



BAY MILLS INDIAN COMMUNITY

# BIOLOGICAL SERVICES NEWSLETTER

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ISSUE 4



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## IN THE NEWS: Little Rapids Restoration Project Completed

The Little Rapids Restoration Project replaced two failing culverts under the Sugar Island causeway with a 600ft bridge. The increased water flow under the new bridge has restored rapids/riffle area downstream creating important fish habitat.

The project flushes out stagnant water and creates fish spawning and invertebrate habitat. Minnows and salmon were observed in the Little Rapids within just days of flow restoration! The new bridge offers safe pedestrian walkway and fishing access. Additional vegetation will be planted this spring.

Joint funding by the Great Lakes Restoration Initiative and US EPA through NOAA and the Great Lakes Commission made this valuable project possible.

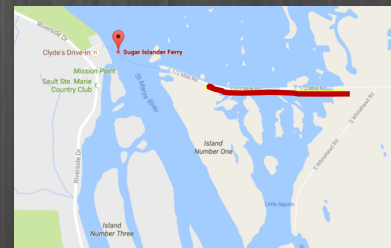


Photo by Biological Services

Above: Biologists check-out newly completed bridge to Sugar Island.

***For questions about fishing/hunting licenses, current regulations, or if you wish to report poaching, please contact Conservation Officers at 906-248-8640.***

# LAKE SUPERIOR LAKEWIDE ACTION AND MANAGEMENT PLAN COMPLETED

Under the Great Lakes Water Quality Agreement, the governments of Canada and the United States have committed to restore and maintain the physical, biological and chemical integrity of the waters of the Great Lakes. The Lakewide Action and Management Plans (LAMPs) are binational action plans for restoring and protecting the Great Lakes ecosystem. Staff in Biological Services serve on the working groups of the Lake Superior and Lake Huron LAMPs to represent the interests of the Bay Mills Indian Community. The Lake Superior LAMP was completed this fall with contributions from Bay Mills and many other tribes and agencies.

The general goals for the Lake Superior are:

- Be a source of safe, high-quality drinking water
- Allow for swimming and other recreational use, unrestricted by environmental concerns;
- Allow for human consumption of fish/wildlife, unrestricted by concerns of harmful pollutants
- Be free from pollutants in quantities or concentrations that could be harmful for human health, wildlife, or aquatic organisms (directly or through the food chain)
- Support healthy and productive wetlands and other habitats to sustain resilient populations of native species
- Be free from nutrients that directly or indirectly enter the water as a result of human activity, in amounts that promote growth of algae and cyanobacteria
- Be free from the introduction and spread of invasive species that impact the quality of water of the Great Lakes
- Be free from the harmful impact of contaminated groundwater
- Be free from other substances, materials, or conditions that may negatively impact the chemical, physical or biological integrity of the Great Lakes

Biological Services commits to address these goals by implementing projects for many of the priorities addressed in the LAMPs including but not limited to educating the community on mercury and other emerging chemicals, their toxicity, pathways into the food chain, and actions to prevent contamination; supporting efforts to increase the sustainable use of lake basin resources with specific emphasis on projects on green stormwater infrastructure, incorporating traditional ecological knowledge into projects, and/or recognizing the monetary value of ecosystem services; monitoring and removing invasive species; and updating population assessment models to improve management of commercial and sport fisheries. A complete list of projects is available at the links listed below.



Above: Lake Superior watershed

To view the complete Lakewide Action and Management Plan for Lake Superior, visit <https://www.epa.gov/greatlakes/lake-superior-lamps>.

Additionally, each lake produces a short newsletter to highlight accomplishments and progress in achieving LAMP goals during the past year and identifies LAMP-related activities including outreach, monitoring, and protection and restoration actions. To view these current and past LAMP Annual Reports for any Lake Superior, visit <https://binational.net/category/a2-2/lamps-paaps/> or <https://www.epa.gov/greatlakes/lake-superior-lamp-annual-reports>.



