

Mazina'igan

A Chronicle of the Lake Superior Ojibwe

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Fall 2019

One Night Only! USFWS listens to public opinions on delisting the gray wolf

By Peter David, GLIFWC Wildlife Biologist

On a warm, slightly sticky late June evening, several hundred folks filled an un-air-conditioned auditorium in Brainerd, Minnesota to listen or give testimony on a proposal to remove the gray wolf from the protections of the Endangered Species Act (ESA).



A number of Ojibwe tribes closed on-reservation wolf hunting and trapping when seasons were held by states from 2012-2014. (CO Rasmussen photo)

A big crowd turned out. People from many walks of life are deeply passionate about wolves, in both positive and negative ways. And, despite the fact the proposal would affect the status of wolves in states as distant as Maine and California, this hearing—held in the state where wolf populations had increased like nowhere else—was the only public hearing the U.S. Fish and Wildlife Service opted to hold in the entire country.

Most people are not in a position to travel to a small town in central Minnesota on a weeknight to give testimony on wolves, regardless of how passionate they may feel. So not surprisingly, the vast majority of attendees came from nearby, ensuring that most comments were Minnesota-focused, with relatively little consideration given to the national implications of the delisting proposal. But perhaps it was surprising that even here—in wolf range, in a state that has seen its wolf population more than double under ESA protections before roughly stabilizing at about 2500 animals—there was strong support for keeping the gray wolf on the Endangered Species List.

That is not to say there were not a wide range of opinions shared, coming from folks varying in age, gender, background, and perspective. Local cattle ranchers turned out in large numbers in support of delisting; a position shared with some deer hunting groups. On the other side of the issue, arguments were made about the necessity to protect the recovery that has been made, and letting it continue, noting that wolves only (see Gray wolf delisting, page 4)

Hunting season arrives in the Ceded Territory

September 1 opener

Michigan 1842 (KBIC)

September 3 opener

Michigan 1836 (BMIC)

Michigan 1842 (LVD)

Minnesota 1837

Minnesota 1854 (FdL)

Wisconsin 1837 & 1842

Waawaashkeshi, mizise & many more.



NWTF

See your tribal registration station for details

Traditional native fire management goes mainstream

By Charlie Otto Rasmussen Editor

Ino, Wis.—From the Apostle Islands southwest across the rolling sand plains of northwest Wisconsin, native people have long-used fire to manage a unique landscape rich in flora and wildlife. Along with spontaneous lightning-charged wildfires, intentional burns created a rare savannah landscape where blueberries, sharp-tailed grouse and a treasure of resources thrived. Settlement and fire suppression policies ultimately snuffed out burns for much of the 20th Century. Trees thrived, both through natural growth and pine plantings. Now in dramatic style, one region, the Moquah Barrens, is making a comeback to its fire-shaped splendor.

“At 14,000 acres, this is the largest special management area on the forest,” said Jen Maziasz, Chequamegon-Nicolet National Forest, gazing over a vast block of woody brushland ringed by wildland fire trucks and helmeted fire specialists clothed in protective Nomex.



Fire crews used a combination of aerial and on-the-ground ignition techniques to burn individual management units in the Moquah Barrens, part of the Chequamegon-Nicolet National Forest. (CO Rasmussen photos)



During the recent burns in the Moquah Barrens, US Forest Service enlisted assistance from Bureau of Indian Affairs, Wisconsin Department of Natural Resources, and US Fish & Wildlife Service. An Idaho-based helicopter provided a bird's eye view of the target landscape and served as a powerful tool to help spur ignition of lands formerly lined with tree plantations.

“With this size of a burn, partners are really important,” Maziasz said. Four units totaling nearly 3,800 acres comprised the 2019 project area. “It’s really the key to success.”

After careful planning, fireline technicians employed with drip torches lit dense areas of hazel, scrub

oak, and jack pine, while overhead the ship flew in a grid pattern, dropping fire-starting Dragon Eggs onto strategic spots within the woody brush. As the fire gained momentum, (see Native fire management, page 15)

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www.glifwc-inwe.com
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'Partners' impact extends beyond walleyes

By Charlie Otto Rasmussen, Editor

Lac du Flambeau, Wis.—Once the centerpiece of a racially-fueled divide that frayed the social fabric of the Wisconsin lake country, walleyes have taken on a new identity in recent decades. The marble-eyed fish increasingly represents a glue of sorts, binding Ojibwe bands with state and federal agencies, along with conservation organizations and lake associations.

"People that might have differences can come together for a common cause," Wisconsin Governor Tony Evers said of cooperative walleye fishery management. "We have great partners with tribal nations here in Wisconsin."

Evers shared his insights at the 27th annual Partners in Fishing event June 5 on the shore of Pokegama Lake. 'Partners' is an outgrowth of the Joint Assessment Steering Committee (JASC), an interagency collection of fisheries biologists first assembled in 1990 to take a hard look at the health of the walleye population in the Wisconsin Ceded Territory.

Off-reservation spearfishing had resumed five years earlier, churning northern waters with resentment among some non-Indian residents. Vocal and disruptive, protesters publicly harangued Ojibwe spearfishermen with chants like 'save-a-walleye, spear-a-Indian,' claiming tribes were bent on destroying the fishery resource. Anti-Indian groups crowded boat landings, distributing steel whistles to blow directly into the ears of Ojibwe spearers and their family members.

"I was around back then," said Evers, a school superintendent in Verona during the heated protest era of the late 1980s and early 1990s. "It was one of the most contentious, and frankly, one of the darkest moments in state history."

JASC scientists helped quell the furor over Ojibwe fishing methods in 1991, unanimously proclaiming 'NO!—Chippewa spearing has not harmed the resource.' The walleye, or ogaaw, assessment work has continued each and every year and beginning in 1993 the Partners gathering became a means to take stock in co-management efforts and become better acquainted on a personal basis.

Legacy of teamwork

Ultimately, collaborating on fishery research inspired a sense of team-building. Beginning in 1998, the Partners welcomed both active and retired Green Bay Packer football players as special guests to rein-

force growing bonds between the tribes and participating agencies. Packers legend Jerry Kramer, this year attending his first Partners event since 2009, said success is built upon establishing trust and working with others to achieve shared goals.

"It's great to see all these different factions come together and solve problems with intelligent conversation," Kramer told the gathering, which included dozens of regional fishing guides, Bureau of Indian Affairs (BIA) representatives and, for the first time, Michigan Department of Natural



Gov. Tony Evers and LdF Chairman Joseph Wildcat, Sr.



More than 100 people participated in the 2019 Partners in Fishing Event. (COR photos)

Resources fisheries biologists. Retired Green Bay players, William Henderson and Gilbert Brown, also attended, sharing insights on the merits of teamwork.

Numbering over 100 this year, the Partners connected with a bounty of native fish across the ten-lake Lac du Flambeau chain. Wisconsin Department of Natural Resources Secretary—Designee Preston Cole reeled in the largest fish of day—a 26.5" northern pike. The catch netted a hand-crafted, eastern red cedar rod made by Terry Virden for Cole, who planned to donate

the prize to a youth organization. Event cofounder Robert Jackson as-ever capably filled the role of logistics chief and master of ceremonies.

"If you don't like how anything went today, please fire me," quipped Jackson, retired BIA biologist and longtime past chairman of the JASC. Partners is slated to return to the Chippewa Flowage at Lac Courte Oreilles Reservation in 2020.



The spring fishing season in the Ceded Territory is short, but it's one of the most important times on the Anishinaabe harvest calendar. Many fishers and their extended families catch and freeze fish that will see them through much of the year.

In addition to walleyes, or ogaawag, tribal members bring home smaller creels of other species from white suckers to smallmouth bass. Larger spring season totals include: muskies—209 Wisconsin & 13 Michigan; northern pike—480 Minnesota; yellow perch—155 Minnesota.

TREATY DAY 2019

COMMEMORATION OF THE SIGNING OF THE TREATY OF 1854

Save the Date!

MOONINGWANEAANING - MADELINE ISLAND
SEPTEMBER 29 - OCTOBER 1, 2019

SUNDAY, SEPTEMBER 29 - ANISHINAABE FAMILY DAY
 Tours of the island * Kayaking * Cookout * Vendors * Lacrosse games
 Moccasin games tournament * Live music * Pow-wow

MONDAY, SEPTEMBER 30 - CHIPPEWA FEDERATION MEETING
 Chippewa Federation meeting including sessions with elders, hereditary chiefs, tribal leaders, and spiritual leaders about the island. Open to the public.

TUESDAY, OCTOBER 1 - GLITC MEETING
 Great Lakes Intertribal Council (GLITC) meeting for tribal leadership. Open to the public.

Save the Date! More information to come!



Ceded Territory news briefs

Tension on Line 5 heats up

Mackinac Straits, Mich.—Opposition and tension between the State of Michigan and Enbridge has heated up over line 5 issues at the straits.

Michigan Governor and Michigan Attorney General have attempted to shut down line 5 under the Straits. Both Enbridge and the State of Michigan have pursued legal action.

Under the previous State of Michigan Administration, Governor Snyder allowed Enbridge the ability to construct a tunnel and continue operations of line 5. However, the new administration has changed its plans and subsequently filed a motion to dismiss the suit brought on by Enbridge on June 6, 2019. In response, Michigan Attorney General Dana Nessel filed a lawsuit on the same day in the Ingham County Circuit Court in regards to violation of the public trust doctrine, and violation of the Michigan Environmental Protection Act.

A detailed story can be viewed at: www.michiganradio.org/post/nessel-files-lawsuit-decommission-line-5 —**B. Jennings**

Mainland moose herds stable in CT

After a dramatic population downturn in northeast Minnesota a dozen years ago—the 1854 Ceded Territory moose (mooz in Ojibwemowin) herd remains fairly level according to surveys conducted by state, 1854 Treaty Authority and Fond du Lac Band researchers earlier this year. It is the sixth consecutive year without a marked population dip.

“From all indications, the moose herd in the 1854 Ceded Territory has been stable for the last few years with our annual population estimates ranging from 3,000 to 4,000 moose. Our 2019 estimate was 4,180 moose,” said Mike Schrage, Fond du Lac’s wildlife biologist. The Fond du Lac Band and the two bands comprising the 1854 Treaty Authority—Grand Portage and Bois Forte—will hold another “bulls only” moose hunt in 2019.

In the primary mooz range of western Upper Michigan, researchers estimated the herd last February at around 509 animals, up from a recently adjusted figure of approximately 445 moozoog in 2017 according to Michigan Department of Natural Resources. Unfavorable winter survey conditions that year initially put the population at 378. State researchers conduct aerial moose surveys on odd-numbered years in the western upper peninsula, but do not generate population assessments for eastern UP moose, believed to number fewer than 100 animals.

Moose on Isle Royle continue to thrive as resource officials attempt to reestablish a healthy wolf population. Michigan Technological University researchers put that mooz herd at 2,060 animals. —**CO Rasmussen**

Bad River Band calls for pipeline decommissioning

Odanah, Wis.—On Tuesday, July 23, 2019 the Bad River Band of Lake Superior Ojibwe filed suit against Enbridge in regards to line 5, which runs across 12 miles of reservation land.

In January of 2017 the Band passed a resolution declaring the Tribe’s intent not to renew easements existing on select parcels that expired on the line in 2013. The Tribe expressed their desires to have the line decommissioned and removed from the Bad River watershed.

A press release from the Bad River Band highlights concern on the Bad River just east of where line 5 crosses the pristine water source. The river channel is migrating towards the pipeline at an alarming rate due to bank erosion, which could ultimately expose the line, subjecting the pipe to unforeseen or unplanned stresses.

Bad River Chairman Mike Wiggins exclaims, “No amount of compensation is worth risking wenji-bimaadiziyaang—an Ojibwe word that literally means ‘from where we get life.’ It’s time to stop the flow of oil immediately.”

More information about the Band’s position can be found here: www.badriver-nsn.gov/tribal-operations/natural-resources/pipeline-information

For additional information about line 5, see: <https://blog.nwf.org/2017/05/line-5-oil-pipeline-a-threat-to-the-great-lakes> —**B. Jennings**

GLIFWC director receives high honor

Odanah, Wis.—Bad River Tribal Councilor and GLIFWC Public Information Office Director Bizhikiins Dylan Jennings was named a recipient of the “Native American 40 Under 40” award by the National Center for American Indian Enterprise Development. The annual recognition is bestowed upon tribal members who demonstrate leadership, initiative, and dedication in community activities including business development. An awards ceremony is scheduled for August 25 in Phoenix.

Elk hunt returning to Wisconsin CT

Following a successful inaugural elk season in 2018, GLIFWC and Wisconsin wildlife authorities are preparing for a second hunt this fall. State-licensed hunters and Ojibwe treaty tribes will again share 10 bulls-only harvest tags for the Clam Lake Elk Management Zone in north-central Wisconsin. Last season, native hunters harvested five bulls in a ceremonial hunt that resulted in community elk feasts across Ojibwe Country. State hunters managed to fill four of five available tags. —**CO Rasmussen**



Every Step: A Healing Circle

Every year in the month of July, GLIFWC and its member tribes gather for an important weeklong healing ceremony connecting 10 of GLIFWC’s member tribes. In the early 1970s and 1980s treaty reaffirmation was a very contentious topic for communities in the north woods.

In June of 2019, GLIFWC released “**Every Step: A Healing Circle**,” a short video on the history, trials, and tribulations of the original solidarity relay.

Core runner and participant Gary “Kemo” Kmiecik talks about the early years running through racist areas and a teaching given from spiritual advisor Eugene Begay. “He always told us that you are affecting these people in a positive way, they don’t know it yet, so remember that.”

Please help share the new short video far and wide- not only to promote a great educational resource but to spread healing as well.

The video can be viewed at the following links via:

YouTube: youtu.be/zn-DM2SQW8M

GLIFWC website: www.glifwc.org/publications

GLIFWC’s Facebook page: www.facebook.com/GLIFWC

Wisconsin Life website:

www.wisconsinlife.org/story/the-power-of-the-healing-circle-run

—**B. Jennings**

Manoomin time approaches

By Peter David, Wildlife Biologist

It’s that time of year again. Though it seems like summer has barely set in, those initial hints of fall are starting to pop up: a few color-tinged leaves, the first flight of nighthawks. These in turn set trigger thoughts in the minds of ricers: Did I patch that little leak in the canoe? Did I get my ricing sticks back after lending them to the neighbor last fall?

The biggest question of all of course is, how is the crop?

Getting to a good answer can make me think about the old parable of a group of blind men trying to understand what an elephant is, based upon the individual part each one touches. Each one’s interpretation is limited to the part they are exposed to: touching an ear, a tail, or a tusk can lead to very different perceptions. It’s much the same with the annual manoomin crop.

I am luckier than most folks when it comes to getting the chance to formulate an opinion on the crop. By conducting GLIFWC’s aerial surveys, I get to glimpse more rice beds, over a bigger area, than most people. But my perceptions are limited in ways too; I don’t get to all the rice water in any given year, and the glimpses I get are fleeting at the speed of a plane, and can be jumbled by the time I have looked at a few dozen waters over a couple of hours in the air. My vantage point can limit what I see as well: a big healthy bed is pretty easy to pick up, while thin, scattered rice that might be obvious from the ground might escape me from the air. And a single cloud casting its shadow across a lake can make it almost impossible to distinguish rice from some other vegetation. Often it’s not until later, when I have time to look more carefully at the pictures I snap, that I get a good feel for what is present at a site.

Nonetheless, aerial surveys can be a great (and relatively inexpensive) way to get an idea of the big picture each year, especially when coupled with ground surveys on select waters.

For the remainder of August, we will be trying to conduct aerial surveys of rice beds with WDNR pilots whenever cloudless conditions prevail, and summer interns will be monitoring select waters from the ground as well. At press time, only one week of ground surveys, and a single air flight over a portion of east-central Minnesota, has been completed. In other words, I can tell you what I think about the tusk, but there is a lot of elephant to go.

But, already there are suggestions that it may be a bit of an unusual year. If my first impressions hold up it could be a year with remarkable variability. I have already seen sites that look more like hay fields than lakes, as well as places (see **Manoomin**, page 15)



Meet the warden— Riley Brooks

By Paula Maday, Staff Writer

Riley Brooks loves a good chase. An avid outdoorsman, Brooks has traveled out west three times to scout elk through the mountainous terrain of Idaho and Colorado. “I’ve hunted with both rifle and archery,” he says. “But was only lucky enough to get an elk once.”

Brooks hunts everything from duck to whitetail to turkey. On the water, his favorite is musky fishing. And his interest in tracking doesn’t stop at animals.

“One of my favorite trainings that I did for GLIFWC was reconnaissance and surveillance training,” Brooks said. “We learned how to move through the woods stealthily, and pick up signs and clues of human activity.”

During the same training, Brooks says the wardens also practiced land navigation, learning how to traverse the land using only a map and compass. “It was a huge learning experience for me,” he says. “We did it in the dark and weren’t suppose to use flashlights or anything. I did pretty good during the day, but the night portion was much more challenging.”

Brooks grew up harvesting with his uncles and other family, and knew he wanted to be a game warden from the time he started college. “I wanted a career that revolved around things that I like to do,” he said. “I like to hunt, fish, ATV, snowmobile, and be on a boat.”

Brooks graduated from the University of Wisconsin—Stevens Point with a major in general resource management and a minor in environmental law enforcement. He has been at GLIFWC for close to 10 years, working the Lac du Flambeau area with fellow warden Jonas Moermond. “Jonas is one of our best officers. I look up to him highly. He has a lot of respect from the LDF community.”

As summer winds down, Brooks is preparing for his favorite time of year: fall hunting season. “I enjoy being out in the woods that time of year, doing enforcement and talking to hunters,” he says. “I support and encourage tribal members who are out there exercising their rights. I want them to know that I am not here to hinder them, just to help them follow rules that are in place for safe harvest.”



Riley Brooks captains a boat with tribal youth at a Learn to Fish event in Lac du Flambeau. (submitted photo)

Hunter Education Course

When: September 7-8, 9:00 AM–4:00 PM

Where: Lac Courte Oreilles Boys & Girls Club

Cost: \$10.00

Contact: To sign up for the course please register online at gowild.wi.gov or contact Lauren Tuori at ltuori@glifwc.org

For more information: 715-292-8343

Getting ready for dagwaagin in Michigan



Under the supervision of GLIFWC Warden Steven Amsler, Keweenaw Bay Indian Community member 10-year-old Caleb Smith, takes aim with a non-firing rifle. Smith was among a dozen youth from the Baraga area that studied hunter safety with GLIFWC instructors in early August. GLIFWC wardens also held an ATV safety class at Lac Vieux Desert for local young people in late July. (H. Naigus photo)

Gray wolf delisting

(continued from page 1)

occupy about 15% of their historic range in the lower 48 states. Others noted the need to protect wolves to preserve the ecological functions they fulfill, especially in the face of over-abundant deer populations, chronic wasting disease, and high levels of tick-transmitted diseases. Several members of the tribal community spoke of the cultural significance of ma’ingan, and the need to respect and protect this more-than-human being.

