANA language staff is excited to announce the launch of the Zhaawanong: Stories of the Plants interactive webpage. Developed as a companion resource to the second Maajii-Ojibwemowag (They Begin to Speak Ojibwe) storybook set, the Zhaawanong webpage activities correlate and expand on the Ojibwe language and plants featured in the stories.

The Zhaawanong webpage is part of *glifwc-inwe.com*, GLIFWC's one-stop-shop for Ojibwe language materials. From the homepage, visitors can reach the Zhaawanong page by clicking the "Let's Go" arrow or by hovering over "Let's Play (Birth-5yrs)" on the main navigation bar, then clicking "Zhaawanong" from the dropdown menu.



Visitors can also reach the Zhaawanong page by clicking directly on the "Let's Play (Birth-5yrs)" button. This option takes you to the main Maajii-Ojibwemowag (They Begin to Speak Ojibwe) webpage, where the Zhaawanong page can be reached by clicking the arrow located at the bottom of the medicine wheel.

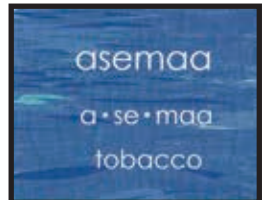


Welcome to the Zhaawanong webpage! Young learners can play simple, age-appropriate, language learning games which include making soup and learning the Ojibwe names of shapes and colors. These activities were not only designed for Ojibwe language learning, but to fall in line with Pre-Kindergarten developmental milestones.

To highlight and expand on the Ojibwe words and phrases in the stories, we've designed a translation and pronunciation guide for each book. Clicking on the



Asemaa Storybook Vocabulary arrow, for example, will take you to a list of the Ojibwe words and phrases from the Asemaa book.



When you click on a word, you will hear the pronunciation and see the syllable breakdown and translation.

The digital storybooks with audio and simple animations allow young learners to see and hear the Ojibwe words and phrases as they are being read. They are also a great resource for beginning speakers to practice and learn pronunciation of the Ojibwe words and phrases featured in the books.

To increase access to the developed Ojibwe language materials, we've added a Printables (Birth to 5) webpage. Visitors can reach the page by clicking the link from the dropdown menu on the main navigation bar or by clicking the Printable resources can be found here link at the bottom of the Zhaawanong webpage.

The Zhaawanong Printables page provides printable PDFs of each storybook as well as supplemental documents with cultural and harvesting information, a coloring book adapted from the storybooks, and a recipe for Wewaagaagin soup with chicken and spring greens.

We are regularly adding new content to the website so check back often! If you have any questions, please contact me at melras@glifwc.org.





Cathy Elmer pays it forward in new GLIFWC position

In March, GLIFWC welcomed Red Cliff tribal member Cathy Elmer as the new Payroll and Benefits Manager. Originally from Bayfield, Cathy moved out of the area after high school and returned about 4 years ago. She brings a degree in accounting from UW-Madison and 28 years of experience to the position.



“I had a desire to help people,” Cathy says of her dedication to the accounting field. “I know how important paychecks are to people and their livelihood. I wanted to extend the knowledge I had learned in school to support them in this way.”

Since moving back, Cathy has enjoyed settling into the slower pace of life that is synonymous with the Northwoods. In contrast to the busy, concrete jungle of the Twin Cities, Cathy has especially enjoyed the green space she now has to tend garden.

“We have a rose bush garden and a blackberry patch. I just recently got some rhubarb plants, squash, and green beans too,” she said.

Many of the foods that Cathy grows end up in specialty recipes that she has perfected and even won awards for! The blackberries are made into a sauce that goes over her blackberry cheesecake bars, the rhubarb is made into cherry rhubarb or strawberry rhubarb jam, and the green beans are made into something called dilly beans.

“Dilly beans are like a pickled green bean. They are made using pickle brine. My homemade dilly beans won the award for best recipe at the local town hall!” she exclaims proudly.

Cathy also enjoys spending time with family. And as number 12 of 13 children, there certainly is a lot of family to enjoy! Once a year, Cathy’s loved ones gather around a campfire at Little Sand Bay for some quality time together.

“It’s usually around Labor Day. We rent out the entire campground, and everyone brings their campers up. It’s one last trip for everyone to enjoy before we all pack away our campers and hunker down for the winter,” she says.

As an enrolled member of the Red Cliff Band, Cathy has exercised her treaty rights for 17 years. She credits the creel workers at Mille Lacs for teaching her a lot about treaty rights when she would go out netting and spearing. Today, as a new staff member for GLIFWC, she continues to learn more and support the exercise of treaty rights across the Ceded Territory.

