By Steve Garske
GLIFWC Invasive Species Coord.

Crazy jumping worms may be coming to a woods near you

For many, it comes as a surprise. Those earthworms so common in our lawns, gardens, and forests weren’t always here. Since their arrival on the east coast several centuries ago, they have been busy remaking Turtle Island’s northern hardwood and hardwood-conifer forests, and not for the better.

Long ago, the massive Laurentide ice sheet spread out from the Hudson Bay region to cover most of what is now Canada and the northern United States, as far south as Iowa, Illinois and New Jersey. As glaciers scoured the landscape, any native earthworms that may have been here were wiped out.

Then around 12,000 years ago, the glaciers retreated north from the Great Lakes region, leaving a rocky landscape dotted with glacial lakes. As the climate warmed, plants recolonized the landscape, eventually forming the lush forests and wetlands that we see today.

Because they disperse at a rate of only a few feet per year, native North American earthworms only recolonized the very southern edge of this new habitat. The northern half of North America remained earthworm-free until the arrival of European settlers.

Ininaatig dibishkoodikwane
“Sugar maples have opposite branching limbs.”

By Sara Moses, GLIFWC Environmental Biologist

Updated Mercury Maps highlight safe walleye consumption

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

By harvesting ogaa, tribal members reaffirm their off-reservation treaty rights while providing their families and communities with a high quality food source. But, as with any fish, ogaa contain mercury, a contaminant that is released into the environment largely from the burning of coal and from metallic mining and processing activities. Exposure to mercury above safe levels can cause negative health impacts, especially in fetuses and young children.

In an effort to inform and protect tribal members, GLIFWC began its Mercury Program in 1989. It has since measured mercury levels in 9,500 fish from Lake Superior and inland lakes across the Ceded Territories. Data from walleye sampling is used to produce GLIFWC’s Mercury Maps, which provide color-coded, lake-specific ogaa consumption advice. The maps indicate the safe number of ogaa meals that can be consumed per month from lakes where fish are typically harvested by GLIFWC’s member tribes.

Under funding from the Great Lakes Restoration Initiative (GLRI), GLIFWC updates the Mercury Maps with the most up-to-date data available every two years. The maps, which were updated in February 2020, provide ogaa consumption advice for 256 individual lakes, including nine new lakes with advice since 2018.

Fish mercury levels change slowly over time, even as emissions of mercury in the region decrease. This, in combination with the rotating sampling scheme for lakes, means that we do not generally see dramatic changes in the advice provided by the maps from year to year.

Since 2018, we changed our advice to be less restrictive for five lakes and more restrictive for three lakes. A notable improvement is Little John Lake in Vilas County Wisconsin, for which the recommendation for the sensitive population (pregnant women, women of child-bearing years, see Mercury Maps, page 3)
There is a growing concern about Chronic Wasting Disease (CWD) spreading into the Ceded Territories of Minnesota, Wisconsin, and Michigan because of the uncertainty of how it may impact tribal members who regularly harvest and consume wildlife species like white-tailed deer. Currently, there is no evidence that the disease can infect humans, but all major health organizations advise against consuming animals that appear sick or are infected with CWD.

CWD is a fatal nervous system disease that infects members of the Cervidae (deer family), such as mooz (moose), omashkooz (elk), and waawaashkeshi (deer). The disease was first described in Colorado in the late 1960s and has since infected wild and captive cervid herds across many states and provinces throughout North America. CWD is not caused by a virus or bacteria. Instead, the disease is the result of a naturally occurring protein that becomes misfolded, causing otherwise healthy proteins to misfold and accumulate in the animal’s nervous system. The misfolded proteins in this group of diseases are referred to as “prions.” There is no treatment or cure for the disease. Once an animal becomes infected, they can carry the disease and shed the infectious CWD prions into the environment for as long as two years before exhibiting the clinical stages of the disease.

CWD: a status update in the Ceded Territories of Minnesota, Wisconsin, and Michigan

**Minnesota:** The Minnesota Department of Natural Resources sampled nearly 18,000 deer in 2019. Almost all of the wild CWD-positive deer have been found in the far southeastern portion of the state. However, in the spring of 2019, the first CWD-positive wild deer was detected in Crow Wing County of north-central Minnesota.