As a GLIFWC spokesperson, I shared a few thoughts as well, focusing the cultural significance of the wolf, and the need to let recovery unfold in the areas of suitable habitat that remain devoid of wolves, both in the ceded territory and elsewhere. Everyone’s oral testimony was brief; even with most presenters limited to a 3-minute time slot, testimony went on for hours. It was nearing 11:00 pm when the last speaker approached the podium.

Although oral testimony ended that evening, the opportunity to submit written comments through the regulations.gov website, or in written form, continued until July 15th. People nationwide worked the website hard—apparently overwhelming the system on the final day, resulting in comments still being accepted the next day when the website was back up. By the time that door closed, the Service had received nearly 108,000 comments—not including those submitted by “snail mail.” GLIFWC submitted detailed written comments as well, pushing for the continued protection of ma’ingan and challenging some of the assumptions and conclusions of the delisting proposal. You can find them under the News box at GLIFWC.org.

Clearly, the Fish and Wildlife Service has some work ahead of it. It will take months for the Service to sift through the public comments, and to consider the many concerns raised by the five scientific reviewers independently selected to evaluate the proposal. The wheels will turn slowly enough that the status of wolves in the Midwest will not change yet this fall—preventing the re-implementation of hunting and trapping seasons that occurred in the area from 2012–2014 under a previous delisting effort that was eventually overturned.

Regional ma’ingan populations appear to have recovered from those seasons, and are currently fulfilling their critical ecological—and cultural—role in much of the Ceded Territory. Whether they will be allowed to continue to do so without again facing being taken by recreational hunters and trappers remains to be seen. To the Ojibwe, who understand their future is intertwined with that of ma’ingan, the outcome of that decision is deeply personal.

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.

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Although MAZINA'IGAN enjoys hearing from its readership, there is no “Letters to the Editor” section in the paper, and opinions to be published in the paper are not solicited. Queries as to potential articles relating to off-reservation treaty rights and/or resource management or Ojibwe cultural information can be directed to the editor at the address given above. For more information see GLIFWC’s website: www.glifwc.org and our Facebook page.

A special thanks to Melissa Rasmussen for contributions to this issue.

On the cover

Ealen and Emalea Oustigoff jumped into Devils Lake July 16 to help release walleyes hatched and raised by the St. Croix Band Natural Resources Department. The young Mille Lacs Band tribal members live in the St. Croix area with their dad Tristan. (CO Rasmussen photos)



States, GLIFWC implement policies in response to chronic wasting disease

By Travis Bartnick, GLIFWC Wildlife Biologist

Chronic wasting disease (CWD), remains a growing threat to the many uses of waawaashkeshiwag (deer) and omashkoozoog (elk) by tribal members throughout the Ceded Territories. CWD is a fatal neurodegenerative disease that has been spreading throughout North America for several decades.

In more recent years, CWD has been detected in wild deer within or near the Ceded Territory. Deer infected with CWD often show no signs of being sick when they are in the incubation period, which can last a minimum of 16-17 months. During this time, they continue to shed the infectious prions into the environment where it can be spread to other deer. The infectious prions are a form of misfolded protein—not a bacteria or virus. There is no known cure, vaccine, or treatment for CWD.

It is believed the prions can be transmitted several ways, including through contact with infected saliva, urine, and feces. Although there is no evidence that

GLIFWC will continue to offer CWD testing for tribally harvested deer in 2019. Tribal hunters are encouraged to bring their deer to a tribal registration station and request to have their deer tested. It is important to keep the head and about 3-5 inches of the neck intact and stored at cool temperatures (at least as cool as a refrigerator). Freezing the head and portion of neck is also an option.

In addition to GLIFWC offering CWD testing, the Michigan DNR and Wisconsin DNR also offer free CWD testing for tribally harvested deer. Minnesota also offers testing, but most of the available CWD sampling stations are located outside of the Ceded Territories in Minnesota. Tribal members who get their deer tested through state CWD testing programs will generally receive their results in about a week to 10 days. Testing through GLIFWC can take about two weeks, depending on the location of the registration station and time of year. Test results may take longer to be returned during and immediately after the state gun deer seasons because that is when most samples are sent to the diagnostic laboratories.

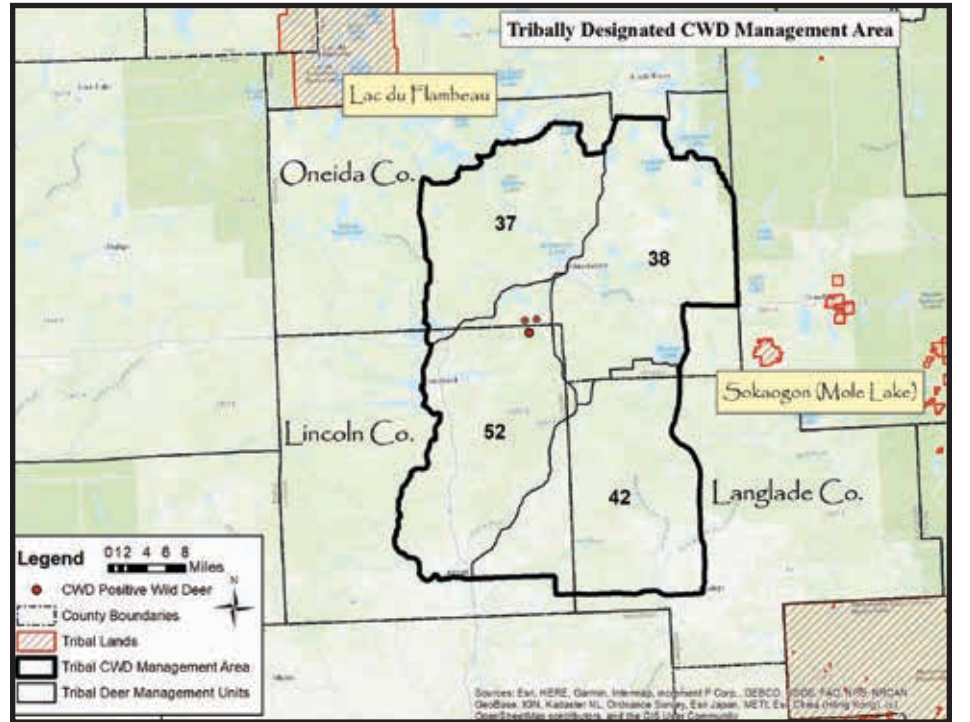


Image 1. Tribal CWD Management Area has special regulations including mandatory remote registration, carcass transport restrictions, and carcass waste disposal restrictions. The area was established to help prevent tribal members from bringing whole deer or deer parts that have a higher risk of being infected with CWD back to their communities.

CWD can infect humans, the Centers for Disease Control and Prevention (CDC) recommends against the consumption of any animal that tests positive for CWD or shows signs of being sick. The World Health Organization (WHO) recommends keeping the agents of all known prion diseases from entering the human food chain.

The Voigt Intertribal Task Force approved the establishment of a tribal CWD management area in 2018, which remains in effect in 2019. The tribal CWD management area has special regulations for the transport, disposal, and registration of deer harvested within the tribal CWD management area.

The purpose of the special regulations is to prevent hunters from transporting whole deer, or deer parts, with a higher risk of being infected with CWD back to their communities. Deer harvested within the tribal CWD management area must be registered remotely to prevent whole carcass transportation outside of the management area. Parts of the deer, including the spinal column and head, cannot be transported outside of the area. Carcass waste must be disposed of in a landfill or carcass waste collection site within the management area. The tribal CWD management area consists of tribal wildlife management units 37, 38, 42, and 52, in portions of Oneida, Lincoln, and Langlade Counties of Wisconsin (Image 1), between the Lac du Flambeau and Sokaogon (Mole Lake) tribal communities. There are a number of CWD testing drop-off sites within the tribal CWD management area. For more information, please visit www.data.glifwc.org/cwd/

State agencies in Minnesota, Wisconsin, and Michigan are continuing to look for ways to reduce the spread of the disease.

Minnesota

Minnesota lawmakers were busy considering many CWD-related bills during their spring 2019 legislative session. Several of the bills were considered “dead on arrival,” such as a bill that proposed buying out the entire captive cervid industry, which would have essentially ended captive cervid farming in the state. Other proposals, such as one that would have required double fencing for all captive cervid facilities, were settled with compromise, requiring captive cervid farms to install double gates on their pens instead. One of the bills that passed included mandatory depopulation of all cervids from any captive deer facility where CWD is detected.

The Minn. state legislature also passed a bill to dedicate funding for the installation of deer carcass collection dumpsters in areas of the state where CWD has been found in the wild deer population. The installation of carcass collection dumpsters will give deer hunters an opportunity to dispose of deer carcass waste in a way that could help prevent further spread of the disease in the state. Deer hunters usually dispose of carcass waste on the landscape—a practice that increases the risk of spreading diseases by hunters who travel long distances from their homes to where they harvest deer.

Minnesota state legislators also approved of \$1.8 million in funding for the University of Minnesota to focus on the development of a new CWD test that researchers propose could greatly reduce the amount of time needed to determine if a deer is infected with the disease. The development of a “quick” test or a test that could be conducted in the field would be a game changer for deer hunters. Despite many of the compromises made during the legislative session, (see CWD, page 15)

Vulnerability of mooz to climate change



Mooz (Moose)
Alces americanus



Figure 1. Range map of mooz.

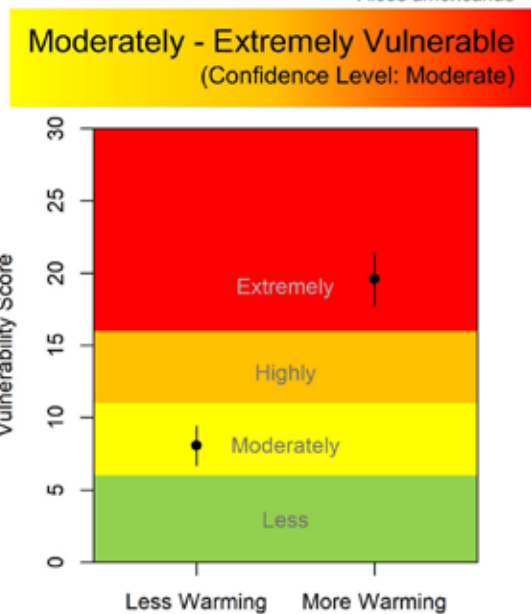


Figure 2. Climate change vulnerability scores for mooz on a scale of 0 (lowest vulnerability) to 30 (highest vulnerability). Dots indicate average score; lines indicate possible range of scores for each warming scenario.

General Description:

During visits with tribal elders, harvesters, and gatherers, mooz (moozoog pluralized in the Ojibwe language) are periodically mentioned as being important to the Anishinaabe people in many ways. They provide the gifts of food, clothing, and shelter. They are hunted for various uses and are spoken of in traditional stories and teachings. When hunted, majority of the mooz is used for things such as food, hides for thicker makizinan (leather moccasins), bone tools, and teeth for items such as jewelry. Unfortunately, the same knowledge holders also expressed strong concern for a decline in the population of the mooz. One individual mentioned that there may be a correlation between the decline in mooz and manoomin (wild rice) due to the fact that mooz rely on manoomin as part of their diet. It was said that as manoomin declines the mooz will decline.

As recorded by William Whipple Warren, there are at least twenty-one clans in all with one of them being Mooz, which is rarely known of today. It is known by the Anishinaabe that the night sky is a direct reflection of what is on the ground and therefore stories of beings such as the mooz are recognized in the constellations. Most interesting is that the beard that falls under the chin of the mooz can be clearly identified in the mooz constellation. Traditionally when the life of a mooz was taken, it was considered to be disrespectful for the beard of the mooz to touch the ground. Therefore, out of respect and to acknowledge the mooz in the sky, the beard was hung in a tree.

(see Mooz, page 18)

2019 registration & tagging options

By Miles Falck, GLIFWC Wildlife Section Leader

Hunters and trappers are reminded to register their harvest in a timely manner this fall. Registration is important for the tribes to exercise their sovereignty by monitoring and self-regulating tribal harvest.

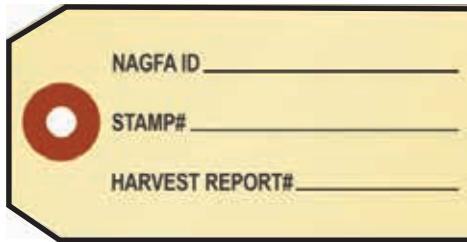
Harvest registration data is routinely used 1) to coordinate harvest management among state and tribal hunters 2) as an index to wildlife population abundance, and 3) to document the need to protect areas that provide tribal sustenance from development.

Deer, bear, cranes, and turkeys can be registered in-person at a tribal registration station or remotely using GLIFWC's phone registration (844) 234-5439 or online at: glifwc.nagfa.net/online. To prevent the spread of chronic wasting disease (CWD), deer harvested in the tribal CWD management area are required to be registered remotely. Elk, otter, bobcat, fisher, and marten are required to be registered in-person.

Metal carcass tags are no longer required for deer, bear, or turkey. However, if a carcass is left unattended in the field, a tag with the hunter's NAGFA ID and appropriate stamp# for the species being harvested should be affixed to the carcass. This information is printed on tribal hunting permits, and blank tags will be provided at tribal registration stations. After registering harvest, a harvest report number will be issued, this number verifies the harvest has been registered and should be recorded on the tag with the NAGFA ID and stamp# if the carcass is left unattended with a third party, such as a processor or taxidermist.

Carcass tags and in-person registration are required for elk, otter, bobcat, fisher, and marten. CITES tags are required for otter and bobcat if the pelts will be sold.

A summary of tagging and registration requirements, along with other regulations, can be found at: data.glifwc.org/regulations. Individual tribes may have different tagging requirements for deer and bear.



Wisconsin Department of Natural Resources Secretary-designee Preston Cole attended the June 6 Voigt Intertribal Task Force meeting at Lac du Flambeau. Cole said he looked forward to working with GLIFWC and its member tribes on a host of shared environmental concerns. GLIFWC Executive Administrator Mic Isham presented Cole with a set of hand-carved manoomin knockers. (CO Rasmussen photo)

Summer assessments: an annual check-up for key species on Gichigami

Interns get hands-on experience

By Ben Michaels, GLIFWC Fisheries Biologist

Summertime for the Great Lakes Section is an exciting time of year with various fisheries assessments occurring on Gichigami (Lake Superior), providing opportunities for interns to get hands-on fisheries experience.

One such assessment is the summer siscowet survey that Great Lakes Section personnel have been conducting near Michigan's Keweenaw Peninsula since the 1990's. This survey assesses both abundance and diet of siscowet—a type of chinamegos (lake trout) that inhabit the deep areas of Lake Superior. Gill nets of various mesh sizes are deployed from GLIFWC's research vessel, Mizhakwad, in depths that range from 50 to 800 feet. When these nets are lifted the following day, each fish is picked out of the gill nets for biological assessment, which includes recording the length, weight, sex, and presence of lamprey wounds. Then, otoliths, which function much like an ear drum for fish, are extracted in order to determine its age. Lastly, the stomach is extracted and preserved for processing in a lab at a later time. Prey items that are commonly observed in siscowet stomachs include smelt, herring, sculpin, and mysis.

Following the siscowet survey, Great Lakes Section interns sampled nearshore areas with a seine in waters less than four feet deep at various locations around the Keweenaw Peninsula. This process involves pulling a seine through the shallow water toward the shore to collect small-sized fish. The objective of this survey is to monitor the abundance of the nearshore fish community, including the abundance of juvenile adikameg (whitefish), which are commercially sought after as adults. A wide variety of species such as shiners, sculpin, smelt, trout-perch, and whitefish are typically observed in these nearshore areas. All captured fish are counted, measured, and weighed.

Great Lakes Section interns also had an opportunity to participate in a summer gill net assessment for juvenile namé (lake sturgeon) in shallow waters near the mouth of the Bad River, which empties into Lake Superior north of Odanah. This



Great Lakes Interns Dale DeNasha (right) and Kousheng Moua (left) pick fish from a siscowet survey gill net as it's being lifted and pulled back into the boat. (B. Michaels photo).

survey, conducted since the 1990s, aims to assess the abundance and movement of juvenile sturgeon. Captured sturgeon are carefully removed from assessment gill nets, measured, weighed, and tagged with an orange Floy tag and a PIT (Passive Integrated Transponder) tag, which is a small internal tag that contains a unique ID, much like a barcode. This past summer the crew recaptured a tagged sturgeon that was originally tagged by GLIFWC in August 2008. The fish grew from 32.1 inches to 44.0 inches throughout the 11-year time period, averaging just over one inch of growth per year.

For more information on these surveys, contact Biologist Ben Michaels at smichaels@glifwc.org.



Natural, human resources blend together for memorable Healing Circle Run

By Eleanore Falck and Kayla Plucinski
Public Information Office Interns

Sharing gifts, getting ready to run

Many people love participating in events but don't realize all the preparation that goes into making them possible. The Healing Circle Run/Walk is a prime example of this. GLIFWC employee and Healing Circle Run/Walk Coordinator, Jennifer Krueger-Bear begins preparing for this event many months in advance.

This is an annual event that reached ten tribes in 2019 across portions of northern Wisconsin, Michigan, and Minnesota. Each tribe that participated received a gift-filled knapsack prepared by GLIFWC employees and interns.

This gift bag included a hand-made birch bark basket, a sweetgrass braid, traditionally harvested tobacco and sage, local jam, and maple syrup. The sweetgrass was harvested from the traditional medicine garden outside the GLIFWC central office and hand-braided at the Commission.



The gift of wiigwaas

GLIFWC staff and interns had the pleasure of harvesting wiigwaas with Pat Kruse, a Red Cliff tribal member who resides on the Mille Lacs Reservation. While out in the woods, Kruse showed the group how to make a birch bark basket within an hour. Each participant offered asemaa (tobacco) before harvesting began. Those who had valid gathering permits took turns harvesting the bark with the guidance of Kruse. As the initial harvester, Kruse made the first line on the tree and told interns to cut on this line, going a little deeper each time. Once at the proper depth, the bark started peeling away from the tree. At this point, Kruse guided a stick under the exposed bark to "pop" it off the tree.