—P. Maday



GLIFWC Policy Analyst Philomena Kebec recently received the Great Lakes Regional Director’s Partner Appreciation Award for sharing her significant tribal experience and perspective with U.S. Fish and Wildlife Service staff. Kebec has assisted the Midwest Region with annual staff trainings on Building Effective Tribal Relationships for the past four years. Sonny Myers, Executive Director at the 1854 Treaty Authority, also received the award, which was presented by Charles Traxler of the U.S. Fish and Wildlife Service. (B. Matus photo)

Burgers and bandwidth GLIFWC’s new IT staff specializes in fast food and fast tech

It was the famous Culver’s Butter Burger that brought GLIFWC’s new IT Support Specialist Jon-Michael Fritsche to northern Wisconsin. Literally. In 2015, the southern Wisconsin native and his wife Elizabeth moved to the area to build a new Culver’s restaurant in Ashland. As soon as they arrived, it was love at first sight.



“I was used to our view in southern Wisconsin—lots of cornfields and farms,” he chuckles. “I had never even heard of Ashland. And then as soon as we arrived, it was like, BAM! The lake and forests are amazing.”

Since their foray into the fast-food business in 2015, the couple has taken ownership of two additional Culver’s locations, one in Two Harbors and one in Duluth, Minnesota. However, Jon-Michael says, in 2019, he decided to pursue another dream that had been hardwired into him for as long as he could remember.

“My passion for IT comes from my Dad. He was an electrician, and those two typically go hand in hand, in some fashion. From an early age, I learned about wiring. I took apart PlayStations and Xboxes, and my parents were like, ‘Wait a minute! What are you doing?’ I just liked taking things apart to see how they worked.”

Jon-Michael enrolled at Wisconsin Indianhead Technical College to pursue a degree in Systems Administration. The first thing he studied was networking: how to get point A to talk to point B. From there, he learned server management.

“That’s where you set up a server and create users and make sure that things are configured so that a typical everyday user can’t access things they shouldn’t. Basically, it’s managing interactions.”

Last in his degree was a deep dive into security management—protecting against hackers and ensuring networks don’t get compromised. “The technology world is always changing and I love keeping up with it,” he says.

As part of his degree program, Jon-Michael completed an internship with Red Cliff’s IT Department. That internship helped connect him to GLIFWC, where he now works assisting GLIFWC’s IT Director with projects like moving the IT Department to a new location, completing IT inventory, and helping employees resolve technology issues through a new support ticket system. He is also helping to map out the network and update security management.

Jon-Michael lives in Poplar with his wife, and 5-year-old son, with another little one on the way. He enjoys hunting, fishing, and spending time with family.

As for his favorite thing on the Culver’s menu, Jon-Michael says, “I’m a big fan of the walleye sandwich when they are in season! For me, it’s a homerun. And of course, you have to get the cheese curds to go with it.”

—P. Maday

Michigan Ceded Territory fishing season

(continued from page 3)

In the Bays de Noc region of Upper Michigan, Bay Mills Indian Community members pulled on hip waders to harvest walleyes from the shallow waters of the Rapid River. The Lake Michigan tributary yielded 34 fish for Bay Mills spearers, with most of the fish registered on April 11.

Bay Mills Fishery Biologist Frank Zomer said participation in spring spearfishing was light in 2021, and members chose not to harvest ogaawag from inland lakes. One 12-year-old Bay Mills native, however, did catch a ride to the 1836 Lower Michigan territory with a tribe’s lone lake sturgeon permit in hand. The youth connected with a 50.25-inch male sturgeon by spear on April 30 from Black Lake, bringing home great memories and a valued source of nutrition for the community.

In the western upper peninsula, Lac Vieux Desert fishermen plied 1842 Ceded Territory inland waters for walleye and muskellunge. Lake Gogebic yielded the most walleye for LVD families, supplemented by fish from smaller lakes across Gogebic and Iron Counties. Walleye totals reached 1,840, while the muskie harvest came in at 11.

Keweenaw Bay Indian Community spearers focused their efforts on the Portage Lake system, harvesting 475 walleyes, reported KBIC Biologist Gene Mensch.

Please note that all harvest numbers for Minnesota, Wisconsin, and Michigan are preliminary.



GLIFWC creel clerks record data from each fish harvested by Lac Vieux Desert fishermen in the Michigan 1842 Ceded Territory, including sex, length, and species. (CO Rasmussen photo)