**Wisconsin:** The Minnesota Department of Natural Resources sampled nearly 61% of the total deer harvest over those 32 days. The most off-reservation deer harvest. Those counties included Bayfield Co. (14%), Burnett Co. (18%), Douglas Co. (11%), and Sawyer Co. accounting for 8% of the total harvest. Tribal hunters registered deer from 32 counties within the Ceded Territories (Figure 1). This included 21 counties in Wisconsin, 10 counties in Michigan, and one county in Minnesota.

**Michigan:** Michigan sampled 20,065 wild deer in 2019. An additional 65 deer tested positive for CWD in 2019. Of these, 19,042 were analyzed, and 1,323 tested positive for CWD. Since 1999, 246,104 wild deer have been sampled for CWD in Wisconsin and 6,573 deer have tested positive for the disease. This means that the deer sampled in 2019 accounts for 7.7% of the total number of deer sampled, yet accounted for 20% of all CWD-positive deer detections in the history of the disease in Wisconsin. The vast majority of these CWD-positive wild deer were harvested in the four county endemic zone in southern Wisconsin.

In 2019, eight additional CWD-positive deer were detected in counties near or within the Ceded Territories, including Dunn (1), Eau Claire (3), Marathon (1), Oneida (2), and Portage (1) counties. With the exception of the two new wild CWD-positive detections in Oneida County, the other six were found along the southern boundary of the Ceded Territory of Wisconsin. The Wisconsin DNR had focused CWD surveillance on the northern forest counties in 2019, but CWD sampling fell short of target goals in many of those counties. In 2019, 3,040 deer were sampled in the 17-counties along the Northern Forest Zone.

Seventeen captive cervid facilities in Wisconsin tested positive for CWD in 2019. This includes cervid facilities within or near the Ceded Territory in Marathon, Oneida, Oconto, Shawano, Portage, Forest, and Burnett counties. A captive cervid facility in Marathon county that had its first confirmed CWD-positive animal in 2013 has not had 104 deer tested positive for CWD (as of October 2019) and the Wisconsin Department of Agriculture, Trade, and Consumer Protection (DATCP) is allowing that facility to continue to operate.

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New angling reg to protect juvenile walleyes in Manitowish System

The walleye size limit for state-licensed anglers is set to change in May on the Manitowish Chain of Lakes in Wisconsin’s Vilas County. The adjustment is intended to protect young walleye until maturity, while also protecting some of the female spawners. Wisconsin Department of Natural Resources in conjunction with Walleyes for Tomorrow went through the regulation change process this past fall.

The new regulation allows for the harvest of three walleye per day with a 15 inch minimum size limit and a 20-24 protected slot size. This will replace a no minimum, one walleye over 14 inches regulation that had been in place on the system of lakes since 1997. In more recent years, young walleye year-classes have not been as strong as they had been when the old regulation was put in place. Protection of younger walleye and female spawners should help the Manitowish walleye population continue to sustain itself through natural reproduction. —M. Luehring

Mine developer eyes deposit on Wolf River

A recent permit application by Badger Minerals to drill for ore in Wisconsin’s southeast Oneida County has raised concerns about a potential metallic sulfide mine next to the iconic Wolf River. In January, the exploration team that characterized the Back Forty deposit on the Menominee River applied to the Wisconsin Department of Natural Resource for an exploration license and permits to drill 10 holes between Pelican Lake and the Wolf River. This area known as Stockley Creek, or the Wolf River prospect, was first test-drilled by Noranda Mines Inc. in the 1970s around the time the company was also drilling to characterize the nearby Pelican Lake and the Lynne deposits. This Stockley-Wolf prospect has been considered a small, uneconomic formation hosting sulfide ores of copper and zinc, but the Badger Minerals application has focused attention on a location which appears to be around and under Stockley Creek and the Wolf River.