Pat Kruse demonstrates peeling the bark from the tree. This bark was later used to make baskets. (K. Plucinski photo)

Approximately 15 sheets of bark were harvested that day. The sheets of bark were properly dried and used to make the baskets at the Red Cliff language camp about two weeks later by staff/interns. Everybody made at least one basket and made sure there were ten to give out to the tribes participating in the Healing Circle Run/Walk.

Insights from the participants

The Healing Circle Run/Walk promotes healing for everyone, starting with individuals and spreading to whole communities. On this year's Healing Circle Run/Walk, I met all kinds of people in different stages of healing, each with their own personal reasons for running. Although these individuals came from different places and had unique backgrounds, the Healing Circle Run/Walk brought them together to transform their pain into something positive. This year, the Healing Run/Walk was extended from seven to eight days to include the Mille Lacs Reservation.

Women's rights were a main focus of the run/walk this year. The T-shirt design, created by Sarah Agaton Howes, was made in honor of missing and murdered indigenous women across Turtle Island. Unfortunately, this issue was made personal and immediate for those on the run/walk when a woman was approached by an aggressive man in a car. Although this incident was upsetting, it demonstrated the strength of the women around me who continued on the run/walk and showed each other enormous support.

Healing for individuals and communities suffering from substance abuse was another common theme on the run. Felicia Rachal, a second time runner from Mole Lake, said she was walking for the recovery of family members suffering from drug abuse. She hopes that younger generations can avoid the mistakes (see *Healing Circle Run*, page 15)



On the sixth day of the Healing Circle Run/Walk, participating women completed the first mile as a group, starting from the Fond du Lac reservation. (E. Falck photo)



Miles Falck has been participating in the run since 2001. (E. Falck photo)



Women's rights were a main focus of the run/walk this year. The T-shirt design, created by Sarah Agaton Howes, was made in honor of missing and murdered indigenous women across Turtle Island.



Representation from Keweenaw Bay Indian Community included Chairman Warren "Chris" Swartz; Keith Rolof, GLIFWC deputy administrator; Gary Loonsfoot, Jr., Virgil Loonsfoot, George DeCota and Doreen Blaker. (P. Loonsfoot photo)

When Gichigami turns green: Harmful algae blooms and the big lake

By Rob Croll, GLIFWC Climate Change Program Coord.

What is known

The summer of 2018 saw the largest blue-green algae bloom ever reported on Gichigami (Lake Superior). The bright green slick, known as a Harmful Algae Bloom (HAB), stretched along the shoreline from Superior, Wisconsin to the Apostle Islands and persisted for several days.

A “bloom” refers to algal or cyanobacterial growth that reaches nuisance levels. Records indicate that HABs have occurred on the Big Lake in five of the past seven years and appear to be increasing in frequency. The other Great Lakes, especially Lake Erie, frequently experience HABs, as do many inland waters. The being responsible for these blooms is not algae, but actually one of several species of cyanobacteria—bacteria that can photosynthesize, or make their own food, similar to plants. While many cyanobacteria are beneficial, some cyanobacteria have the ability to produce toxins that can be harmful to humans, domestic animals, and fish and wildlife.

The bacteria identified in the HAB events on Lake Superior, *Dolichospermum lemmermanni*, is capable of producing toxins, but researchers say samples from blooms to date have not tested positive for them. As with other types of algae blooms, decaying material from a HAB can also cause a decrease in dissolved oxygen in the water which can harm fish and other aquatic life.

HABs, whether on Lake Superior or on inland waters, are associated with shoreline locations, warm water temperatures, sunlight, a nutrient source and calm waters. Blooms on Gichigami in 2012, 2016, 2017 and 2018 were associated with heavy rains and flooding which transported sediment and nutrients into the lake; however, bloom events occurred 1-2 months after the floods, once sediments settled out, allowing sunlight to penetrate the water column.



Algae bloom in Chequamegon Waters Flowage, north central Wisconsin, 2009. (P. David photo)

“One day last summer I stood at Cornucopia Beach and looked out at the lake. The water was bright green and while there were lots of people on the beach no one was swimming. I put down my asemaa and I prayed for the water.”

Chairman Mike Wiggins Jr.,
Bad River Band of Lake Superior Chippewa,
speaking at the Climate Strong! Institute, July 2019

What remains to be determined

Scientists with a number of agencies and universities note that in western Lake Superior there is no single factor that can be used to predict HAB formation. They suspect blooms occurring in this part of the lake may be sourced from rivers and streams that contain seed populations of the bacteria that are washed into the lake along with sediments and nutrients during heavy rain events. Questions also remain about why some cyanobacteria produce toxins while others do not, and why those that can produce toxins sometimes do not.

Information on effects on fish and wildlife, including those beings who may consume fish associated with HABs, such as migiziwag (bald eagles) is also limited. Researchers from the University of Minnesota’s Large Lakes Observatory, the National Park Service, and the Wisconsin DNR have increased algal bloom monitoring efforts along the south shore of Lake Superior and are conducting research to better understand what’s driving HAB formation and predict future occurrences.

Is there a climate change connection?

The GLIFWC Climate Change Program does not specifically research harmful algae blooms in the Ceded Territories. We do know, however, that climate predictions for Minnesota, Wisconsin and Michigan suggest that growing seasons are lengthening, summers are getting warmer, lake water temperatures are increasing and more precipitation is coming in the form of heavy rain events, all of which can set the stage for HAB formation, and may contribute to the increasing frequency of blooms on Gichigami and inland waters.

Unlike with some of our other Climate Change projects, traditional ecological knowledge (TEK) is currently lacking when it comes to assessing the effect of algae blooms. Efforts have been made in the past to locate those with historical knowledge of this phenomena with no results; if you or a family member have memories or stories about algae blooms, either on the Big Lake or on other waters, and how Anishinaabe people were affected, or may have used the algae as a resource, please contact either GLIFWC Climate Change Program Coordinator Rob Croll (rcroll@glifwc.org) or Climate Change TEK Outreach Specialist Melonee Montano (mmontano@glifwc.org)

Health effects

Humans can be exposed to cyanobacterial toxins through water contact during recreation, drinking from an affected water source or through occupational contact, including commercial fishing. Toxin exposure can be through skin contact, ingestion or inhalation. Symptoms of skin contact include rashes, hives or blisters. Ingested toxins can cause abdominal pain and nausea, diarrhea and vomiting. (See Algae bloom page 21)

Lake sturgeon part two: The unique yellow lake sturgeon population

By Mark Luehring
GLIFWC Inland Fisheries Biologist

Yellow Lake in Burnett County Wisconsin balloons out from the Yellow River as in meanders its way towards the St. Croix River. Within its dark and productive waters lurks a rare, large, and distinctive fish.

Once abundant throughout the Upper Great Lakes Region, Namè, the lake sturgeon, has been reduced to a small portion of its former population by overharvest and habitat destruction, but Yellow Lake contains one of the few remaining self-sustaining populations.

The Yellow Lake population was connected to the St. Croix River population until the 1930s, when a water control structure was built near Danbury. This population apparently was able to survive despite being cut off from additional habitat in the St. Croix River. Fisheries biologists had very little information about this sturgeon population until the early 1980s.

In 1979, two world record sturgeon were caught on Yellow Lake, bringing many anglers and tourists to fish for sturgeon in Yellow Lake. The first Wisconsin DNR study of the population was initiated in 1980 in response to this extra attention. This initial study had some sobering results. Only one sturgeon older than age 20 was found in the population, probably because of overexploitation by fishing.

In 1983, mandatory harvest reporting was implemented for lake sturgeon harvest for anglers throughout the state, and more restrictive regulations were put in place. Harvest since then has been relatively low, with anglers averaging around nine fish harvested per year and tribal members harvesting 33 fish total. Estimates of lake sturgeon abundance from the mid-1980s were about 290 adults.

Since 2011, WDNR has conducted annual spawning period sampling to determine the size of the adult population in Yellow Lake. Initial population estimates indicate an increase in lake sturgeon abundance, and many more old fish present in the population than in

the 1980s. Overall, the sturgeon population appears to be recovering from prior declines. Because sturgeon are long-lived, mature at older ages, and individuals do not spawn annually, the population is probably still recovering from high exploitation levels in the past.

To continue this population recovery and update management and harvest strategies, the Wisconsin Technical Working Group started a Yellow Lake Sturgeon Subcommittee made up of representatives from WDNR, GLIFWC, and the St. Croix Tribe. So far, the group is working on updating the population estimate based on the annual spawning data collected by WDNR, reviewing the spawning habitat areas in the Yellow River, setting goals for population abundance, and developing strategies to monitoring the abundance of juvenile sturgeon.

With careful harvest strategies informed by annual population monitoring and protection of valuable habitat, the sturgeon will have a chance to grow, flourish, and continue to cruise the depths of Yellow Lake.



Community roundtables key step in food code development

By Madelyn Wiggins
Tribal Planning Intern

GLIFWC staff is reaching out to all 11 member tribes for input concerning the development of model codes for traditional Anishinaabe foods harvested in the Ceded Territory.

GLIFWC's Chippewa Ceded Territory Traditional Food Regulatory System Project, a 3-year grant funded by Administration for Native Americans (ANA), is working towards developing safe and wholesome model codes for traditional foods which will allow tribes to exercise sovereignty over their food systems.

At community roundtables, project staff has been bringing people together to gather input and discuss project goals.

"Community outreach and input are very important parts of our project," said LaTisha Coffin, ANA Social

& Economic Development Strategies (SEDS) Project Coordinator. "We've had a lot of questions about how the developed food codes would impact GLIFWC tribal communities, so that is a critical discussion point during the roundtables. The tribal input will help us create specific community interest workshops for each GLIFWC member tribe starting in January 2020."

At each roundtable, tribal representatives, elders, and members share their opinions and learn about how the model food codes would expand the use of traditionally harvested foods within the Ceded Territory.

Project staff has held roundtables in Lac du Flambeau, Red Cliff, Bad River, Lac Courte Oreilles, St. Croix, Sokaogon-Mole Lake, and Fond du Lac tribal communities, providing traditional snacks and beverages to attendees.

Additional roundtables in August are scheduled at Keweenaw Bay, Bay

Mills, Lac Vieux Desert, and Mille Lacs. LaTisha Coffin, ANA SEDS Project Coordinator at 715-685-2128. For any questions or comments, contact



Community Roundtable at St. Croix. (Zoongee Mayotte photo)

Weweni A'aw Anishinaabe Daa-Asemaake

Tips on how to properly offer your tobacco

Gaa-anishinaabemod: Lee Obizaan Staples

Gaa-anishinaabewibii'ang: Chato Ombishkebines Gonzalez

Mii dash omaa noongom ani-biindaakoojiged a'aw Anishinaabe wani-dazhindamaan. Ishke a'aw Anishinaabe ishkweyaang gaa-ayaad, gaawiin ogii-ni-aabaji'aasiin eta-go bizhishig inow asemaan ezhi-gikenimang noongom gii-ni-biindaakoojiged. Mii inow apaakoziganan gaa-aabaji'aajin. Mii dash imaa gaa-ondinaad inow mishkwaabiimizhiin. Mii inow gaa-kaakaaska'aajin inow mitigoonsan, mii dash imaa gii-paasang imaa gaa-onjikaamagadinig. Mii dash inow gaa-aabaji'aajin gii-ni-biindaakoojiged.

What I want to talk about this time is when *Anishinaabe* puts their tobacco down as an offering. The *Anishinaabe* way back did not only use tobacco, as we know it today in their offerings. They used a mixture known as *apaakozigan*. This came from the red willow sapling. They scraped the inner bark of the red willow and these scrapings were dried. It was these dried scrapings that were used in their offerings.

Ishke nizezikwendaan owapii gii-naazikaageyaan a'aw akiwenziyiban gii-niimi'idiiked ani-biindigeyaan niimi'idiwigamigong, mii i'iw gaa-piijimaandamaan gii-sagaswaadamawaad inow apaakoziganan imaa gimishoomisinaan odoopwaaganan. Mii dash gaawiin aapiji a'aw Anishinaabe noon-gom odaabaji'aasiin inow apaakoziganan ani-biindaakoojiged. Maagizhaa gaye waa-wenipanizigwen ani-adaawed inow asemaan eni-aabaji'aajin dash noongom.

I remember going to the ceremonial dances that the old man who raised me put on and I recall the smell of the *apaakoziganan* that was smoked out of the ceremonial drum pipe. Nowadays *Anishinaabe* very seldom uses *apaakoziganan* in their offerings. The *Anishinaabe* probably just wants to make it easier for themselves by using the tobacco that can be purchased from the market.

Da-minochige a'aw Anishinaabe da-bi-azhegiwewidood i'iw akeyaa gaa-izhichiged gidinawemaaganinaan ishkweyaang gaa-ayaad apane inow apaakoziganan gii-aabaji'aad biindaakoojiged. Gaawiin igo debinaak gidadoodawaasiwaanaanig ingiw Manidoog.

It would be great for the *Anishinaabe* to bring back the way that our relatives from the past had always did by using *apaakoziganan* in their offering at all times. We should not treat the *Manidoog* in a half-heartedly fashion.

Akawe imaa bagwaj gidaa-izhaamin da-naadiyang inow mishkwaabiimizhiin da-gaakaaska'amang, mii dash imaa ge-ondinamang da-ni-dagona-



Traditional tobacco is tobacco and other plant mixtures grown or harvested and used for ceremonial or medicinal purposes. (C. Rasmussen photo)

mang imaa asemaang weweni da-ni-biindaakoonindwaa ingiw Manidoog. Gaawiin i'iw akeyaa ge-ni-izhi-wenipaniziyang gidaa-nanda-waabandanziiin wenjida imaa ani-manidookeyang anishinaabewiyang.

We should first go out into the woods to gather the red willow saplings, scrape them and use the scrapings to mix in with the tobacco to properly give our offering to the *Manidoog*. We should not look for the easy way to do things especially when it comes to our ceremonies as *Anishinaabe*.

Eshkwaa igo ani-dazhindamaan aaningodinong debinaak wii-ni-doodawaad inow Manidoon aanind a'aw Anishinaabe mii gaye waa-ni-dazhindamaan. Ishke moozhag niwaabamaa a'aw Anishinaabe azhigwa wii-asaad inow odasamaan, mii imaa ani-adaawamaad awiya inow asemaan waa-asaajin. Ambe sanoo gego i'iw akeyaa izhichigekegon.

While I am on the subject of treating the *Manidoog* in a half-heartedly fashion I also want to mention something else that came to mind. I often see *Anishinaabe* when it is time to put tobacco, they will borrow from someone the tobacco that they are going to put. Please do not do that.

Gaawiin ingiw Manidoog gimino-doodawaasiwaawaag izhichigeyeg i'iw akeyaa. Giizhaa gidaa-naanaawaa a'aw Asemaa waa-aabaji'eg. Gaawiin zana-gasinoon da-izhichiged i'iw a'aw Anishinaabe. Dibishkoo-go a'aw Anishinaabe ani-adaawanged inow asemaan waa-asaad, mii imaa waabanda'iwed gaawiin a'aw odapiitendanziiin i'iw ani-biindaakoojiged a'aw Anishinaabe. (see Weweni a'aw Anishinaabe, page 22)



Spotlight: Camp Onji-Akiing counselors

By Kayla Plucinski, Public Information Office Intern

Nestled in the Ottawa National Forest lies Camp Nesbit, the home of GLIFWC's Camp Onji-Akiing ("From the Earth"). When Camp Onji-Akiing started 11 years ago, it was only a two-and-a-half day camp that hosted around nine campers. Camp has now flourished into a Monday through Friday event in mid-July that sees about 40 campers ages 10-13. This year there were 43 campers that came from 15 different tribes. Throughout the week campers spend their time participating in cultural activities that focus on team building, leadership cultivation, and continued learning in the natural resources career field.

All activities at Camp Onji-Akiing are centered around the Medicine Wheel. Some of these activities include making black ash baskets, creating copper bowls using the seven Grandfather teachings, canoeing, cross-bow archery, and fishing. Another activity that the campers participate in is Warrior Games. This game is an indigenous teaching game that teaches youth how to protect their home territories and how to belong to a clan in responsible and respectful ways.

GLIFWC and Camp Onji-Akiing has been known to guide youth and build them into leaders. Halfway through Camp this year, I was able to sit down with some of these leaders. Maranda Maulson is a Lac du Flambeau tribal member going into her senior year at Central Michigan University and has been involved with camp from the very beginning. When Maulson was 11 years old, her father convinced her to attend this camp and now she is convincing others to attend.



Maranda Maulson

When asked what she expected to find at this camp, her response was simply some type of nature camp out in the woods. When she got there it was much different. At Camp Onji-Akiing, Maulson found a place she could be herself and explore her culture. Maulson spent four summers as a camper, two years as a junior counselor, one year as a junior director, and this is her fourth year as a counselor. When she was asked why she wanted to be a counselor, she said she grew up at this camp and that it helped shape her into the person she is today. She wants to show current campers what a great experience it is and how fast a group becomes a family at camp.

Another leader at Camp Onji-Akiing is Saagi Stark, a Bad River member. Going into her second year at the University of Minnesota-Morris, Stark is studying pre-med biochemistry and Native American studies. She has been with the camp since 2010 in one way or another.



Saagi Stark

Like Maulson, Stark spent four years as a camper then moved into the junior counselor position; she is now a camp counselor. She said how she was nervous to come to camp her first year, unsure of what she would find. Once there, she loved it and hasn't left. Stark believes that camp is a helpful way for campers to learn about treaty rights and she encourages more youth to come.



Campers made and decorated bandolier bags with the guidance of Lac Courte Oreilles' Tiffany Leach and Mary Robinson. Bags were presented to Joe Panci, US Forest Service, Steve Perry, Little River Band of Odawa Indians and GLIFWC staff Holly Berkstresser, Adam McGeshick and Heather Bliss. (H. Bliss photo)



Niizhooedewii Denomie

Niizhooedewii Denomie from Lac Courte Oreilles is spending her fourth summer at Camp Onji-Akiing this year. Her first two were spent as a camper and the last two were spent as a junior counselor. Denomie is a high school sophomore at Northern Waters Environmental School near Hayward and said that she has connected better at Camp Onji-Akiing than at any other camp. She thinks this is because she was more comfortable here and she was learning about her own culture.