# FEATURED INVASIVE SPECIES: Eurasian Water-Milfoil



Photo by Allison Fox, Bugwood.org

European water-milfoil (EWM) an aquatic plant that grows entirely underwater often forming dense mats. The feather-like leaves grow in sets of four along 3-10ft stems. EWM is often the first aquatic plant to grow in early spring and quickly out-competes other aquatic life. It prefers disturbed shorelines and nutrient-rich waters. A small patch is already growing in the wharf in Back Bay and could devastate wild rice and fish populations in the bay if it spreads further.

## Why it's a Problem

Eurasian water-milfoil grows very thick mats, enough to stop boat traffic by tangling propellers. It also impedes fish movement and diving ducks due to the lack of space between plants.

## How it Spreads

Eurasian water-milfoil spreads by becoming attached to boats, trailers, or other equipment. Currents can also move fragments of plants which can root and establish new infestations. EWM also spreads by creeping runners.

## Ways to Control Eurasian Water-Milfoil

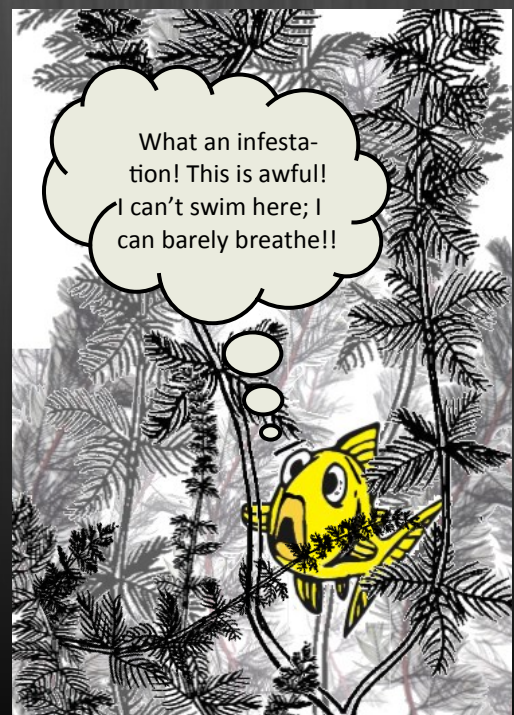
Hand pulling and harvesting is the best method to remove Eurasian water-milfoil. Overall, preventing further spread is the best strategy for this plant as it is very difficult to control.

For more information on identifying this plant [www.uwsp.edu/cnr-ap/UWEXLakes/Documents/programs/CBCW/publications/EWM\\_Card.pdf](http://www.uwsp.edu/cnr-ap/UWEXLakes/Documents/programs/CBCW/publications/EWM_Card.pdf)

Photo courtesy of A. Fox, University of Florida, Bugwood.org

## What You Can Do to Help

- Avoid areas that are infested or slow your vessel down when travelling near European water-milfoil infestations. Propellers can chop off fragments that can spread.
- Leave native vegetation in place to compete with EWM
- Always inspect your boat, trailer, and equipment after removing it from the water. Make sure to remove all plants, animals, and mud before moving to a new water body.
- Always **CLEAN** debris from your equipment, **DRAIN** the water, and **DRY** your equipment when leaving the lake to prevent spreading.



# COMMUNITY OUTREACH

## HAZARDOUS HOUSEHOLD WASTE COLLECTION SUCCESSFUL

Biological Services hosted a very successful Household Hazardous Waste (HHW) collection event this past September. Community residents dropped off a range of hazardous items including empty aerosol can, batteries, stains, cleaners, and more. These items contain chemicals that can leach out of regular landfills contaminating groundwater and entering the food chain. HHW items were sorted and transported to a facility that can dispose of those items safely.

- 745 lbs latex paint
- 1512 lbs stain/polyurethane/ oil-based paint
- 643 lbs batteries
- 79 lbs aerosol cans
- 344 lbs automotive liquids/ motor oil
- 160 lbs other chemicals

This year was our largest collection event yet (see table below for totals). However nearly 750lbs of latex paint were needlessly brought to the event. When allowed to dry and harden, latex paint and paint cans may be safely disposed of in regular household garbage. Paint hardening powder or kitty litter can quicken the drying process. Only oil or lead-based paint requires disposal through a HHW event. This recycling event was made possible by the Great Lakes Restoration Initiative.