As of early March, the WDNR was still reviewing the company’s Notice of Intent (NOI) to drill and it may require Badger Minerals to obtain water-use and other permits. Because so little is known about the minerals in the prospect area it is impossible to know if the site were developed, whether it would be an open-pit or underground mine. Badger Minerals is hoping to drill yet in March but that will depend on getting final approval from the WDNR and site conditions as the ground begins to thaw. —J. Coleman

Update from the Back Forty Mine

A proposed mining project in Upper Michigan continues to threaten ancestral lands and resources of the Menominee Nation of Wisconsin. Aquila Resources, a Canadian owned exploration company had submitted permits to the Michigan Department of Natural Resources for the proposed operation that would be located 50 yards from the Menominee River, approximately 60 miles from the Menominee Indian Reservation. All four of the required permits are already approved by Michigan Department of Environmental Quality. Michigan is one of few states that maintains delegated authority under the Clean Water Act, which means any federal protections that the tribe could wield may not apply. The company would only need to be permitted by the State of Michigan.

In 2018, the Menominee Tribe filed suit against the US Environmental Protection Agency and Army Corps of Engineers, citing that federal review was pertinent for mining permitting in this area. Earlier this year, a federal appeals court ruled that it cannot review a decision by the two federal agencies which might have opened up the door for official consultation with the tribe. Menominee Tribal Legislature Representative Gary Besaw reaffirmed “Although we are disappointed with the court’s decision, we are still committed to protecting the river and our sacred sites. We will be weighing all of our options.” —R. Jennings

Mercury Maps

(continued from page 1)
of childbearing age, and children under 15 years of age) has increased from two to four meals/month. The safe number of oga meals from Pelican Lake (Oneida County), GLIFWC’s second most harvested lake for walleye in recent years, has decreased from eight to four per month for the general population (men 15 and older and women beyond childbearing age).

You can reduce your mercury exposure by using the Mercury Maps to choose lakes with lower mercury levels for harvesting oga and by following the map recommended consumption advice for the lake where your fish were harvested. In addition, you can target smaller fish, which tend to be lower in mercury, or consume lower mercury species such as whitefish, bluegill, or perch.

The updated Mercury Maps are now available on the GLIFWC website at http://glifwc.org/Mercury/index.html and will be made available at tribal registration stations and at various tribal events this spring.
Ishpaagonagaag (Deep Snow) Camp at Mille Lacs

By Bizhikiins Jennings, Staff Writer

Multiple feet of snow covered the expansive and sprawling Lake Mille Lacs, but it sure didn’t stop a group of youth harvesters from attending Ishpaagonagaag youth ice fishing camp. The camp was hosted by the Mille Lacs Tribal Department of Natural Resources (DNR) on the last weekend of January.

Fifteen-twenty tribal youth attended the camp throughout the weekend, learning various skills pertaining to winter harvesting on the ice. Youth were shuttled onto the lake and gathered in a group to learn about tip-ups, jigging and other forms of set lines on the ice.

Before any harvesting took place, all youth equipped themselves with assema (tobacco) and humbly asked for safety, and for a successful harvest. Mille Lacs Band of Ojibwe has worked relentlessly in preserving and teaching local traditions and customs. Traditional tobacco offerings are always a focal point for Anishinaabe in order to honor the relationship with everything in creation. Youth took to the first session with tip-ups, jigging, and set lines. Each helped drill holes, and identify proper equipment. Once all the tip-ups were baited and set, the crew gathered around to learn about the traditional winter game known as snow snake. Youth kept busy, gliding the snow snakes across the ice and competing, while they waited for the fish to bite.

Camp organizer and Program Coordinator Naomi Sam highlighted why they spent time planning such events: “These camps are so very important to the integrity of our cultural lifeway and are also a blast to attend.” Sam worked across various departments with Mille Lacs DNR staff to host and organize the two-day event.

Luc du Flambeau tribal elder and master carver, Jerry LaBarge was invited by the planning group to teach decoy carving and also spearing through the ice: “We as Ojibwe people recognize that there’s food under this ice here. How are we going to get it?” He held up a piece of basswood and a small carving knife. “I’ve been making decoys since I was a young boy, my grandfather taught me, and now I’m teaching you all today.”