Denomie eventually wants to work her way up to a counselor at camp because she believes it will open doors for her. She keeps coming back to camp because of the new experiences each year and the

memories that accompany them. She encourages anyone to attend: "come to this camp, whoever you are reading this, come to camp."

Camp Onji-Akiing not only creates leaders but it also sets campers up on a good path. One mother told Heather Bliss, camp director, that camp changed her son's life and put him on a successful path. Her son started out as a camper, then a junior counselor, and is now an intern at GLIFWC. Bliss said the camp had been a success "to get more tribal youth seeking natural resource career paths."

For more on Camp Onji-Akiing, see Full Circle Project's Facebook page at www.facebook.com/Full-Circle-Project-178794532131794/.



Campers are introduced to their service learning project that was guided by Joe Panci, US Forest Service. (K. Plucinski photo)



Campers hammer out copper bowls with assistance from Steve Perry and Roger LaBine. (K. Plucinski photo)



Eva Neveaux, Bad River concentrates on pounding out a copper bowl. (H. Bliss photo)



Brooke Dorman-DeFoe and Nyleah Howes, Fond du Lac demonstrate service learning and teamwork. (HB photo)



Youth learn how to safely operate a canoe at camp. (K. Plucinski photo)



2019 Camp Onji-Akiing participants. (submitted photo)



Campers created black ash baskets. (K. Plucinski photo)



KBIC submits for TAS

What's the big deal?

By Bizhikiins Jennings, Staff Writer

Baraga, Mich.—The Keweenaw Bay Indian Community (KBIC) located in Upper Michigan recently submitted their application for Treatment as a State (TAS) under the Clean Water Act and Clean Air Act to the Environmental Protection Agency (EPA) Region 5 based out of Chicago. Many tribes in the State of Wisconsin have been successful in attaining this crucial designation for the protection of the environment. Forest County Potawatomi, Lac du Flambeau, Bad River and a number of other tribes have all gone through the process and now have operating regulatory authority over their respective areas.

What does this essentially mean? It means that the tribes that have undergone the lengthy application process and meet the criteria necessary can establish their own water quality standards and air quality standards. As federally-recognized tribal communities considered to be "Nation-States," many have treaties with the United States Government which explicitly highlight resource usage and the inherent need for protection. In addition, the federal government has a federal trust responsibility to the tribes, which sets tribal governments apart from local county and even state governments.

Treatment as a State and other types of environmental protection work is oftentimes met with extreme opposition, rooted in perceived negative economic backlash. History has also shown that even the local state and municipalities are willing to argue the matter in court.

In 1993, Forest County Potawatomi (FCP) submitted its application to the EPA and it wasn't officially completed until April 29, 2008. The State of Michigan, which was within the class one designated radius, challenged this matter in



court and it was later upheld by the 7th Circuit Court in 1997.

A technical report done by FCP and the University of Wisconsin-Milwaukee Department of Urban Planning indicated that the TAS designation in regards to air and water are significant in that they positively affect the economy of FCP community and even northern Wisconsin. The technical report concludes that top local employers such as FCP tribal government and the Northern Lights Casino were and continue to be dependent upon recreational tourism and the masses of people that are attracted to the Northwoods for the pristine nature experience. Activities such as hiking, boating, swimming, hunting, fishing, snowmobiling, and many others are considered imperative features for travelers. In essence, without pristine environmental conditions propelled by clean water and clean air, the area would lose its edge on drawing in tourism dollars to local businesses.

KBIC is no exception in the advocacy of environmental practices for everyone's benefit. In 2018 KBIC fish hatchery efforts released over 1,071,180 fish into local waters. Over 100,000 of those fish were ogaawag (walleyes), which are a very sought-after species, especially in the tourism realm.

In many instances, tribal communities much like KBIC are located in areas that lack major industrial development. However, many times these communities are just arm lengths away from major cities and industrial parks that can emit large quantities of air toxins. Creating a sense of balance in a region where cumulative impacts should be considered has always been at the forefront of KBIC's initiative.

"We are well aware of the emissions that local cities put into the environment, but this is our attempt to acknowledge those impacts and keep our areas as clean as possible. So many people travel to our region to enjoy the recreational outdoors, the lake and the clean air and we will continue to protect these things," said KBIC Natural Resources Director Evelyn Ravindran.

Tribes like Bad River have installed air quality monitoring stations that constantly collect AIR data each day. Obviously, weather can affect these stations, especially when winds shift and carry air toxins from other sources. Also, when wildfires or other natural disasters occur, these types of environmental happenings can be detected, but aren't always indicative of the local air quality. Bad River NRD Director Naomi Tillison comments, "we are currently working towards re-classifying our air quality standards which would essentially create a more protective status. It's a lot of work but we are proud to have more control over local effects to air quality."

Another argument commonly heard regarding tribal TAS designation stems from the perception that tribal communities lack the capacity to regulate and oversee such a program.

Not surprisingly, many GLIFWC member tribes retain enormous Natural Resource Departments which house many experts in various fields such as air quality, water quality, wildlife, ecology, and fisheries. For instance, the KBIC NRD houses over 55 staff members and the Bad River NRD team houses over 40 staff members. Lac du Flambeau, Bad River, and Forest County Potawatomi have all been implementing their water quality standards for many years with both limited hiccups and positive outcomes for Native and non-Native residents within the reservation boundaries.

Tribes have been monitoring air and water for generations and even decades under federal authority. At a time when environmental issues can create such contention, it's reassuring that there are entities willing to take on the burden of enforcing protection of the resources that everyone depends upon. Maybe someday these attempts will be met with open arms and not the staunch opposition that typically follows a noble endeavor.

Filming for Buffalo Reef video begins

By Bizhikiins Jennings, Staff Writer

Filming for the Buffalo Reef short video commenced during the week of July 15th just off the eastern shoreline of the Keweenaw Peninsula in Lake Superior.

In a cooperative endeavor, tribal, state, and federal entities continue to develop measures to rehabilitate and mitigate damage from harmful stamp sands on vital trout spawning beds in Buffalo Reef.

In the late 1800s and early 1900s, mining activities began to take place throughout the region beginning with the Mohawk Mining Company. Decades of harmful activity and natural events have continually caused the stamp sands to shift towards delicate habitat. Stamp sands are coarse substrate sands that are usually a by-product of mining or processing ore in a stamp mill. These sands can also be toxic or contain dangerous levels of hazardous metals.

This short video produced by GLIFWC at the direction of KBIC and the Buffalo Reef Task Force will highlight the history and current environmental threats to the area. The Task Force also meets regularly in an effort to educate the public and engage decision-makers on the many threats that stamp sands pose to Ojibwe lifeway, food systems, and recreational activities. In addition, the video will highlight the many entities and agencies that are working diligently to solve a generational problem that could lead to severe environmental repercussions.

Award-winning videographer Finn Ryan, the producer of *theways.org* and producer of the GLIFWC Ogichidaa Storytellers project is heading up the short film. Ryan recalled, "It was hard at first to understand the extent and significance of the threat to Buffalo Reef until we actually filmed the stamp sand piles and heard from KBIC members about the importance of Gichigami (Lake Superior) and fishing to Ojibwe lifeway."

KBIC Natural Resource Department spent an entire day taking the film crew around the area and following local tribal fishermen to hear their unique and oftentimes silenced perspectives. KBIC Natural Resources Director Evelyn Ravindran explains, "The loss of Buffalo Reef is a large, complex Lake Superior issue and affects all the communities connected to her. It's important for us to make sure the narrative is told and with how widespread we are, this video gives us another resource to communicate this story." Look out for the short video release this coming fall 2019!



Local fishermen in the Keweenaw Bay Indian Community intimately know Gichigami (Lake Superior) and many of the fishing grounds including Buffalo Reef. Tribal fishermen launch their boat from one of the local boat landings in hopes of harvesting fish by net. (GLIFWC photo)

Western 1837 Ceded Territory fishery programs enhance public waters

St. Croix Tribe leads walleye stocking efforts in Wis.

Minnesota waters part of expanding hatchery program for MLB

By Charlie Otto Rasmussen, Editor

From Upper Michigan to eastern Minnesota, GLIFWC-member tribes help maintain fisheries through targeted releases of juvenile fish, hatched and reared at on-reservation communities. In Wisconsin's St. Croix Ojibwe Country, Don Taylor guided the last round of walleye fingerling stocking July 16 with a crew that included natural resources department staff, community members, and a pair of interns. After draining a rectangular rearing pond brimming with more than 36,000 2-inch walleyes, tribal fisheries specialists transferred the fish to 540-gallon tanker trucks, dashing the cargo off to Devils, Rooney, Butternut, and Big Sand Lakes.

"It's been a good season," said Taylor, field supervisor for tribal resource programs. With financial support from Bureau of Indian Affairs the St. Croix Band hit production targets for oga (or, walleye in Ojibwemowin) in the 1837 Ceded Territory with additional fingerling releases in Wapogasset and Bear Trap Lakes. "We've had a lot of hot weather lately. I'm glad to get these last fish out of the ponds and into the lakes."

Staff from partner organizations including Wisconsin Tribal Conservation Advisory Council (WTCAC) and USDA Natural Resources Conservation Service (NRCS) were also on hand, witnessing the payoff from cooperative resource enhancement efforts. WTCAC along with NRCS has provided direct funding for walleye propagation efforts. When the St. Croix Band first began planning for new fish rearing facilities a decade ago, NRCS engineers helped draw up schematics for four new half-acre ponds above the south shore of Gaslyn Lake.

"We've been able to adapt our own program commitments and help meet tribal needs," said Chris Borden, NRCS tribal liaison. "These types of projects really benefit everyone. All the user groups."

The lake country of the St. Croix region is a popular tourist destination with a high density of recreational property owners from Wisconsin as well as Minnesota's Twin Cities. St. Croix's hatchery program helps sustain both tribal subsistence harvests as well as a strong recreational fishery for state-licensed anglers. In the final tally, St. Croix's efforts netted some 115,000 walleye fingerlings and 237,000 fry in 2019.

The walleye production season for the western Wisconsin tribe runs approximately 8-10 weeks, beginning soon after ice-out with the harvest of eggs and milt from wild walleyes, which are captured in fyke nets and released back into their home waters. Back at the tribal hatchery, specialists insert the fertilized eggs into incubation jars until tiny fish emerge and are ready for immediate release into area waters or a short-term stay in a rearing pond to "grow-out." St. Croix's work spans decades, resulting in a remarkable tally of 4.6 million walleye fingerlings released into more than three dozen lakes in Barron, Burnett, Douglas, Polk and Washburn Counties. Walleye fingerlings range from 2-inches long, all the way up to eight inches. The smallest-sized walleye—known as fry—are also traditionally stocked into select lakes.

Taylor said the new ponds, funded in part by the Bureau of Indian Affairs, NRCS, and the Wisconsin Walleye Initiative, provide a significant upgrade to both raising



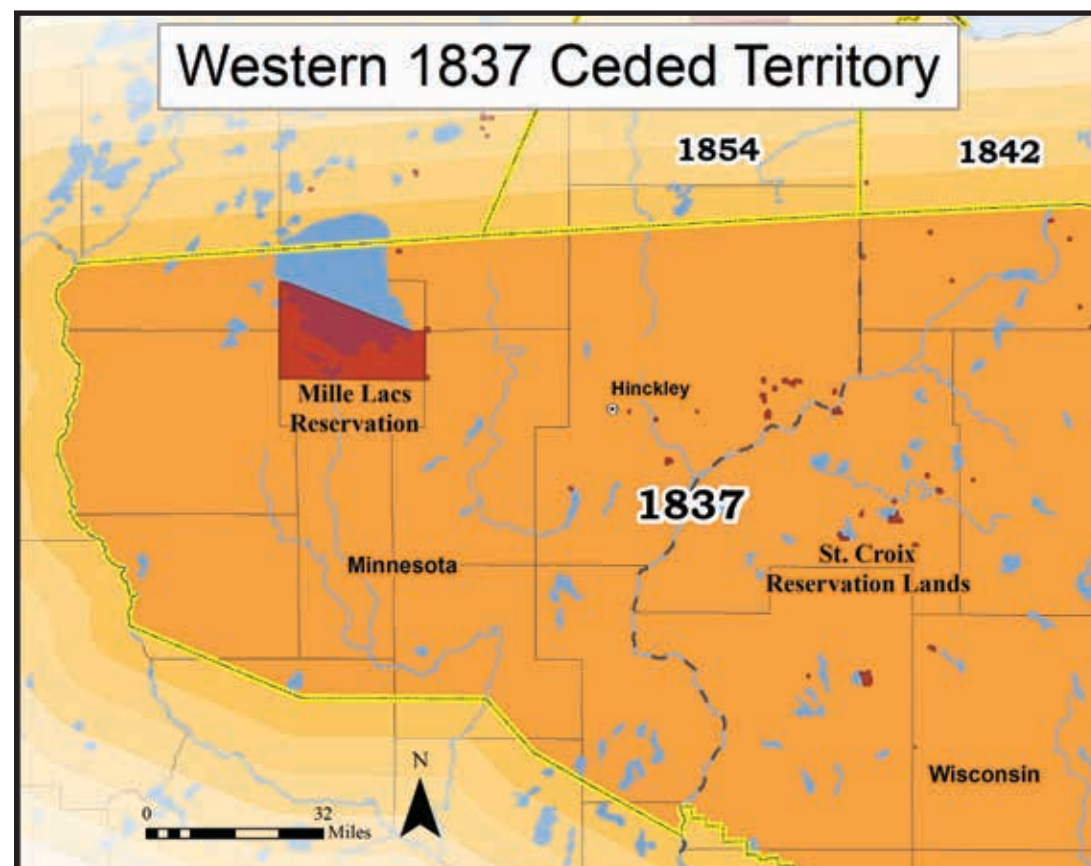
St. Croix Air Quality Manager Jamie Thompson (foreground) and Jeremy Bloomquist, water resources manager collected oga fingerlings from the gravity-fed pond kettle to pails for a short transfer to waiting hatchery trucks. (CO Rasmussen photo)

walleye and gathering them at release time. Rubber liners provide a durable barrier between the pond basins and sandy soils underneath. Gravity fed discharge pipes carry fish to a collection reservoir where fisheries staff readily scoop up walleye with dipnets and transfer them to hatchery trucks.

Up till 2013, St. Croix fisheries staff spent 22 summers at rented farm ponds situated in a pasture out in the countryside. As an ogaawag nursery, the ponds provided many productive years, Taylor said, but some complications like curious dairy cows, an overabundance of aquatic vegetation, and sedimentation issues made for a timely move to the tribe's facilities in the Gaslyn Lake community.



Using a fine-meshed seine, St. Croix natural resources staff herd walleye fingerlings toward a concrete kettle where the fish are netted and transferred to tanker trucks for delivery to regional lakes. (CO Rasmussen photo)



The western 1837 Ceded Territory contains portions of Wisconsin and Minnesota, which were granted statehood in 1848 and 1858 respectively. With many freshwater lakes and rivers, the territory is a popular recreational destination for vacationers, including walleye fishermen. (D. Unglaube map)

At a retrofitted seven-acre municipal pond skirted by a cluster of smaller waters, Mille Lacs Band Department of Natural Resources fishery specialists are raising the next generation of walleyes. Complete with a boat launch and solar-powered aeration system that operates for around 20 hours daily, the network of reclaimed wastewater ponds forms the centerpiece of a budding fish propagation operation.

"Fisheries face a growing number of challenges between invasive species, environmental conditions, land use, overfishing. It's like a big puzzle we're dealing with," said Keith Wiggins, MLB fisheries biologist. "One of the ways we have to manage these issues is through limited fish stocking. It's part of a balanced approach, a piece of the puzzle."

Wiggins said MLB's stocking program is highly selective, targeting lakes in the Minnesota 1837 Ceded Territory for supplemental walleye releases after a complete review of all fisheries survey data. When it comes to fostering a healthy fishery in some waters, boosting numbers is not always better.

"Overstocking can throw off the food web in lake," Wiggins said. "You definitely have to do your research."

Working with tribal fishers at Mille Lacs, hatchery specialists stripped eggs and milt from freshly harvested ogaawag last April. A powerful spring storm later knocked out the hatchery filtration system, however, taking a bite

Disease prevention—priority one

Prior to releasing hatchery stock into Ceded Territory waters, Mille Lacs Band fisheries specialists divide up walleye fingerlings into holding tanks, removing a subsample from each batch for disease testing. After a laboratory work-up and 24-hour quarantine, the fish will be ready for the wild. Wiggins said preventing the spread of infectious diseases and aquatic invasive species is the top priority for the Band's fishery program.

"We've all seen what invasives have done to Mille Lacs Lake," he said, pointing to exotic zebra mussels and spiny water fleas, species that have altered the lake's food web. "Tribes are always looking to develop better, safer methods to manage fisheries."

Mille Lacs Band has also extended their cautionary approach to fisheries survey equipment as well. Once an electrofishing survey craft, or shockboat, is launched into a lake, it is considered "infected," Wiggins said, and may only be operated on those waters. Even after a thorough cleaning and treatment, that boat is never used on another lake.



George Big Bear, Harvey Goodsky, and Mille Lacs Band Hatchery Program Manager Keith Wiggins transfer walleye fingerlings to an aerated holding tank. The fish are kept in quarantine for around 24-hours until Wiggins completes disease and aquatic invasive species sampling. With good test results, the young fish are released into area lakes identified for stocking. (CO Rasmussen photo)

out of walleye production near the end of incubation. Wiggins said the loss was significant, but his team still hatched-out one million walleye fry—each individual about the size of a mosquito.

After a few months feeding on plankton and larger organisms in Mille Lacs' rearing ponds, the first wave of 2-3" ogaawag were turned loose into Pierz and Mayhew Lakes. The second round of pond-grown fingerlings are scheduled for release into additional waterbodies in early October when the fish are considerably larger—up to eight-inches long.

The Mille Lacs Band is in its second fish-production season, using temporary facilities as resource officials develop plans for a new, state-of-the-art hatchery. Drawing from experience working in the Pacific Northwest, Wiggins said he may explore rearing rainbow trout and other species when a new hatchery is constructed.