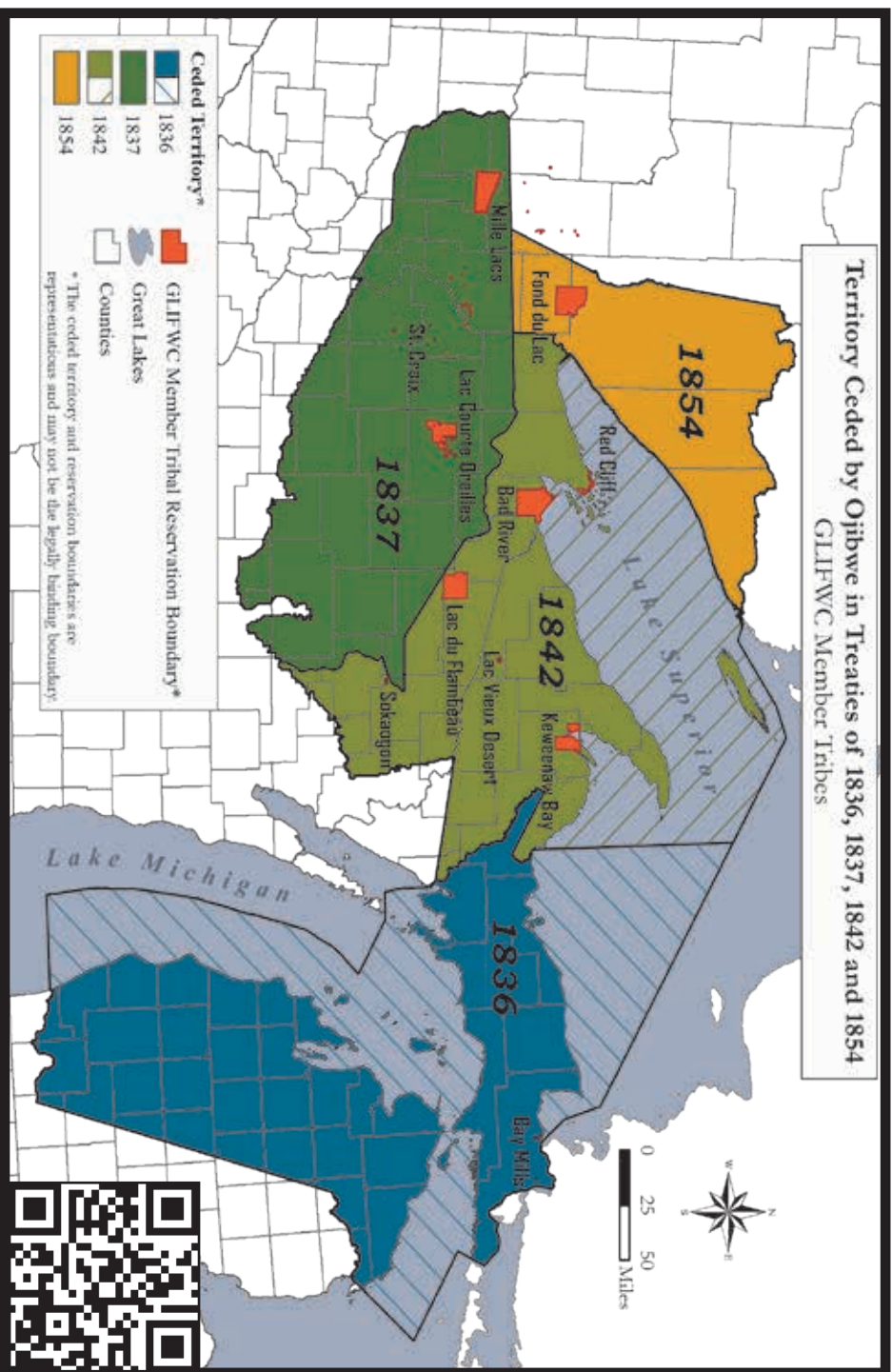


RETURN ADDRESS:
GLIFWC
P.O. BOX 9
ODANAH, WI 54861

CHANGE SERVICE REQUESTED

NON-PROFIT ORG
POSTAGE PAID
PERMIT # 203
EAU CLAIRE, WI

Printed by: EAU CLAIRE PRESS COMPANY, EAU CLAIRE, WI 54701



Bay Mills Indian Community orders Line 5 banishment from Ceded Territory

In a detailed resolution issued May 10, the Bay Mills Indian Community Executive Council banished Enbridge's dual pipeline, Line 5, from tribal reservation lands as well as the wider 1836 Ceded Territory.

Still in operation well past its engineered lifespan, the aged oil pipeline system threatens the environmental health of the Straits of Mackinac and interconnected ecosystems including Lakes Huron, Superior, and Michigan.



Banishment is a traditional, historical, and customary form of tribal law that has existed since time immemorial and is only exercised by Bay Mills Indian Community when egregious acts and misconduct have harmed our tribal citizens, treaty rights, and resources, said the executive council.

At press time Enbridge continues to pump oil through its aged Line 5 and is attempting to secure permits to construct a tunnel under the Straits to house a new pipeline. —COR

Mazina'igam

A Chronicle of the Lake Superior Ojibwe



NIBBIN 2021

INSIDE:
 Unearthing pipeline impacts
 All eyes on oga
 Wild foods at your feet