Youth got a jump start on their decoys right after lunch, as tip-ups were checked and multiple ogaawag (walleye) were brought back to base. In between carving, youth took turns filleting fish and prepping them for cooking over the fire.

Finally, an evening meal with fresh ogaawag and aadizookewin (storytelling). Michael Migizi Sullivan of the Lac Courte Orenelles community shared some of the sacred legends famous in Ojibwe Country. Youth and families watched with amusement as Migizi shared the animated and funny stories. Aadizookewin events are being revitalized in many communities as language speakers resurface. These stories often refer to a character known as Wenaboozhoo and the interesting predicaments and interactions he has with everything in creation. Offentimes, the stories culminate in a series of life-lessons, which are absolutely crucial for Ojibwe youth and families to hear.

The final day of camp allowed students to finish their decoys, and some even brought them on the ice to test out in the water. The group setup multiple chiseled holes for spearing through the ice and patiently jigged for northern pike and musky.

Throughout the weekend, the most amusing parts of the camp weren’t always when fish were caught. It often came from the good vibes and energy created from spending time together. All participants, both young and old, could feel this energy that’s created when Ojibwe gather and remember their old ways of living a good life.

On the cover

Consult mercury advisory maps before going fishing this ziiigan.

In February GLIFWC Environmental Section released updated maps featuring walleye consumption recommendations for inland lakes in the 1837 and 1842 Ceded Territories of Minnesota, Wisconsin and Michigan. Hard copy maps are available at the GLIFWC central office and on-reservation registration stations. Find digital copies here http://glifwc.org/Mercury/index.html
Data-based adaptive management; case study Minocqua Chain

Minocqua Chain consists of five lakes, three of which have supported ogaa (walleye) populations until recently. A decline in harvest opportunities for tribes and state anglers resulted in a ogaa rehabilitation plan for Kawaguesaga, Minocqua, and Tomahawk Lakes in 2015.

In that same year, population estimates were conducted on Kawaguesaga and Minocqua Lakes, and the results indicated that adult ogaa stocks had declined precipitously since the 90s and early 2000s (Figure 1). To make matters worse, surveys of the relative abundance of age-0 and age-1 ogaa also showed a decline in the production and/or survival of young walleye.

The Minocqua Chain Plan had a multi-pronged approach to rehabilitate the ogaa fishery. Specifically, the plan included stocking of extended growth ogaa (6-9"), no harvest by tribes or state anglers, and benchmarks for adult densities and abundance of juvenile ogaa. The benchmarks for success included three adult ogaa per acre in Kawaguesaga and Minocqua Lakes and 2.0 adult ogaa per acre in Tomahawk Lake. The re-establishment of natural reproduction was also a goal for Kawaguesaga and Minocqua Lakes (natural reproduction in Tomahawk Lake has been minimal from 1987–2020).

In spring of 2019, GLIFWC led an effort by the partner group to estimate the adult populations in Minocqua and Kawaguesaga Lake. Based on these surveys, Minocqua Lake has met the benchmark of three fish per acre, while adult density in Kawaguesaga Lake nearly doubled from 2015, but still fell short of this goal (Figure 1). Adult ogaa estimates in Tomahawk Lake have not been conducted since the plan was implemented in 2015.

During each fall from 2015-2019, Minocqua and Kawaguesaga Lakes were surveyed to determine whether natural reproduction was successful. In both lakes, since 2015, a total of 143 miles of shoreline have been surveyed and only ten age-0 ogaa have been captured (one was caught in about 30 miles of shoreline in 2019). For context, the median number of age-0 collected in the fall in naturally reproducing lakes in the Ceded Territories is 15 per mile. Because reproduction has not yet been strong in the chain, only one of five benchmarks in the Minocqua Chain Plan were met by 2019.

Collectively, the recommendation was to keep the fishery closed for another year to allow adult ogaa to reach density goals in Kawaguesaga and Tomahawk Lake and encourage re-establishment of natural reproduction in Kawaguesaga and Minocqua Lakes. Since then, the Lac du Flambeau Tribal Council, Voigt Intertribal Task Force, and Natural Resources Board have all approved this measure for the Minocqua Chain.