Mille Lacs Band Department of Natural Resources is converting former municipal water treatment ponds into rearing grounds for hatchery-produced fish. (K. Wiggins photo)



Ceded Territory SCIENCE

Temperature and depth key conditions for adult ogaawag

In the summer and fall of 2018, adult oga were implanted with acoustic transmitters equipped with temperature (accuracy ± 0.5 °C) and depth (accuracy ± 1.7 m) sensors in Mille Lacs (Image 1). A grid of 61 receivers placed throughout the lake recorded the date, time, fish identification number, temperature, and depth (Image 2). A goal of this project is to identify the habitat that adult and juvenile oga use throughout the year, including depth and temperature. Of the 70 fish that were initially tagged, 59 were still moving throughout the grid of receivers as of May 20, 2019.

Initial findings indicate that on a daily basis adult oga used relatively shallow water 2–2.5 m (~6.5–8.2 ft) from July 10, 2018–October. From October to mid-January, fish gradually moved to deeper water, reaching a maximum average depth of ~4.5 m (~14.8 ft) by Jan 15, 2019. After which, adult oga gradually moved shallower to an average depth of 3.5 m (~11.5 ft) in early May just prior to spawning (Figure 1).

Body temperature of adult oga closely follows the temperature of the surrounding water, usually ± 1 °C (1.8 °F). On average, the daily temperature of adult oga was above 26.5 °C (79.7 °F) in early July and gradually declined to just above freezing, ~1 °C (33.8 °F), by mid-December. Fish maintained a body temperature



Image 1. Biologists (left) perform surgery on an adult walleye. An acoustic transmitter (right) is being implanted into an adult walleye. (Dr. Jocelyn Curtis-Quick photos)

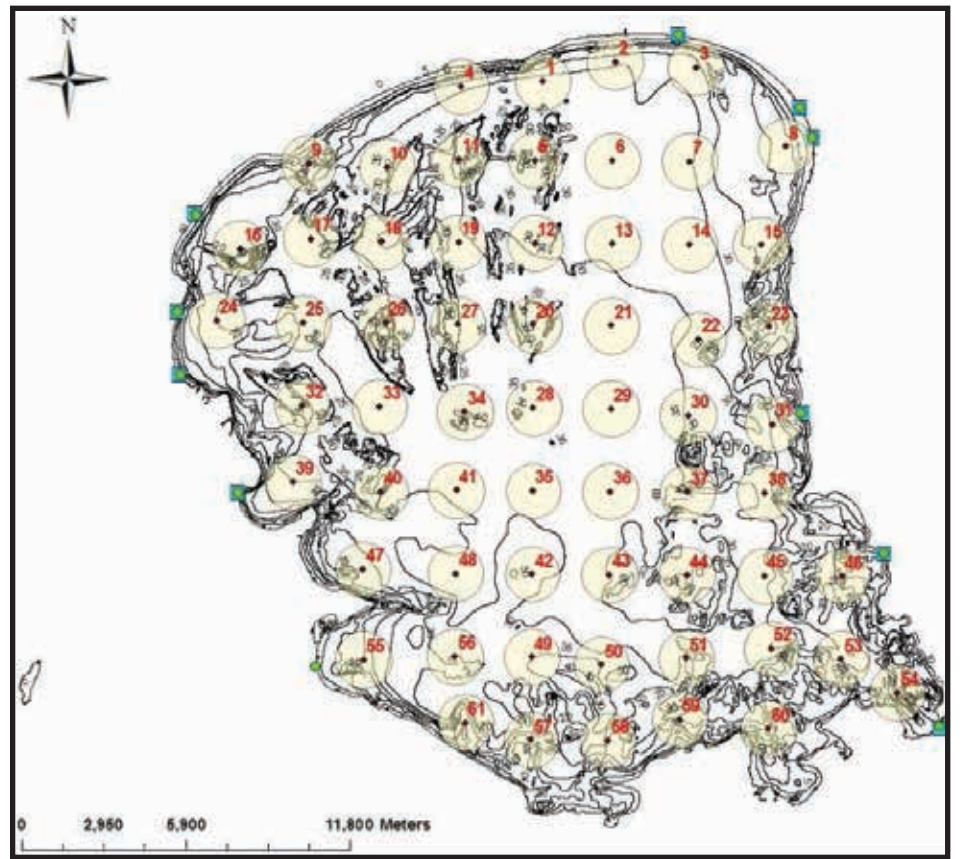


Image 2. Receivers in Mille Lacs Lake. Small black dots indicate the position of each receiver and yellow circles represent 0.8 km (~0.5 mile) listening radius. Stations are positioned 3 km (~1.5 miles) apart.

of 1–2 °C (33.8–35.6 °F) from mid-December to mid-March. The average body temperature of fish gradually increased to nearly 7 °C (44.6 °F) by mid-May as fish moved shallower to presumably warmer water (Figure 2).

Future analyses will compare depth and temperature of juvenile oga to adult oga and evaluate hourly depth and temperature profiles for both life stages. We will also include location information of both life stages throughout the year. The findings of this research will inform management strategies for the Mille Lacs Watershed. Questions or comments? Please contact Mille Lacs Band Fisheries Biologist, Carl.Klimah@millelacsband.com or GLIFWC Fisheries Biologist, aaronshultz@glifwc.org.

—Dr. Aaron Shultz, Dr. Adam Ray, Mark Luehring, Ben Michaels, Joe Dan Rose, and Carl Klimah

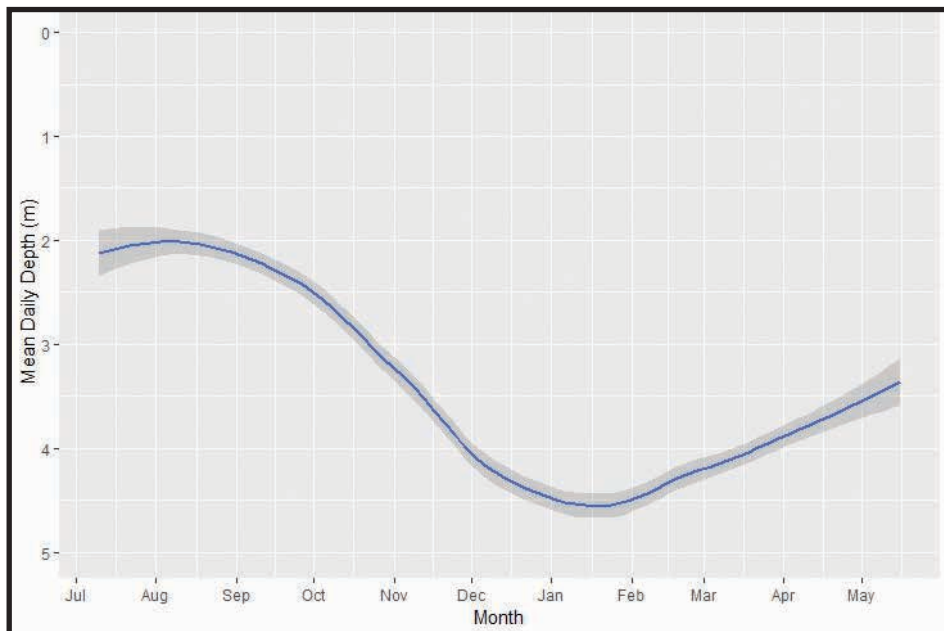


Figure 1. Mean daily depth (m) of adult oga (n=70) from July 10, 2018 to May 20, 2019. Blue line represents a smoothed daily average depth of the fish detected by the receivers on that day. Dark grey band represents \pm SE. For reference, 2 meters is approximately 6.5 feet and 4.5 meters is approximately 14.8 feet below the surface.

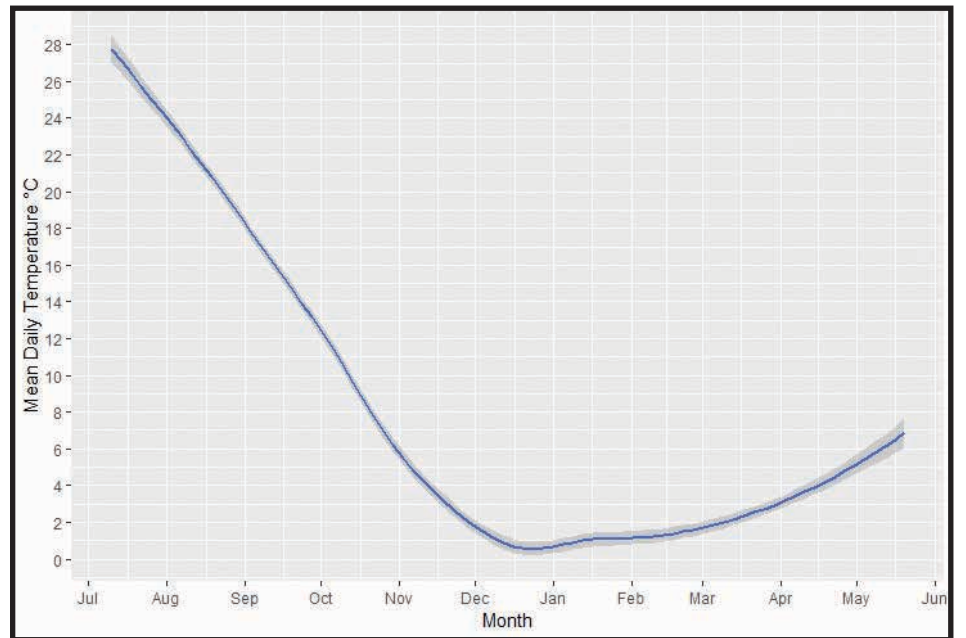


Figure 2. Mean daily temperature °C of adult oga (n=70) from July 10, 2018 to May 20, 2019. Blue line represents a smoothed daily average temperature of the fish detected by the receivers on that day. Dark grey band represents \pm SE. For reference, 1 °C is approximately 33.8 °F and 26.5 °C is approximately 79.7 °F.



CWD in the Ceded Territory

(continued from page 5)

the state appears to be taking the threat of CWD seriously and are making decisions that are biologically sound when it comes to reducing the spread of the disease.

Michigan

Michigan has plans to spend nearly \$4.7 million on various efforts associated with combating CWD. Nearly \$2.5 million is earmarked toward understanding the disease, such as early detection, the role of soil and water in CWD transmission, and developing more efficient testing options. About \$1.5 million is dedicated to practical and applied research on topics such as transmission pathways, understanding the movement of the disease in deer populations, and predicting new detections on the landscape to design better management strategies. About \$700,000 will be used on education and outreach efforts, and nearly \$500,000 will be used to encourage multi-jurisdictional coordination efforts among experts from other agencies and universities. Michigan has significantly increased their CWD testing efforts in recent years. In 2018 Michigan tested 30,751 free-ranging white-tailed deer—resulting in more tests statewide than Minnesota and Wisconsin combined.



GLIFWC Wildlife Biologist Travis Bartnick preparing lymph node samples from deer harvested in the fall of 2018. (COR photo).

Wisconsin

The emergency rule that was passed in 2018 to require enhanced fencing on captive cervid facilities expired in February 2019. The Wisconsin Department of Natural Resources (WDNR) and the Department of Agriculture, Trade, and Consumer Protection (DATCP) have said that they plan on working together to develop a new set of rules and regulations for the captive cervid farming industry. The decisions for the agencies to pull back from the 2018 efforts to mandate enhanced fencing and other CWD-related regulations has been described as “disappointing” from groups such as the Wisconsin Wildlife Federation. Captive cervid industry leaders have stated that regulations such as enhanced fencing and live cervid transportation regulations will not prevent the spread of CWD in the state, despite several documented cases of captive cervid farms having transported live CWD-positive deer between captive cervid facilities in the state in recent years, and the detection of wild CWD-positive deer near CWD-positive captive cervid facilities. Research has suggested that fence-line contacts between captive and wild deer have the potential to transmit both bovine tuberculosis and CWD. Some captive cervid industry leaders have claimed that they are breeding for genetic resistance in their captive herds. Research has suggested that deer with genetically resistant traits could prolong the life of a CWD-infected deer by several months or even years. This might provide a limited benefit to the captive cervid industry as long as states like Wisconsin maintain a policy that does not require the depopulation of CWD-positive cervid facilities, but it also means that the genetically resistant deer will be able to shed the infectious prions into the environment for a longer period. This could lead to those captive cervid facilities having a higher concentration of prions in the environment than in facilities that did not breed for resistance. This would be problematic if at some point in the future the facility were to get out of captive cervid business, potentially leading to a higher risk of infection to any wild deer or elk that visited those properties.

There is no evidence that wild deer and elk herds with genetically resistant individuals will benefit from a genetically resistant trait. The genetic resistance does not prevent deer from becoming infected with CWD, so it's likely that genetically resistant wild deer that become infected with the disease will spread it through the environment for a longer time than deer that do not have genetically resistant traits.

The WDNR is planning on conducting surveillance efforts on the northern region of the state in 2019, including a focus on most Wisconsin counties within the Wisconsin Ceded Territories. This means there will be additional CWD testing opportunities (CWD sampling stations, self-serve kiosks, etc.) for deer hunters in the northern region of the state.

Please visit GLIFWC's CWD webpage (<https://data.glifwc.org/cwd>) for additional information including an interactive map of all known locations of CWD-positive wild deer and captive cervid facilities that have tested positive. There are also safe handling and disposal recommendations, answers to frequently asked questions, and links to a video series that covers safely field dressing and boning-out deer meat using methods to avoid areas where CWD prions accumulate in deer.

Native fire management

(continued from page 1)

a blending of smoke—whitish blue, rising into shades of caramel—rose into a column piercing the upper atmosphere.

“What we really want is for fire-adapted plants to establish like sand cherries and service berries,” Maziasz said. “After so many burns in the same units, there's a threshold where fire-adapted species return to the land.”

On this same landscape, GLIFWC, Red Cliff Band, and Bad River Band are working with the US Forest Service and others to restore a self-sustaining sharp-tailed grouse population. For more information about the ecology and management of the Moquah Barrens see: <https://www.fs.fed.us/wildflowers/regions/eastern/MoquahPineBarrens/index.shtml>



From June 14 to June 16, the Fond du Lac Band held a language and cultural camp at Kiwenz Campground. This year, over 350 people attended the camp. Attendees participated in a wide range of activities offered by camp organizers. At arts and craft stations, people learned to make beaded earrings, popsockets for mobile phones, moccasins, knockers, faceless dolls, drumsticks, and birch bark baskets. Fluent speakers travelled between stations to give an overview of the events in Ojibwe for the participants. There were also games to play such as horseshoes and tug-of-war. Other events included a children's relay race, a family walk/run, a science show by Dr. Arne Vainio, and canoe races. A kid's tent was also available for children to color, play games related to Anishinaabe culture, and learn from Ojibwe speakers. The above photo shows a variety of moccasin patterns featuring traditional designs. —E. Falck

Manoomin

(continued from page 3)

that seem devoid of rice altogether. But the good news seems to be that there is rice out there; if your go-to spot is having an off year, another spot may be able to make up for it.

As abundance information becomes available, we will be posting it on our website (follow the *Manoomin Harvest Information* link). Be sure to check it out; we'd love to save you some gas, and help the manoomin, by directing ricers to the most pickable beds. Information on the openings of date-regulated lakes will be posted once the state and tribal opening authorities make those determinations.

And, as always, be sure to harvest in a good way. Maturation may be as variable as abundance this year, and some beds may not be ready to pick until others are nearly done. By picking carefully whenever and wherever we pick, we show our respect to manoomin, and to other manoomin harvesters.

Whatever your season brings, enjoy the time with your ricing partners, the beauty of the manoomin, and the gift of being in nature.

Healing Circle Run

(continued from page 7)

made by older generations. Elliott Amundson, a first time runner from Mole Lake who joined the run/walk after stumbling upon a ceremony by accident, was also concerned about substance abuse. He said that he chose to run for “people who are dying from drugs.”

Domestic violence was another issue of concern for many runners. Anna Lea Forest, a first time runner from the Mississauga Tribe, said that she was running for those who suffer from domestic violence and those who are not able-bodied. A survivor of domestic violence herself, Forest spent two years in a wheelchair. This year she said: “I run for all the people that can't.”

Over the course of the run, participants form new friendships and strengthen old bonds. Ceremonies in the morning and evening each include a talking circle where all participants have a chance to voice their thoughts. Karen West from Lac Courte Oreilles, who started participating in the run/walk in 2010, appreciates the comradery the event creates. “We learn to respect others views,” she said. Karen Johnson from St. Croix Band, who first participated in the Healing Circle Run/Walk in 2012, agreed with West's sentiment. She said the run/walk “makes you feel a part of something.”

Participating in the Healing Circle Run/Walk is also a great way to learn about history and culture. West said participants have the chance to learn about treaties and “learn about the struggles our ancestors have had to go through.” By giving people the chance to participate in ceremonies and listen to elders, the Healing Circle Run/Walk provides an opportunity for people of all ages to learn more about Ojibwe culture.

Many participants were happy to see younger members of the community involved in the run this year. Miles Falck, a member of the Oneida tribe who first participated in the run/walk in 2001 said: “It's important to have positive activities like attending cultural events and fishing, hunting, and gathering traditional foods to replace self-destructive behaviors stemming from addiction and alcoholism.”

While each runner may have their own personal reasons from running or walking, the run/walk provides a space for them to share their stories with others who may have similar stories, and to heal together. Although the run/walk is not a vacation, participants share many fun moments together and are sad to leave when their time on the run/walk is over.



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

Aaniin ezhichigeyan noongom? Aaniin waa-izhichigeyan? Gimanoominike na? Mewinzha, Anishinaabeg apane gii-manoominikewag gaa-dagwaaging apane. Oshki-ayaa'aag, gidaa-wiidookawaawaag gidasigewaad. Gidayaana ina biiwaabiko-jiimaan? Gidaa-wiizhaamaa. Nanda-gikendan manoominikewin! Gaye Ojibwemowin sa go! Gigagwedwem Anishinaabe-akiing, gaye gikinoo'amaadiiwigamigong. Noongom izhaadaa agwajiing! Gwayakochigedaa! Giiyosen! Giigooyiken! Manoominiken! Ojibwemon! Gitigen! Nanda-gikendan! Miigwech!

(What are you doing today? What do you want to do? Do you go wild ricing? Long ago, Indian people always harvested wild rice when it was fall. Young people, you all should help them when they parch wild rice. Do you have an aluminum canoe? You should invite him or her along. Seek to know how to do the wild rice process! Ojibwe language too! You all inquire about it in Indian country and at school. Now let's all go outside! Let's all do things right! Hunt! Fish! Make wild rice! Speak Ojibwe! Garden! Seek to know things! Thank you!")