For more information on how you can keep nasty chemicals out of our environment, or for future HHW events, contact Biological Services at 906-248-8652.



Photo by Biological Services

Above: Collected hazardous waste before getting shipped to a specially-designed hazardous waste landfill.



Photo by Biological Services

Above: New recycling bins deployed in Bay Mills office buildings

### Washkey River Watershed Management Plan

The Washkey River Watershed Management Committee was created in 2015, with the goal of protecting and restoring the ecological integrity of the Washkey River. Interested citizens are encouraged and welcomed to attend meetings and offer advice and knowledge as BMIC Biological Services writes the Management Plan in collaboration with numerous partners. Contact Aubrey Maccoux-LeDuc or Brian Wesolek for meeting dates and more information [amaccoux-leduc@baymills.org](mailto:amaccoux-leduc@baymills.org) or [bwesolek@baymills.org](mailto:bwesolek@baymills.org) (906) 248 6852.

### New Recycling Bins Benefit the Community and Environment

Tons of recyclable materials are sent to landfills every day. But making products from recycled materials cost much less than harvesting, shipping, and manufacturing products from raw materials. Help preserve our natural resources for future generations. New recycling bins have been placed in many Bay Mills office buildings to increase accessibility. Reduce, Reuse, & Recycle today! Contact Aubrey Maccoux-LeDuc at [amaccoux-leduc@baymills.org](mailto:amaccoux-leduc@baymills.org) (906) 248 6852 for more information.



# GREAT LAKES FISHERIES PROGRAM UPDATE

Fisheries staff conducted several types of surveys on Lake Superior and Lake Huron this season.

- Pre-recruit Lake Whitefish surveys (annual on Superior & Huron): The goal is to monitor trends in abundance of sub-legal (< 17 inch) Lake Whitefish, evaluate recruitment, and predict contributions of year classes to future harvests.
- Lake Whitefish assessment project (Superior): Data are used for evaluating abundance and population characteristics of Lake Whitefish in each management unit of the Great Lakes.
- Annual spring Lake Trout assessment (Superior): Biological information on Lake Trout is used for harvest limit estimates. Diet analysis is also performed for several types of Lake Trout.
- Waishkey Bay fish community assessment project (annual): Rough fish (Common Carp, suckers, Bullhead), sunfish, Rock Bass, Walleye,

Yellow Perch, Northern Pike, and Smallmouth Bass are typically caught in this assessment.

- Whitefish Bay & Upper St. Mary's River assessments (three surveys per year).

In addition to the annual assessments, the fisheries staff conducted two other surveys this season:

- Lake Sturgeon population assessment: staff assisted the USFWS with a population survey in Whitefish Bay.
- Juvenile Coregonid assessment: Using beach seines, the staff sampled shallow water in hopes of capturing juvenile Coregonid species (Lake Whitefish, Round Whitefish, Lake Herring/Cisco and others) to estimate the abundance of these species. They sampled at various sites within Whitefish Bay and west of Whitefish Point.



Above left to right: BMIC Biological Services staff use a beach seining method to assess the populations of minnow and juvenile fish in the shallow water, especially whitefish and salmonids. A staff member gently holds a Sturgeon during population assessment; length and weight measurements were collected and a tag was implanted in the fish. Staff set nets in Lake Superior to be left out overnight for a Lake Trout population assessment.