Collectively, the extension of the fishery closure in the Minocqua Chain is a good example of stakeholders, tribes, fishery managers, and policy makers using available data and science to adapt management plans, which will hopefully result in the rehabilitation of this fishery.

— Aaron Shultz, Mark Luchring, Adam Ray, and Joe Dan Rose
GLIFWC Inland Fisheries Staff

Figure 1. Adult ogaa (walleye) population estimates for Minocqua and Kawaguesaga Lakes from 1992 to 2019. The dashed line represents 3.0 adults per acre. The 2019 population estimate in Kawaguesaga Lake was below the rehabilitation goal while the estimate in Minocqua Lake was above the goal.

“Ogaa” is the Ojibwe name that is very affectionately given to the walleye by the Anishinaabe, says Michael Waasegiizhig Price, the new Traditional Ecological Knowledge Specialist at GLIFWC. “Ogaa” means the “spiny one.” If anyone has ever been poked by their dorsal fin or bit by their enormous teeth, then, this name will be fondly remembered.

Other Ojibwe names that are related to Ogaa by name are: “Gaag” for porcupine, “Gaawaaandag” for black spruce (Gaaw–spiny; aandag–bough) and “Gaawaakomizh” for Prickly Ash (Gaawaa–spiny; mizh–shrub tree). Many of the Ojibwe names of animals, birds and plants reflect the relationships that the Anishinaabe people traditionally have with those animate beings.
Indian Country in Washington DC: GLIFWC, tribal nations advocate for traditional lifeway

Ojibwemowin & food code programs enhanced, shared at national gathering

Text & Photos by Charlie Otto Rasmussen, Editor

Niibin Mazina’igan preview: National Museum of the American Indian

Mazina’igan recently met with Smithsonian staff and toured the remarkable, four-story National Museum of the American Indian in Washington, DC. While the Anishinaabeg and other peoples of the Great Lakes are well-represented—including a wigwam constructed by Red Cliff and Fond du Lac members—curators also explore native culture and history from North and South America in displays, exhibitions, and media.

On the museum grounds, landscapers replicate the diverse, native environments of the Chippewa Bay region that includes hardwood forest, wetland, meadows, and demonstration croplands. The museum considers a highly-recommended stop for visitors to the DC area, as well as the companion NMAI located in New York City.

Watch for a closer look at NMAI in the forthcoming Niibin, or Summer, issue of Mazina’igan.

“Treaties lie at the heart of the relationship between Indian Nations and the United States.” —NMAI

Crystal City, VA—At the heels of a housing address by Chickahominy Chief Stephen R. Adkins, the Administration for Children & Families (ACF) gathering got off the ground February 10 with native participants from across the contiguous United States, plus Alaska, Hawaii, and Pacific Territories. Adkins—head of the eastern Virginia tribe recognized by federal authorities year-earlier—called onativespeople every-where to move beyond the era of cultural endurance the days of dogged, sometimes quiet, persistence: “Don’t shun the down, don’t get into that sur-vival mode. From this day forward we’re thriving as a thing society. We’re not vacillating at the will of the dominant culture,” he said, recognizing the leadership of Francis H. Haviland, Administrator for Native Americans (ANA) commission; for advancing indigenous interests. “We are a strong people.”

With 450 in attendance, the colorful assembly preferred the largest gathering to-date said Haviland, who also serves as Deputy Assistant Secretary of Native Affairs. Haviland opened opening ceremonies addressing the capacity audience, many adorned in clothing that blended modern and traditional embellishments from native homelands. In a grand flourish, native drummers led a grand entry that included Know band and drum singers, joint armed forces honor guard, dancers, and Members of the former American Indian community, and Marine, Asepalabikat carrying the Eagle Staff.

For GLIFWC participants and the more than 200 first nations represented one was for a successful conference on “Growing Healthy Communities.”