<p>Bezbig—1</p> <p>Double vowel system of writing Ojibwemowin. —Long vowels: AA, E, II, OO Waabooz—as in father Miigwech—as in jay Aaniin—as in seen Mooz—as in moon</p> <p>—Short Vowels: A, I, O Dash—as in about Ingiw—as in tin Niizho—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>OJIBWEMOWIN (Ojibwe Language)</p> <p>VTI: "To it" Verbs, Inanimate, Transitive; action for INANIMATE things only!</p> <p>Waabandan!—See it! Ganawaabandan!—Watch it! Baakinan!—Open it up! Gibaakwa'an!—Shut it! Odaapinan!—Pick it up! Biidoon!—Bring it! Miijin!—Eat it! Minikwen!—Drink it! Aabajitoon!—Use it! 1st type ends in -an. 2nd: -oon, -in or -en Niwaabandaan(an).—I see it (those). Giwaabandaan(an) onaagan.—You see it (those). Owaabandaan.—S/he sees it. Nimbiidoon(an).—I bring it (those). Gibiidoon onaagan.—You bring a dish. Obiidoon(an).—S/he brings it (those).</p>	<p>Niizh—2 <i>Circle the 10 underlined Ojibwe words in the letter maze. (Translations below)</i></p> <p>A. Biinidigen! Daga namadabin omaa! Gimiijin ina <u>manoomin</u>?</p> <p>B. Miigwech. <u>Nizaagitoon</u> manoomin. Eya', niwii-miijin.</p> <p>C. Giwii-minikwen ina doodooshaaboo <u>gema</u> <u>dakib</u>?</p> <p>D. Gidayaana ina makade-mashkikiwaaboo? <u>Dakaayaa</u> agwajiing.</p> <p>E. Gaawiin indayaanziin. Niwi-izhaa <u>wiisiniwin</u>-adaawewigamigong</p> <p>F. Nindodaapinaan waawanoon miinawaa <u>wiyyaas</u>.</p> <p>G. <u>Bimide</u> gaye doodooshaaboo.</p> <p>H. Wegonesh waadaaweyan <u>imaa</u>?</p> <p>I M A A M Y B O N D A A I H S A K N T M G D K A S O N I N A A A I W O I D G M A Z E D I M O E E Y Y W I A O E I H G I S A E I K D N Z N N N I Z A A G I T O O N W Z O O E M A B N B E A P G W I I S I N I W I N</p>
<p>Niswi—3</p> <p>IKIDOWIN ODAMINOWIN (word play)</p> <p>Down:</p> <p>1. also, too 2. outside 3. blueberries 8. always 9. here</p> <p>Across:</p> <p>4. You have it. 5. yes 6. Open it up! 7. Do gardening! Farm! Plant! 10. or, maybe</p>	<p>Niiwin—4</p> <p>What do you want to eat for supper? Wegonen waa-onaagoshi-miijiyan?</p> <p>Niwii-miijin naboob.= I want to eat soup. Niwii-miijin mizise-wiyyaas.= I want to eat turkey meat. Nookomis ogii-piidoonan miinan miinawaa ode'iminan. = My grandma brought the blueberries and strawberries. Nisaye ogii-ozhitoon mishiiminaaboo. = My older brother made the apple cider. Niwii-minikwen mishiiminaaboo. = I want to drink the apple cider. Dagwaagin wiisiniwinan—Fall foods Mitigominan—Acorns Mandaamin—Corn Okosimaan—Squash, pumpkin</p> <p>1. _____ waaband _____ makade-mashkiki-waaboo 2. Nin _____-waabandaanan mitigominan anaami-mitigong. 3. Ni _____-onzaanan mitigominan idash baamaapi ni _____-kibozaanan mitigominan. 4. _____ wii-piidoon _____ ina manoomin idash aniibiish? 5. _____ wii-odaapin _____ naboob wii-naawakweg.</p>	<p>Ni— -aan Wiigii— Gi— -an O— -aan</p>



Bakwezigan(ag) Bread(s)

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

Translations:
Niizh—2 A. Come in! Please sit here! Do you eat wild rice? B. Thank you. I love wild rice. Yes, I want to eat it. C. Do you want to drink milk or cold water? D. Do you have black-medicine-liquid (coffee)? It is cool weather outside. E. No, I do not have it. I want to go to the grocery store. F. I will pick up eggs and meat. G. Butter and milk too. H. What do you want to buy there?
Niswi—3 **Down:** 1. Gaye 2. Agwajiing 3. Miiinan 8. Apane 9. Omaa **Across:** 4. Gidayaana 5. Eya' 6. Baakinan 7. Gitigen 10. Gema
Niiwin-4 1. She sees the coffee. (O- -aan) 2. I saw the acorns under the tree. (gii-) 3. I will boil the acorns and later I want to roast acorns. (wii-) 4. Will you bring the wild rice and tea? (Gi-, -an) 5. I will pick up the soup at noon. (Ni- -aan)

There are various Ojibwe dialects; check for correct usage in your area. The grammar patterns may help a beginner voice inanimate and animate nouns and verbs correctly, as well as create questions and negate statements. Note that the English translation will lose its natural flow as in any world language translation. This may be reproduced for classroom use only. All other uses by author's written permission. Some spellings and translations from *The Concise Dictionary of Minnesota Ojibwe* by John D. Nichols and Earl Nyholm. All inquiries can be made to **MAZINA'IGAN**, P.O. Box 9, Odanah, WI 54861 lynn@glifwc.org.



What's up with hatcheries?

Boozhoo everyone! Today is a special day! Today is the day that our tribal fish hatchery will release giigoonyag (fish) into our local lakes and rivers.



These oгаа were raised in a fish hatchery and are now ready to be put back into the lake. Fish hatcheries release fish in both on and off-reservation waters.

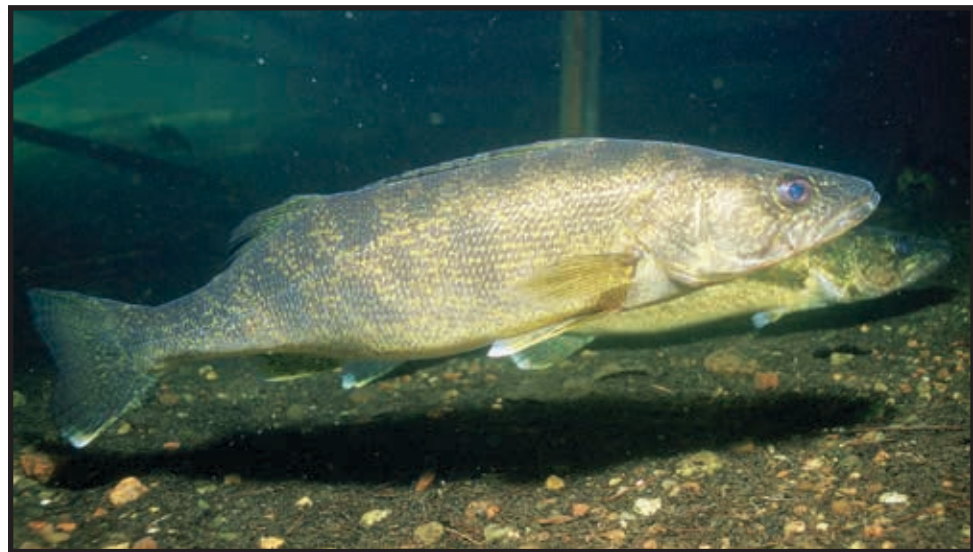
What is a fish hatchery you might ask? A fish hatchery is a place on our reservation that takes fish eggs and incubates them in different types of containers. Incubate is just a fancy word that means the temperature is perfect for the eggs to hatch and grow.

Once the eggs hatch and the little fish can grow a bit, our fish hatchery crew feed and help to nourish (keep them healthy, and in good condition) the babies. At this point, the baby fish are called fry and are about an inch long. Eventually they will grow and get bigger. When they are too big for the inside containers and ponds, they get placed in our big fish ponds.

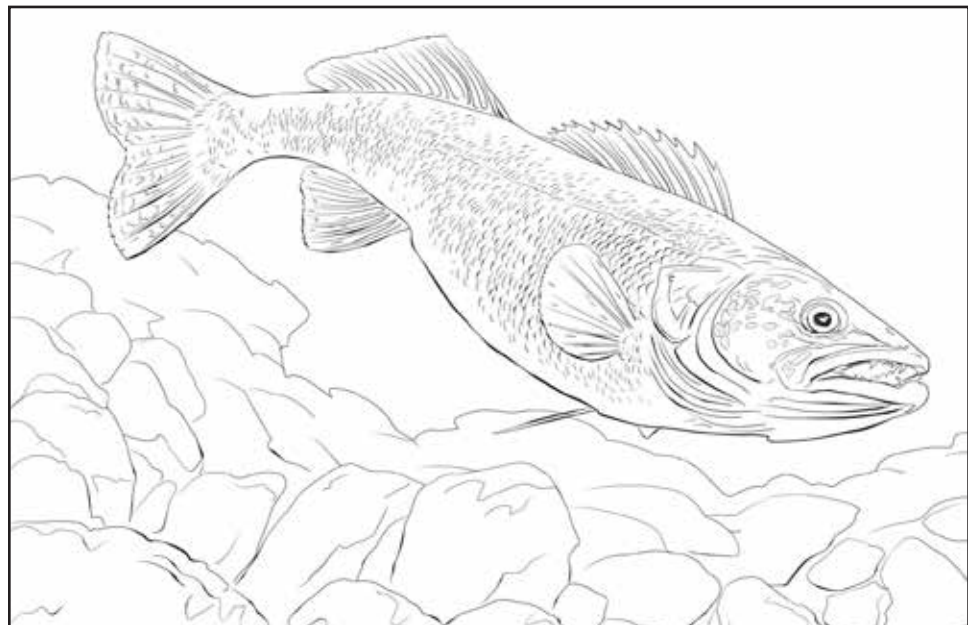
In our community we grow almost a million oгаа (walleye) every spring. They take months to grow and finally towards the end of summer, our fish hatchery crew puts the fingerlings in big tanks on a truck. Fingerlings is another word that we use to describe the fish because they are about the size of a finger.

All of these little fish get released in different parts of the local rivers and lakes (see front cover). We do this every single year because we love our waters! My nimishoomis (grandpa) always says there needs to be balance. We don't just take fish, we always give back and honor our relationship with giigoonyag.

—B. Jennings



Oгаа. (E. Engbretson, Eric, U.S. Fish and Wildlife Service photo)



Color the picture of oгаа. (supercoloring.com)

FISH HATCHERY WORD SEARCH

Read the story and use the clues to figure out the word. Write the word and then find the word in the word search puzzle.

- Where do the fish go when they are too big for inside containers?
Write the word: _____
found _____ times in the word search
- When are fish big enough to be put back into lakes and rivers?
Write the word: _____
found _____ times in the word search
- What is the Ojibwe word for grandpa?
Write the word: _____
found _____ times in the word search
- Name a place where fish eggs are raised.
Write the word: _____
found _____ times in the word search
- What is the Ojibwe word for walleye?
Write the word: _____
found _____ times in the word search
- What is the Ojibwe word for fish?
Write the word: _____
found _____ times in the word search
- What is a fish called when it is about 1-inch long?
Write the word: _____
found _____ times in the word search
- What is a fish called when it is about the size of your finger?
Write the word: _____
found _____ times in the word search

F R Y G I I G O O N Y A G I
 F I S H P O N D S U M M E R
 I G F I N G E R L I N G I N
 S F N S U M M E R C G Y Y I
 H G I I G O O N Y A G R F M
 H G M N H R O G A S E M I I
 A F I S G Y F A Y H O F S S
 T I S I R E A I C H G I H H
 C S H F G G R T S I A S P O
 H H O S G O A L S H A H O O
 E P M O U H O S I U P P N M
 R O I A H M F N U N M O D I
 Y N S S Y F M Y Y M G N N S
 P D I R E F R E M A M D E D
 H F F N N F U Y R S G M E M

Answers: 1) fish pond, found 5 times in the puzzle; 2) summer, found 3 times in the puzzle; 3) nimishoomis, found 1 time; 4) fish hatchery, found 2 times; 5) oгаа, found 1 time; 6) giigoonyag, found 3 times; 7) fry, found 4 times; 8) fingerling, found 2 times.



Outreach key in protecting future of endangered piping plovers

By Paula Maday, Staff Writer

Chequamegon Point is the nesting ground for a small, sparrow-sized shorebird that is endangered in the Great Lakes region. The piping plover (*Charadrius melodus*) migrates to this part of Long Island every year to breed in one of only a few nesting grounds in Wisconsin.

The birds are drawn to Long Island's wide, open sandy beaches. It is the perfect habitat for the female to lay eggs in a small, shallow nest along the shoreline. The nest is camouflaged among the sand, as are the birds, which sport sand-colored upper bodies, white underbodies, and orange legs. During breeding season, adult piping plovers also sport a black forehead, black breast band, and orange bill.

Piping plovers are migratory birds that winter along the Gulf of Mexico, and then fly to northern US and Canada to breed in the spring and summer. From the time they show up at Chequamegon Point, until the time they leave approximately 2.5 months later, Bad River Natural Resources staff monitors the birds and their nesting grounds. They observe the birds twice per day, and put up enclosures to protect nests from any local predators such as fox or coyotes. They also band the legs of piping plover babies after they are born, to track who and how many return.

These efforts are necessary for a species that is endangered due to two primary reasons: loss/degradation of habitat, and nest disturbance. Many traditional nesting spots for piping plovers have been lost due to residential, commercial, or recreational developments. Additionally, changing water levels pose problems from flooding to allowing for too much vegetation growth. Disturbances to nests by humans, dogs, cats, or predators can cause parent birds to abandon their nests, or eggs to be crushed.

In addition to habitat protection, national, state, and tribal agencies have engaged in recovery planning, research, and public education campaigns in order to prevent extinction of the piping plover. GLIFWC conservation warden Christina Dzwonkowski-Burns used to work for Bad River Natural Resources, where she assisted with efforts to protect the bird. "I worked at Bad River during a record setting year," she says. "Seventeen piping plovers fledged that year."

Dzwonkowski-Burns' interest and love for these stocky shorebirds continues to this day, and she was recently able to bring that interest into her own outreach efforts with local youth. Using materials on loan from the St. Louis River Alliance, Dzwonkowski-Burns brought an educational piping plover program to 175 kids within the Ashland area in May.

With Bad River Wildlife Specialist Lacey Hill-Kastern (who wore a piping plover suit!) Dzwonkowski-Burns shared information about the endangered species and their habitat. A clear beach box borrowed from the St. Louis River Alliance allowed them to show a recreated habitat and nest.

"We also taught them about safety things that the birds do," she said. "For example, if a predator is around, one parent will fly away from the nest, make a specific call, and fly like they have a broken wing. This lures the predator away from the nest."

Early education is one way to encourage interest and care for the continuing survival of the piping plover, especially in an area that is home to one of the last few nesting grounds in Wisconsin. And as a species that is facing many challenges, it is important to appeal to upcoming generations of caretakers. According to the Audubon Society's climate model, piping plovers are projected to lose more than 29% of non-breeding range by 2080, with only 38% of its original summer range remaining.



GLIFWC Conservation Warden Christina Dzwonkowski-Burns and Lacey Hill-Kastern, as the piping plover, taught kindergarten kids about the endangered bird during Science Day at Northern Great Lakes Visitor Center in May. (submitted photo)

Mooz vulnerability

(continued from page 5)

Mooz uses a variety of habitats, including wetlands, shrublands, and conifer, hardwood, and mixed forests. Mooz seem to require both young and old forests. Young forests, shrublands, and aquatic habitats are important for food; mature closed-canopy forests are important for cover. Mooz select habitat based on the density, biomass, and nutrition of browse (food).

Mooz was once widespread and abundant, but populations declined due to habitat loss, competition with deer, disease, and hunting pressure. Mooz was reintroduced in Michigan, and the 2019 population in the western Upper Peninsula is 509 animals. In Minnesota the population peaked in 2006 and has since declined over 50% to around 4,000 individuals. Mooz was extirpated from Wisconsin until the early 2000s, when it began dispersing naturally into the state. Wisconsin's mooz population is currently less than 50 individuals.

Summary of climate threats:

Mooz has become a symbol of climate change in the region and is the subject of intensive studies. Climate change is expected to cause many direct (such as increasing temperatures), and indirect (such as increased competition and predation, diseases, and changes in vegetation and snowpack) effects on mooz. Declines have already been linked to increasing temperatures, and there are multiple aspects of mooz's natural history that make it vulnerable to climate change.

Factors that increase mooz's vulnerability to climate change:

- SI** **Natural barriers:** Lake Superior is a barrier to northward shifts in mooz range, though it is likely that the range of mooz will contract over time instead of individuals moving north.
- I** **Physiological thermal niche:** Multiple sources suggest that mooz is likely to be influenced by increases in temperature. One study found that mooz experiences heat stress at temperatures above 23°F in the winter and 59°F in the summer, though those thresholds are still under investigation. Temperatures over portions of their range may also be moderated by Lake Superior. Increased temperatures and heat stress may influence movement patterns, limit the use of some habitats, and influence its distribution. Declines in the Minnesota mooz population have already been correlated with increasing temperatures.
- SI** **Historical hydrological niche:** The area that mooz occupies has experienced slightly lower than average variation in precipitation in the past 50 years.
- N/SI** **Physiological hydrological niche:** Mooz depends on aquatic habitat in much of its range. Mooz typically utilizes wetlands for food in the late spring and early summer during peak sodium requirements, and again in the late summer when there are abundant aquatic plants. Drying of wetlands during those times may negatively impact mooz. In some areas of northeast Minnesota, however, mooz uses relatively few wetlands.
- I** **Dependence on snow or ice:** While mooz is not directly dependent on snow, it is a winter-adapted being/species better suited for long winters than shorter and warmer winters, and mooz range overlaps with areas with a seasonal snow cover. Other snow-related adaptations for mooz include legs that allow them to travel through deep snow, fat reserves for cold winters, and a thick winter coat. Mooz can easily feed in areas with fluffy snow; snow that becomes crusty or icy from warmer temperatures or rain can make feeding difficult.
- I** **Pathogens or predators:** Many predators of mooz, such as ma'ingan (wolf) and makwa (black bear), are expected to increase; predation accounts for up to 80% of calf mortality. There are also many pathogens that affect mooz. Severe winter tick infestations have been documented and may intensify if increasing winter temperatures allow ticks to better survive the winter. One individual mooz has been found with over 100,000 ticks. The ticks feed on the mooz and irritate its skin, causing it to rub hair off its body, and increasing energy expenditures, heat loss, and stress. Brainworm can affect mooz where waawaashkeshi (white-tailed deer) range overlaps. Giant liver flukes have also affected mooz in Minnesota. Other parasites and diseases are possible as well as conditions change.
- SI/I** **Competition:** Research suggests that an increasing waawaashkeshi population will negatively affect mooz. There is little competition between the beings/species for browse, but waawaashkeshi carries brainworm and liver flukes that can harm mooz. Additionally, higher waawaashkeshi numbers may lead to higher ma'ingan numbers and increased predation on mooz.
- SI** **Genetic variation:** Research indicates mooz has low genetic variation in general, particularly in the Ceded Territories where reintroductions occurred.
- N/SI** **Documented response to climate change:** Mooz populations in northeast and northwest Minnesota have shown dramatic declines. In other parts of its range, such as Michigan, the population is relatively stable.



A clear, acrylic "beach box" borrowed from the St. Louis River Alliance shows a recreated piping plover, its habitat, and nest. (C. Dzwonkowski-Burns photo)

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



Summer internships provide diverse experiences at GLIFWC

By Kayla Plucinski, Public Information Office Intern

GLIFWC's summer internship program entered its sixth season in 2019. Headed by Program Coordinator LaTisha Coffin, the Commission hired nineteen interns this summer. Internship positions ranged from working with the administrative side of GLIFWC to fieldwork and even video game development.

Biological Services Division Biological Administration

Returning for her second year as a GLIFWC Intern, Joslyn Beaulieu-Newago (Red Cliff), continued her role as the Biological Administration intern. Going into her second year at Northern Michigan University, Joslyn helps GLIFWC's biological services department by assisting with the Healing Circle Run/Walk. Joslyn was also able to try out different positions within the biological services department at GLIFWC.

Climate Change

This year's intern for the Climate Change department was filled by Red Cliff tribal member Gabrielle Farrell. Working with professional staff from the department, Gabrielle participated in a phenology project which studied how plants are being affected by climate change. Along with that, she worked with traditional ecological knowledge and a seed bank project. She is going to be a junior at the University of Minnesota-Twin Cities pursuing a degree in speech-language-hearing sciences.

Environmental Mining

Another internship this summer was the environmental mining internship where Sasheen Goslin sifted through and digitized mining documents to help GLIFWC be prepared for future explorations in several mine sites. Some of these sites include the Lynne Site in Oneida County, Wis, and the White Pine Mine in the Upper Peninsula of Michigan. Sasheen is Prairie Band Potawatomi and a member of the Red Cliff Band. She is going to be a senior at Haskell Indian Nations University majoring in environmental science.

Forest Structure

The forest structure internship saw two interns again this year with Candace Thompson and Nam Corn. Together the two of them surveyed forest plots in areas used by waabizheshi (American marten) to see how the population is doing.

Candace (Lac du Flambeau) is going into her second year at the University of Wisconsin-Stevens Point and is a wildlife ecology major and Native American studies minor. Nam is a Menominee tribal member who is attending Haskell Indian Nations University in Kansas. He will be a sophomore in the fall and has a natural science major.

Manoomin Archive

Lauren Schluter spent her summer as the manoomin archive intern. She was in charge of documenting and scanning a journal of a man from the Rhinelander area who recorded 30 years worth of ricing activities. Lauren is from Minneapolis and recently graduated with a degree in humanity and nature studies with an emphasis in natural history, biology, and a minor in Native American studies from Northland College.



Interns participating in this year's Healing Circle Run were: Sarah Locke, administrative intern; Sasheen Goslin, environmental mining; Joslyn Beaulieu-Newago, biological services; Eleanore Falck, public information office; and Gabrielle Farrell, climate change. (submitted photo)

Manoomin

The manoomin internship was filled this year by Christian Dahlquist and Lindsay Miller. The team worked together to assist in preparing for and conducting field surveys of wild rice waters in northern Wisconsin. They also monitored wild rice restoration locations and took soil samples in the Ceded Territories.

Christian recently graduated from University of Wisconsin-River Falls with a degree in field biology. He is originally from Stillwater, Minnesota. Lindsay is from Charlottesville, Virginia, and attends the College of William and Mary in Williamsburg, Virginia. She will be a junior in the fall, majoring in biology and environmental science and policy.

Wiigwaas

Second year intern, Sky Isham, and her field partner, Bryce Danke were this year's wiigwaas interns. The two conducted site assessments of white birch in locations selected by TEK (traditional ecological knowledge) holders that may have potential canoe sized birch. Together they traveled across the Upper Peninsula of Michigan and up the coast of Minnesota in search for these sites.

Sky Isham is a Menominee tribal member who just graduated with her associate's degree from Fox Valley Technical College and is now pursuing her Bachelor's Degree in Forestry and Ecosystem Restoration at University of Wisconsin-Stevens Point. Bryce Danke (Bad River) is about to begin his second year at Northland College in the fall and is thinking about pursuing a degree in either forestry or natural resources.

(see 2019 interns, page 20)



Candace Thompson and Nam Corn



Lindsay Miller & Christian Dahlquist



Lauren Schulter



Sky Isham



Bryce Danke



Khousheng Mow



2019 summer internships

(continued from page 19)

Great Lakes

Another partner internship was in Great Lakes section. Dale DeNasha and Khousheng Moua worked together this summer to set and record sea lamprey trapping results. They also performed diet studies and assessments on Lake Superior siscowet.

Dale DeNasha, who is a Lac Courte Oreilles tribal member, is set to graduate this fall from Lac Courte Oreilles Community College with an Associate's Degree in Agriculture and Natural Resources. Khousheng Moua is from Milwaukee and is attending Northland College. He is entering his junior year majoring in natural resources and biology with minors in chemistry and environmental studies.

Inland Fisheries

The Inland Fisheries internship took on Ma-Sha-Quit McPherson and DeVonna Lord this year. They assisted with acoustic telemetry projects on Mille Lacs Lake and Bay Mills, and performed comparative walleye recruitment study on inland lakes throughout the Ceded Territories in Wisconsin.

Ma-Sha-Quit "Mac" McPherson (Menominee) is attending the University of Wisconsin-Stevens Point and working towards a degree in conservation law enforcement with minors in wildlife and criminal justice. DeVonna Lord attends Purdue University and is from Plymouth, Indiana. She is going into her senior year and is studying natural resources and environmental science.

Public Information Office

The Public Information Office hired Eleanore Falck (Oneida) as a Graphic Artist. Eleanore is working to create a mobile game to teach middle school-aged children about treaty rights and tribal sovereignty. She is going to be a sophomore at the University of Wisconsin-Stout majoring in game design and development-art.

Another intern in the Public Information Office was me. As a second-year intern, I created e-books from GLIFWC publications, took pictures and wrote articles for the *Mazina'igan*, and worked on a past project connecting rivers to their Ojibwe names. I am a Bad River tribal member and will be going into my third year at the University of Wisconsin-Green Bay majoring in biology with a pre-veterinary emphasis.



Kayla Plucinski

Enforcement

Stanlee Kmiecik interned in the Enforcement Division within GLIFWC. This summer he joined field wardens when they go on daily patrol and assisted in youth events facilitated by the Enforcement Division. Stanlee is a Bad River tribal member who just received his Associate's Degree in Wildland/Wildlife Law Enforcement from Vermillion Community College in Ely, Minnesota.

Extern from Cal. joins GLIFWC for the summer

Curtis Vandermolen of Sacramento, California is working at GLIFWC this summer as a legal extern with the Division of Intergovernmental Affairs. Through his position, Curtis performs legal research and prepares arguments related to environmental issues that GLIFWC is involved in.

Some of the specific work he is doing includes making comments to the US Fish & Wildlife Service regarding the delisting of ma'ingan, completing research related to water diversions from the Great Lakes, and looking into changes and updates to the *LCO v. State of Wisconsin* case that reaffirmed inland treaty rights.

Curtis has a Bachelor's Degree in Political Science from California State University—Sacramento. He spent ten years as a policy analyst with the California State Assembly, and served as deputy director of the California Transportation Commission. These days, he owns a small consulting firm that works with local governments and non-profit organizations, and is on track to complete law school through an accelerated program in Sacramento. Curtis lives in rural California with his wife, a Bad River tribal member whom he met swing dancing. They have five children..

—P. Maday



Administration

Sarah Locke was the administration intern this year and she worked to input historical and legal documents into the OnBase information platform. Putting these documents into this database will allow them to be preserved and easily accessible. Sarah is an Aleut native from the village of Aleknagik, Alaska and is currently living in the Chicago area. She is going to the University of Illinois at Urbana-Champaign and will be a junior studying political science and sociology with minors in criminal law, and society.

Planning and Development

Madelyn Wiggins and Julie Houle had Tribal Planning internships this summer and worked with GLIFWC employees on the GLIFWC Chippewa Ceded Territory Traditional Food Regulatory System project. They prepared food, set up, took and transcribed notes at the community roundtables held in the 11 member tribes.

Madelyn is from Bad River and will be a freshman at Gogebic Community College in the fall. Julie will be attending Fond du Lac Tribal and Community College as a law enforcement major. She is also from Bad River.



Dale DeNasha



Ma-Sha-Quit McPherson



DeVonna Lord



Stanlee Kmiecik



Madelyn Wiggins



Julie Houle



Great Lakes interns—sea lamprey control

First GLIFWC interns of the year, Northland College students Peyton Keith and Tim Erickson got an early start last spring when school was still in session. Peyton, a Red Cliff member, and Tim spent a good deal of time at Bad River Falls working on invasive sea lamprey monitoring and control. (M. Plucinski photo)



Educators attend inaugural Climate Strong! educator institute

By Cat Techtmann, UW-Ext. Env. Outreach Specialist & Rob Croll, GLIFWC Climate Change Program Coordinator

A diverse group of 25 teachers and community educators attended the 2019 Climate Strong! Educator Institute, July 8-12. Most of the participants were tribal educators or serve tribal youth. This is the first of three summer Climate Strong! professional development institutes planned for each of the Ceded Territory states of Wisconsin, Michigan, and Minnesota.

The 5-day program included visits to the Bad River and Red Cliff tribal communities, integrating Ojibwe traditional ecological knowledge and leadership teachings to build awareness of how climate change is affecting culture, to empower action. Bad River Elder Joe Rose, Sr. offered an opening ceremony to start the Institute in a good way, followed by a keynote address from Bad River Tribal Chair Mike Wiggins, Jr. Classroom sessions to learn about treaty rights and climate change were mixed with place-based investigations. A Kakagon River Tour led by the Bad River Natural Resources and Tribal Historic Preservation Departments helped educators understand the importance of manoomin and how

climate change and other environmental threats are affecting it. A session at the Bad River Tribal Food Sovereignty gardens reinforced connections to the land and the importance of climate resiliency.

GLIFWC climate change staff shared how their Climate Change Vulnerability Assessment combines western science with traditional ecological knowledge (TEK) to assess the impact of climate change on treaty resources. The GLIFWC team joined colleagues from the 1854 Treaty Authority and Northern Institute of Applied Climate Science (NIACS) to introduce the new *Dibagenjigaadeg Anishinaabe Ezhitwaad Tribal Climate Adaptation Menu*. Participants then discussed how both tools can be used to integrate TEK into youth climate education and action.

The educators learned about the importance of language from Apostle Islands National Lakeshore Ranger Damon Panek, and traveled to Red Cliff's Raspberry Bay Language Camp where Red Cliff Tribal Historic Preservation Officer Marvin DeFoe explained the impact of climate change on wiigwaasaatigoog (birch trees). The group was welcomed to participate in a variety of traditional activities, including a plant walk that reinforced the impact of climate change on medicinal plant species.

Throughout the Institute, educators received multi-disciplinary teaching tools and resources to build climate leadership confidence and capacity, both personally and for the youth they serve. Mini-grants for youth-led community climate resiliency projects and attending Climate Strong! community events are available to educators completing any of the Climate Strong! trainings.

Climate Strong! is a partnership between the Fond du Lac Tribal and Community College, University of Wisconsin-Extension, GLIFWC, 1854 Treaty Authority, and the Lake Superior National Estuarine Research Reserve with help from the Bad River and Red Cliff Tribes, and funding through a NOAA Climate Resiliency Grant. The goal of this 3-year program is developing competencies of educators to help them engage tribal youth in building climate resiliency within their communities.

For more information about the 2019 Climate Strong! Institute or the Climate Strong! Program contact Cat Techtmann, University of Wisconsin-Extension Environmental Outreach Specialist at cathy.techtmann@wisc.edu; phone 715.561.2695 or visit fyi.extension.wisc.edu/nglvc/climate-strong

GLIFWC welcomes new staff

Estrada welcomed as wildlife tech

Jose Estrada, Bad River tribal member, was recently hired as a wildlife technician at GLIFWC.

Through his position, Estrada spends a lot of time outdoors. In the summer, he scouts, treats, and digs up invasive plant species. In the winter, he builds and sets traps for martens and other small mammals. During the spring, Jose heads south to tribal communities, purchasing and obtaining fish used for mercury sampling and testing.

This work is not entirely new to Estrada, who has served as a limited-term employee for the last 11-12 years. Now, as he steps into a full-time role at GLIFWC, he says he's excited. "It's an adventure every day. I grew up being outside. I like to learn about plants and animals, and see the seasons come and go."

Jose graduated from Gogebic Community College with an Associate's Degree in Criminal Justice. He lives with his wife and three children in Gile, Wis. from which they adventure together to enjoy hobbies including hunting, fishing, and camping.

—P. Maday



New receptionist at GLIFWC

Visitors and callers to GLIFWC have a friendly new first point of contact when reaching out to the agency. Darcey Bender, Bad River tribal member, was hired on May 29 as the new receptionist.

In addition to answering phone calls and directing visitors, Bender oversees mailing and shipping, and assists with other administrative duties. She says she is happy to be working in a tribal, culturally relevant workplace.

To that effect, Bender recently participated in a sweetgrass harvest at GLIFWC, where she learned about the history, teachings, and stories related to this important cultural herb. Along with fellow staff, she fashioned the sweetgrass into braids to be gifted to member tribes. "It was really nice," she says. "Each part of the braid is made up of seven strands. I didn't know that before."

For many, working at GLIFWC is like working with family. For Bender, joining the GLIFWC team literally means working alongside her longtime partner, Ron Parisien, Jr., a climate change fisheries technician. Outside the office, Darcey, Ron, and three children—Xavier, age 13; Lizzy, age 11; and Dominick, age 4—enjoy camping, swimming, and maple syruping in a secret spot out in the backwoods. Bender was also recently crowned the family's best fish fryer. Whenever anyone wants fish for dinner, she's the one they call.

—P. Maday



Algae bloom

(continued from page 8)

numb lips, tingling fingers and toes and dizziness. If inhaled, toxins may cause influenza or asthma-like symptoms, runny nose or sore throat. Children may be more seriously affected because of their smaller size. Pets, particularly dogs, are also very susceptible to toxins, displaying symptoms including lethargy, difficulty breathing, diarrhea, seizures, weakness and vomiting.

While impacts to human health are generally mild, depending on the toxin, amount and type of exposure, dogs have gotten sick and died after swimming in HAB impacted waters or licking their fur after swimming.

What can be done?

For the foreseeable future, the climatic and environmental effects that contribute to HABs will continue to favor their formation, leaving control of sediments and nutrients into waterways the only way to limit their frequency. Local, state, federal and tribal agencies already have programs designed to do this; however, in many places standards may need to be revised and laws and regulations already on the books must be enforced. In the meantime, people need to know what to watch out for to keep themselves and their pets safe and help safeguard the environment.

What to look for—what to do—how to report

Blooms can look like bright green pea soup along the shoreline and in near-shore waters. They can also look like green scums on the surface or green blobs similar to spilled paint. HABs are affected by the wind and can be blown apart or pushed quickly from one shoreline to another or into the middle of a lake. A simple test involves taking some of the water into a clear glass jar (wear gloves!), shake it up and allow it to sit undisturbed for a couple of hours. If the material forms a floating layer, it may be cyanobacteria. If it sinks it is likely true algae. If you wade up to your knees (wear boots!) and can't see your feet because of the green material in the water, it's best to stay out. In any case, swim and wade in the clearest water you can find and shower thoroughly afterwards.

If you suspect there is a harmful algae bloom, or see what appears to be a fish kill or other dead or dying wildlife associated with an algae bloom, do not get in or touch the water, boat or water ski through blooms or fish where an algae bloom is present. If you do take fish from waters where a HAB is suspected make sure to wash filets thoroughly and throw away internal organs where toxins are more likely to accumulate. Most importantly, if you suspect a HAB is present, don't let kids or dogs into the water.

In Wisconsin, you can contact the Wisconsin Harmful Algae Blooms Program at 608-266-1120 to report suspected human or animal illnesses suspected to be linked to bloom exposure or use the survey link on www.dhs.wisconsin.gov/water/bg-algae/contacts.htm. Reports of blooms can be made to the Wisconsin DNR at DNRHABS@wisconsin.gov (include location, size, duration and photos for verification).



Youth return to Mooningwanekaaning for cultural teachings

By Bizhikiins Jennings, Staff Writer

Bad River youth returned to Mooningwanekaaning (Madeline Island) for yet another year of cultural and educational programming the week of July 15. This year, the group of eccentric teens learned about plant/tree identification, harvesting, and storytelling. Through a combined initiative between the Bad River Youth Department, Education Department, DNR, and Earth Partnership, youth are being afforded wonderful opportunities to reconnect with the natural environment and future career opportunities.

To cap off the week, the group of 13 teenagers helped to harvest materials for a madoodiswan (sweat lodge). The group learned the teachings and respectful harvesting practices required when acquiring the lodge poles and medicines.

While a handful of young men harvested the lodge poles, another group prepped the lodge site and created the holes in the ground for assembly. Simultaneously, a third group of the team harvested wintergreen and other available medicines to make teas.

Once everything was respectfully harvested, everyone put hands on the lodge, bending the poles and tying them in the appropriate spots. After the frame was completed, the outer rings were placed on the outside of the structure and the madoodiswan began to take shape.

Finally the blankets and tarps were draped over the finished frame, and the team anchored the edges with elaborately shaped pieces of driftwood. A short-lived mist of rain and lake water gently brushed everyone's skin, providing a great sense of relief from the radiant sun. The breeze coming off the lake kept the mosquitos and flies away from the ecstatic workers- as though the manidoog (spirits) were protecting the work being done.