Developing ideas, sharing successes

Over a string of busy days filled with training seminars, GLIFWC staff specialize in Ojibwemowin and traditional foods met with federal administrators at the United States Department of Agriculture’s conference on “Coastal Resilience in the Great Lakes Region” panel, GLIFWC Climate Change Program Coordinator Rob Croll shared with a national audience how some Ojibwe bands are addressing the challenges about making landscapes and communities more adaptable to environmental changes.

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At the February Administration for Children & Families conference near Washington DC, GLIFWC project staff met with ANA Program Specialist Kayo Baseball to review project developments for a pair of GLIFWC initiatives in tribal food code development, and Ojibwemowin instruction for native youth under five years old. Healthy communities.

Understanding tribes, climate change, and what’s at stake

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Understanding tribes, climate change, and what’s at stake

Washington, DC—With increasingly frequent flooding and rising temperatures, Great Lakes ecosytems face a potentially rocky path into the future. Climate professionals are busier than ever identifying vulnerable resources and sharing strategies about making landscapes and communities more adaptable to environmental changes.

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Boozhoo gakina awiya (Greetings everyone)! My name is Tommy Sky, I’m an Ojibwe from Bad River, and ziigwan (spring) is one of my favorite times of the year. My family and I will net and spear fish during this season in hopes of harvesting some ogaawag (walleye), ginoozhe (northern pike), and mashkinoozhe (muskellunge).

Traditionally we would use birch bark canoes, torches, and the anit (fish spear) would be made of bone, but today we can use regular boats and modern equipment. Once a lake opens, we need the proper permits to fish. We can only take the amount of fish on our permits. Spearing is definitely a lot of work and can be difficult in cold temperatures during the evening, which can be hard to see. My family works together to harvest, clean, package, and cook the beautiful gift of giigoonyag (fish).

Below are scenes from this sequel to Growing Up Ojibwe, originally published in 2019. To download a free copy of this new kid’s publication go to www.glifwc.org/publications/#YouthPublications. You can also request a printed copy by emailing lynn@glifwc.org.

—B. Jennings

Fill in the missing vowels

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were shown to be an important factor in the decline and dieback of ininaatigoog sedges, some ferns and many non-native plants are often tolerant of earthworms. Woody plants often become few and far between. Princess pines and moonworts (aagwingosibag (rosy twisted stalk), and most orchids. Seedlings of maples and other sarsaparilla), migiziibag (big-leaved aster), naaniibide'oodegin (Solomon’s seal), and Jumping worms:

In the Ceded Territory, earthworms greatly reduce the abundance of forest wildflowers such as ininwiwinbigihegigan (white trillium), waaboosozijibik (wild sarsaparilla), migiziibag (big-leaved aster), naantiibide’oodegin (Solomon’s seal), aasibi (rose aconite), and most orchids. Seedlings of maples and other woody plants often become few and far between. Princess pines and moonworts (a group of fern relatives) are also highly susceptible to earthworm activity. Grasses, sedges, some ferns and many non-native plants are often tolerant of earthworms and become the dominant vegetation on the forest floor. Currently, earthworms were shown to be an important factor in the decline and dieback of ininaatigoog (sugar maple) in Upper Michigan.

(see JumpingWorm, page 11)
Ojibwemotaadiwag Anishinaabewening. They speak Ojibwe to each other in Indian Country.


(There was a lot of snow when it was winter. As spring begins, the rain comes. Perhaps there will be a lot of rain? I don’t know maybe. I hope it will not dry up. Always, we should make a tobacco offering.

First, we want to go to the sugarbush. At dawn, we all shall leave. Second, we shall all tap trees. Third, we all shall split wood. Fourth, we shall all gather sap. We shall boil it down. Fifth, we all will eat it. Also, I want to go fishing. You want to go fishing? Help me in order to find those fish.)
Jumping worms arrive continued

While European earthworms have been tough enough on northern forests, things may get even worse. In recent decades a second wave of earthworms has arrived, this time from eastern Asia. Three species in particular—Amynthas agrestis, Amynthas toksoensis, and Metaphire hilgendorfi—are spreading rapidly in North America.

At first glance these Asian earthworms look similar to the European “dew-worms” (Lumbricus rubellus) and the well-known nightcrawler (L. terrestris). But they behave quite differently. Instead of stretching and contracting their bodies as they crawl, they move with an S-shaped motion similar to snakes. When alarmed they thrash around and even jump into the air. They can even shed their tails to fool predators.

Instead of making tunnels like nightcrawlers and most other European earthworms, they live in the leaf litter (until they consume it) and in the top inch or so of soil. Their odd behavior gets people’s attention, leading to colorful nicknames like “crazy worms,” “jumping worms,” “Alabama jumpers,” “Georgia jumpers,” and “snake worms.”

Asian jumping worm. Body gray to brown, firm, moist, and nearly smooth. Band (clitellum) milk-white to light gray, closer to the head, flush with rest of the body, and completely encircling it. Adults up to 6 inches long. (Tom Potterfield, Fllickr photo)

European nightcrawler. Dark reddish head grading to light pink tail. Slimy and soft, with flattened tail. Clitellum pink to reddish, farther from head, slightly raised above rest of the body and only partly encircling it. Adults 6-8 inches long. (Joseph Berger, Bugwood.org photo)

Asian earthworms were first found in Wisconsin in 2013 at the UW-Madison Arboretum. As awareness of these “jumping worms” spread, more sites were found. Today jumping worm infestations have been found in nearly all the counties in the southern half of the state, as well as Marquette County and four western Wisconsin counties. Jumping worms have colonized parts of Lower Michigan and Minnesota as well.

Jumping worms have an annual life cycle. The eggs are encased in a capsule with a tough outer covering, called a “cocoon.” These eggs begin hatching when the soil warms up, usually in May. The young worms grow rapidly and reach adulthood in about 60 days. These worms start laying the second generation of eggs in July. By midsommer jumping worms can reach densities of over 100 adult worms per square yard.

The second generation matures and lays another batch of eggs in early fall. With the onset of freezing temperatures all the worms die, leaving only the egg-filled cocoons to overwinter and start the cycle all over again.

Because they’ve arrived so recently, the long-term effects of jumping worms on northern forests aren’t well understood. But there is growing evidence that they may be even more destructive than European earthworms.

They consume nearly all the soil organic matter, and transform the “topsoil” into a granular soil similar to used coffee grounds. This granular soil doesn’t hold moisture well, and tends to dry out rapidly. Plants have trouble extracting nutrients and water, leading to wilting and nutrient deficiencies. The bare ground these earthworms leave behind is perfect for worm-eating plants, and works as a vector for invasive species. By the time native plants can establish, it’s too late.

Help prevent the spread of jumping worms

Jumping worms typically find their way to people’s yards in municipal compost, mulch or “topsoil” from somewhere else. The cocoons can easily be carried by children playing in the dirt. Help prevent the spread by doing the following:

• Keep your site free of jumping worm cocoons by covering plants with a 2 inch layer of mulch before planting, or using bare ground instead.
• Check municipal compost for jumping worm cocoons before adding it to your garden. Compost piles should be set up away from your yard and your neighbor’s.
• For more on the jumping worm invasion, including tips on keeping them from spreading to your part of the northwoods, see: https://dnr.wi.gov/topic/invasives/fact/jumpingworm/index.html
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Ogichidaa Storytellers in the education scene

GLIFWC, in collaboration with Wisconsin Department of Public Instruction and Wisconsin Historical Society, recently released a series of lesson plans that accompany the treaty rights resources that have been circulating the internet. Each publication contains lesson plans, enduring understandings, essential questions, vocabulary words, and extension activities.

The six videos center around the treaty rights controversy that erupted as a result of treaty reaffirmation following key court decisions. The following links on the GLIFWC resources link or on YouTube:

- Crossing the Line: Tribble Brothers
- Every Step: A Healing Circle
- Gathering the Pieces: The Jondreau Decision
- Lifting the Nets: Gurnoe Decision
- Mikwendaagoziwag They are Remembered: Sandy Lake
- Place of the Pike: Ginoozhekaaning

Visit the following links on the GLIFWC webpage or the Wisconsin First Nations webpage for free access to the educational materials.

- https://wisconsinfirstnations.org/ogichidaa-storytellers/

—B. Jennings