Bad River Earth Partnership Coordinator Mashkode-Bizhikiikwe (Lori Lemieux) reminisces about the planning and coordination: "We just need to focus hard on these cultural activities and run with them. Many things will try and stop us from achieving this good way of life, but we need to be vigilant and put in the work for our children."

A fire was struck, and the rocks began to heat up. A small clearing nearby yielded a comfortable patch of grass and sand to take a seat. Teachers and students gathered in a circle, and the story of the madoodiswan was shared.

After the teaching, youth prepped and then crawled into the dark lodge. The sound of the waves crashing into the shore echoed the sound of the water rolling



Bad River Tribal Youth and community members gathered on Madeline Island for a multiple day workshop on respectful harvesting and sweat lodge teachings. The teens helped to construct the lodge and then had the opportunity to participate in a sweat lodge ceremony that evening. (D. Jennings photos)

off the grandfathers. Many different species of birds perched themselves nearby, curious about the doings. It was as though the island remembered the early days, an early time when the songs and language always traveled across the landscape.

Though not as prevalent as it once was, Ojibwe language and culture are beginning to resurge. Much like the fire for the madoodiswan, the flame starts small but picks up momentum. As the future leaders emerged from the sweat lodge, each could stand proud knowing that their ancestors had stood in the same spot many generations ago—wondering how they can help their people thrive into the future.

Weweni A'aw Anishinaabe Daa-Asemaake

(continued from page 9)

You are not treating the *Manidoog* in a respectful manner by doing that. You should go and get your tobacco ahead of time that you are going to use in your offering. It is not difficult for *Anishinaabe* to do that. When *Anishinaabe* goes and borrows the tobacco he is going to use, it is as if he is showing how little appreciation he has for the offerings made by the *Anishinaabe*.

Booch igo da-ni-waabamigod inow Manidoon ezhichiged. Mii i'iw enendamaan niin, debinaak wii-toodawaad inow Manidoon, mii-go ge-wiinawaa aazhita debinaak da-ni-doodaagod.

I am sure the *Manidoog* see what the *Anishinaabe* is doing. I believe that when *Anishinaabe* treats the *Manidoog* with such little consideration, they too will in turn treat their *Anishinaabe* in the same fashion.

Booch apane a'aw Anishinaabe oada-bimiwinaan inow odasemaan; mii a'aw epenimoyang. Ishke gegoo ani-izhiwebizid maagizhaa gaye inow odinawemaaganan, mii-go gaabige imaa da-asemaakepan bimiwinaad inow odasemaan. Ishke gaye nichiiwak megwaa bimi-ayaawaad ingiw Binesiwag, mii-go gaabige imaa da-biindaakoonaapan inow Binesiwagan.

The *Anishinaabe* should always travel with his tobacco; our tobacco is what we rely on as a people to help us. See, if something happens to that person or his relatives he would be able to put his tobacco immediately if he always carried it with him. Also, if the Thunder-beings should bring on a storm, that *Anishinaabe* would be able to put his tobacco right away.

Ishke gaye niwii-ni-dazhindaan, wii-ayaawad awiya da-ganoodamook wii-asemaakeyan, gidaa-naazikawaa giizhaa a'aw akiwenzii maagizhaa gaye mindimooyenh weweni inow asemaan da-o-ininamawad. Maagizhaa gaye wii-wiyyawen'enkawad a'aw giniijaanisens, mii i'iw iwidi akawe asemaan da-ininamawad giizhaa waa-kanoodamook. Gego imaa mazinaabikiwebiniganing gidaa-maajiibii'amawaasiin maagizhaa gaye da-ganoonad imaa giigidowining da-nanaandomad a'aw gechi-aya'aawid da-bi-naadamook.

I also want to mention, if you are looking for a speaker to do a ceremony for you, you should approach that old man or old lady ahead of time and give him or her tobacco. For example if you want to give namesakes to your child, what you should do first is take your tobacco to that elder will speak for you. Do not send a text message on the computer or place a call over the phone to the elder requesting their assistance.

Ishke gida-mino-doodawaa weweni-go da-ni-izhiwidamawad inow asemaan. Ishke dash i'iwapii ani-waabamad, mii imaa weweni da-ni-waawindamook ge-izhichigeyan giizhaa da-ozhiitaayan wii-wiyyawen'enkawad a'aw

giniijaanis. Wiin gaye oda-inaakonaan apii ge-okwii'iding da-giizhiikigaadeg waa-izhichigeng. Gaawiin giin gidaa-wiindanziin apii ge-wiyyawen'enkaageng.

You are being respectful by properly bringing your tobacco to the elder. When you are there with that elder, that is when he or she will explain to you what you need to do to prepare for the namesake ceremony for your child. He or she will also be the one who decides the date, time, and place of the ceremony. You should not go ahead and set all that up on your own.

Aaniin igo akeyaa a'aw Anishinaabe ezhi-misawendang da-naadamawind wii-ni-biindaakoojiged. Weweni oada-o-naazikawaa da-o-asemaakawaad inow waa-anoonaajin da-ganoodamaagod. Mii i'iw apane a'aw Anishinaabe ishkwyaang gaa-izhichiged imaa waabanda'iwed ezhi-apiitendang gaa-izhi-miinigoowiziyang anishinaabewiyang. Gii-wawiingezi a'aw Anishinaabe ishkwyaang gaa-ayaad.

This also pertains to whatever kind of ceremony that *Anishinaabe* wants done. You should respectfully take the tobacco over to the one that you want to talk for you. This is what our ancestors had always done showing their appreciation for what we have been given as *Anishinaabe*. The *Anishinaabe* of the past were real thorough in their approach to our ceremonies.

Niwaabandaan debinaak wii-ni-izhichiged a'aw Anishinaabe noongom wenji-ozhibii'amaan o'ow. Ishke aanind giizhaa ezhi-inaakonigewaad owapii waa-tanakamigiziwaad wii-asemaakewaad, gaawiin akawe nimbi-wiindamaagosiig apii waa-okwii'idiwaad. Ishke gaye aaningodinong ani-dagoshinaan waa-tanakamigiziwaad, niwaabandaan gaawiin weweni gii-ozhitaasiwag. Maagizhaa gaye gaawiin gii-poodawesiiwag agwajiing, gemaa gaye gaawiin ojiibaakwaaniwaan imaa atemagasinini, maagizhaa gaye wawaaj igo inow asemaan odayaawaasiwaawaan.

Nowadays I see *Anishinaabe* being careless, which is the reason I am writing this. Some will set the date, time, and place for the ceremony they want to do without contacting me beforehand. There are times that I will arrive at the place of the ceremony and see that they are not prepared. Maybe the fire has not been made outside, or possibly they have not cooked the food that will be used in the ceremony, or they may not even have tobacco on hand that they are going to use.

Gaawiin i'iw daa-izhiwebasinoon bi-naazikawiwaad giizhaa dabwaanadanakamigiziwaad. Mii iko imaa weweni ani-waawindamawagwaa ge-izhichigewaad da-ozhiitaawaad.

This would not happen if they had brought me tobacco ahead of time before the ceremony itself. At the time they bring me tobacco is when I tell them what needs to be done to prepare ahead of time.



Healing and history at 2019 Mikwendaagoziwag Ceremony

By Charlie Otto Rasmussen, Editor

Libby, Minn.—Along the summer-green shoreline of Big Sandy Lake, nearly 450 people gathered July 31 to remember the historic events that would lead to the heartbreaking loss of Ojibwe lives during the winter of 1850-51. Known today as the Sandy Lake Tragedy, the episode inspired a powerful resolve among Ojibwe bands to resist government removal attempts and remain in their home territories east of the Mississippi River.

“We get to live right here in our homelands because of what they went through,” said Bob Danielson, clutching the GLIFWC ceremonial staff, Mitiginaabe. Danielson, chairman of the Fond du Lac Band Elder Committee, was among a host of speakers who addressed the large gathering seated under a towering canopy of white and red pines.

Beginning with a small ceremony on the last day of March 1999, GLIFWC has sponsored annual ceremonies in the northwest corner of Big Sandy. With assistance from the Army Corps of Engineers, tribal leaders ordered the creation of the Mikwendaagoziwag (We Remember Them) Memorial here. Featuring a large red granite stone perched on glacial knoll, the monument was formally dedicated in 2001.

Each and every year, Mikwendaagoziwag participants honor the struggles and sacrifices of more than 5,000 Ojibwe women, men and children, lured to the Sandy Lake Indian Sub-Agency in late 1850 to receive cash and provisions—known as annuity payments. These disbursements, provisions of the 1837 and 1842 Treaties, had always been paid-out to tribal



Mikwendaagoziwag activities began on the east shore of Big Sandy Lake. (K. Wiggins photo)

members on Madeline Island. Hoping to trap Ojibwe people from Upper Michigan and Wisconsin overwinter in Minnesota, Territorial Governor Alexander Ramsey helped arrange the payment switch. For Ramsey, lots of Ojibweg meant lots of money coming into the territory he hoped would soon achieve statehood. It was a scheme inspired by greed.

But Ramsey and Sandy Lake Indian Agent John Watrous’ plan was a disaster. The Ojibwe arrived in late October 1850 fatigued and hungry after an arduous journey, only to find no government officials at Sandy Lake to distribute annuities. As they waited over a long six weeks, severe winter weather set in. Food was scarce. Malnutrition and disease—notably dysentery and measles—ravaged the Ojibwe. The local Sandy Lake Band of Ojibwe had few resources to help their eastern relatives.

Wrote one observer, Rev. John H. Pitezel: “Frequently seven or eight died in a day. Coffins could not be procured, and often the body of the deceased was wrapped up in a piece of bark and buried slightly under the ground. All over the cleared land graves were to be seen in every direction, for miles distant, from Sandy Lake.”

By early December, 150 Ojibweg were dead. Watrous oversaw a partial annuity payment, but the ultimate hope of keeping the Ojibweg through the winter, encouraging them to abandon their homelands, was lost. With over a foot of snow on the ground and canoe routes frozen over, thousands of families began walking for home hundreds of miles to the east. Another 250 died on the way.

Less than two years later, Chief Buffalo of Madeline Island led a delegation to Washington DC and secured an end to the relocation trickery from US President Millard Fillmore. The ensuing 1854 Treaty returned annuity payments to Madeline Island and established permanent Ojibwe land reservations around tribal homelands.

“Spread the word on what happened here,” said GLIFWC Executive Administrator Michael J. Isham at the Mikwendaagoziwag ceremony. “It’s on all of us to tell people what happened. This history is not something our kids will find in a school textbook.”

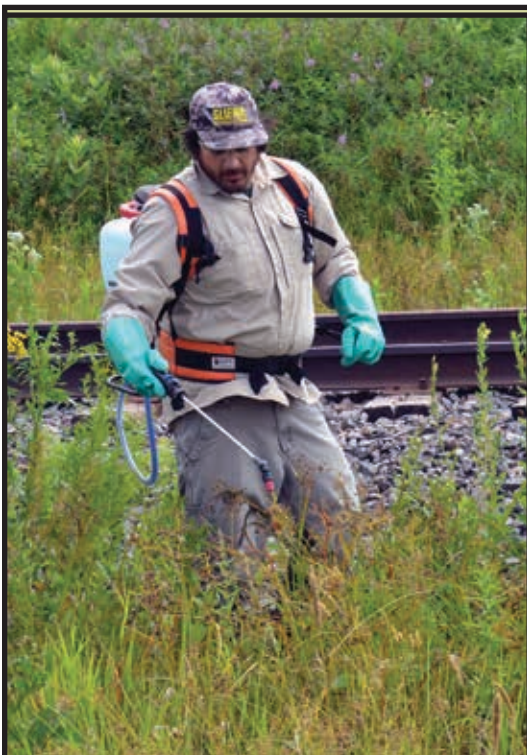
Pipe carriers, Anishinaabekwe waterkeepers, the ever-present Mole Lake Drum, and the prayers of hundreds this year helped again bring healing to the spirits at Sandy Lake. This year, every year, Mikwendaagoziwag.



Longtime Mikwendaagoziwag ceremony participants shared a moment following an afternoon feast at the Army Corps of Engineers Sandy Lake Recreation Area. From Left: Red Cliff’s Gerry DePerry, Jim Merhar of White Earth, and Ann McCammon Soltis, GLIFWC Division of Intergovernmental Affairs Director. (CO Rasmussen photos)



Fond du Lac Band Elder Bob Danielson spoke at the Mikwendaagoziwag Ceremony on July 31. Head of the Band’s Elder Committee, Danielson had poignant words for the sacrifice and resolve of Ojibwe people in the early 1850s: “We get to live right here in our homelands because of what they went through,” he said.



Through more than two decades of cooperative management efforts, GLIFWC and its partners are keeping the invasive plant purple loosestrife in check. A hardy perennial, purple loosestrife can dominate wetlands, including wild rice waters, and degrade biological diversity wherever it lays down roots. Much of the control work is done by Galerucella beetles, an insect native to Europe where purple loosestrife is originally found. After targeted releases by GLIFWC and other resource management agencies, the beetles made the Ceded Territory home and consume only invasive loosestrife.

Today, GLIFWC specialists conduct annual rounds of purple loosestrife spot-spraying with small doses of herbicide along the roadsides of far northern Wisconsin to tamp down new growth. The interagency work has resulted in habitat improvements for fish, wildlife, and wild plants across the region. GLIFWC technician Jose Estrada appears in the 1842 Ceded Territory countryside in late July with a typical backpack sprayer used to treat individual plants. —CO Rasmussen



Marvin DeFoe (left) and Keith Newago help Kiana Bear, Red Cliff, make a birch bark basket at Ojibwemodaa Gabeshiwin. This is Red Cliff’s Ojibwe Language Camp that occurred on July 9-12 at the Raspberry Tribal Campground in Red Cliff. Other activities taking place at the camp included moccasin making, belt weaving, net making, hunting teachings, moccasin games, and baaga’adowewin (lacrosse). (K. Plucinski photo)

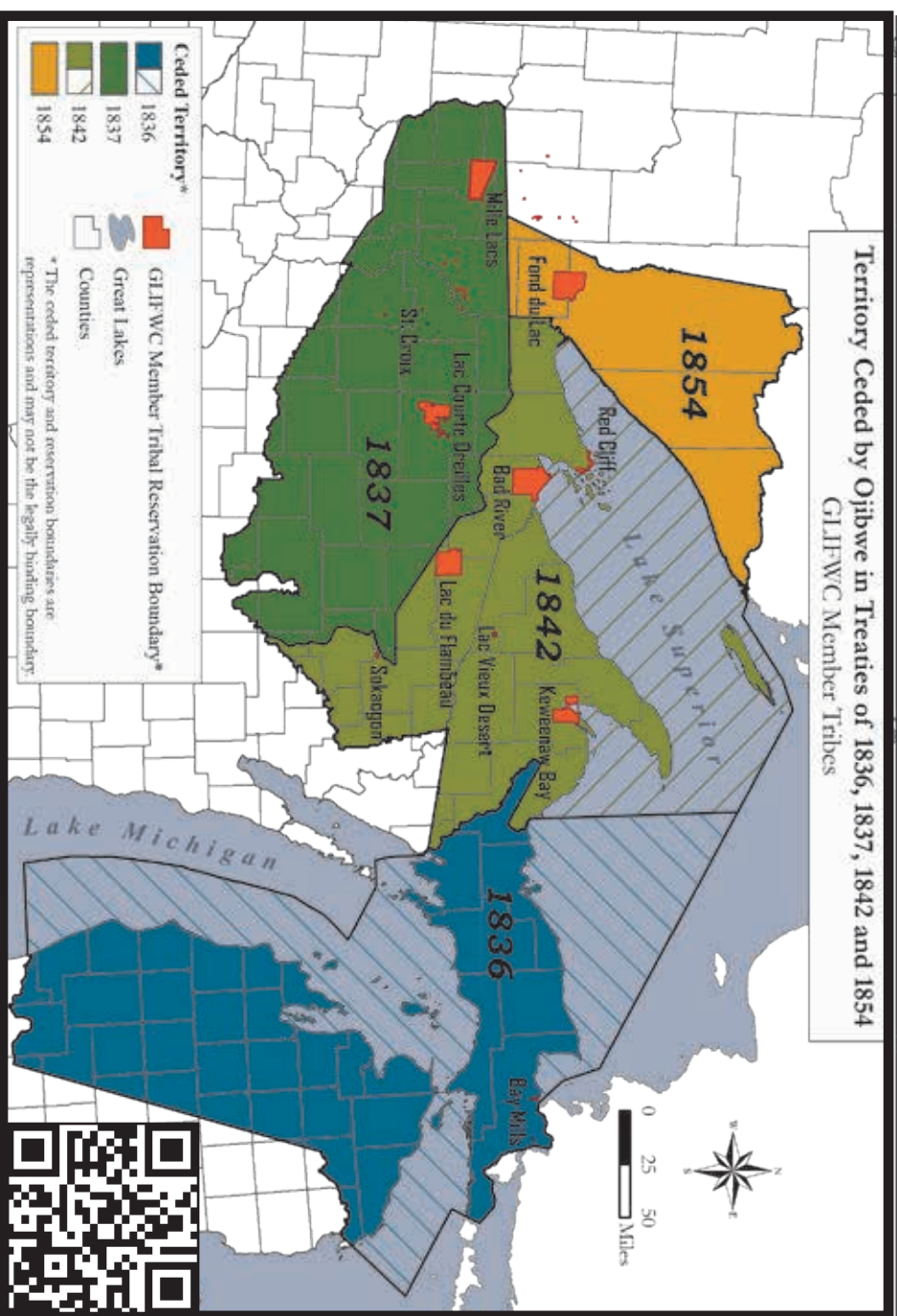


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Wigwaas: a northern treasure 'round the globe

Drawing from wigwaas art across the northern hemisphere, the Washburn Cultural Center showcased the remarkable month-long *Celebrate Birch* event last June.

While Anishinaabe crafters were well represented, many of the 100 works on display originated from other northern countries including Sweden, Russia, Finland, and China.

Wigwaas, or paper birch bark, is ingrained into the lifeway of land-based peoples across its circum-polar range and artists create everything



from utilitarian baskets to headgear to wall hangings. Red Cliff's Marvin DeFoe shared both technical and cultural insights with capacity audiences; forest ecologists Colleen Matula (Wis. Department of Natural Resources) and Alex Wrobel (GLIFWC) collaborated on a presentation highlighting the versatility of birch trees and regional traditional ecological knowledge. For many, the exhibit and featured programs made clear birch has earned its reputation as the *giving tree*.

—CO Rasmussen

Nazina'igam

A Chronicle of the Lake Superior Ojibwe



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