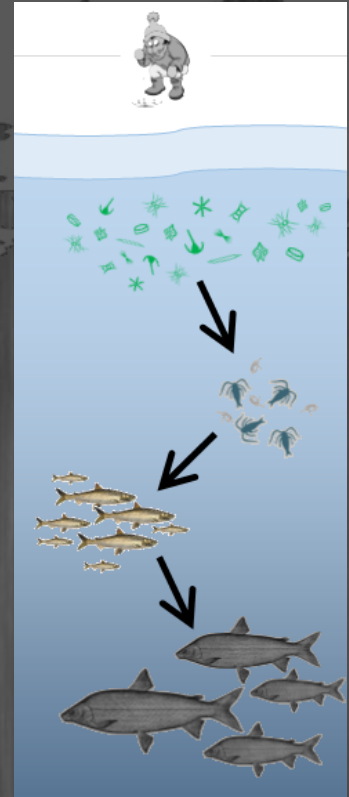
Bay Mills fisheries staff also monitor commercial and subsistence fishing by its members. Mandatory catch reports for both activities are collected and tracked by fisheries staff. Catches of commercial and subsistence fishers are sampled by staff at landings or onboard fishing boats. These data are used to monitor fish populations and make informed management decisions.

If you have questions about the fisheries program, please contact the program manager, Paul Ripple at (906) 248-8649, [pripple@baymills.org](mailto:pripple@baymills.org).

# WATER QUALITY PROGRAM UPDATE

## Ice Cover: What's the Big Deal?

Historically, aquatic biologists have thought of winter as a season of dormancy in northern lakes. This is because sampling lakes during the winter can be extremely difficult and there is not much information about what happens under the ice. Researchers are now questioning this age old dogma and are finding that northern lakes can be quite biologically active during the winter. Ice cover can promote the production of algae (photosynthetic organisms) during the winter by providing a substrate for algae to attach to and sheltering them from wind driven water currents. Algae form the base of food webs in lakes and an increase in algae production can stimulate the rest of the food web, which can be beneficial for fish. Researchers are finding that a substantial amount of the algae produced in some lakes happens under the ice. For example, in Lake Baikal, Russia, the production of algae under the ice can frequently exceed the production of algae during the ice-free period. Algae under the ice may also have a higher nutritional quality, benefiting the organisms that consume it. The importance of ice cover for aquatic food webs in many of our northern lakes, however, is currently unknown and is an active area of research for groups such as the National Center for Ecological Analysis and Synthesis (NCEAS). Research on this topic is especially needed since the duration of ice cover on northern lakes has been decreasing, which has unknown consequences for our valuable lakes and fisheries. For more information on under the ice research, go to <https://www.nceas.ucsb.edu/featured/hampton>.



Ice cover can impact everything in the lake, from the smallest to the largest.

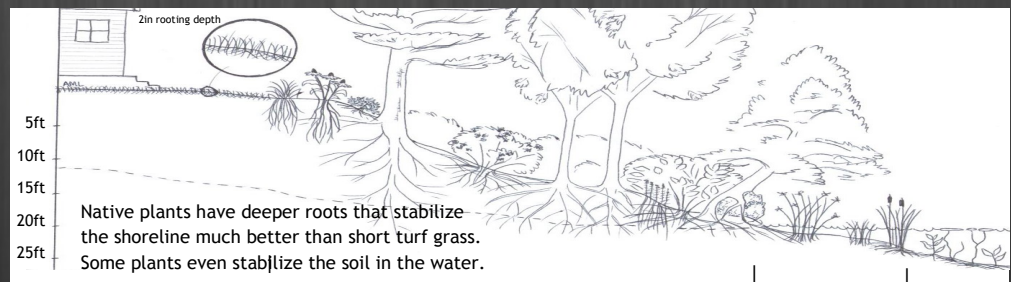
## Homeowners Tip: Lawns and Shorelines Don't Mix

Riparian areas are what link our water and land. They are the reason many plants and animals we depend on even exist. Many people remove vegetation along their shoreline to create a swim-

ming area, beach, scenic road, or open the view. But removing that vegetation comes at a cost. Removal of vegetation can lead to colonization by invasive species and degrading habitat for wildlife. It can also lead to erosion and decreased water quality.

Why a Buffer Makes for a Better Lake or River

- Reduces runoff velocity
- Shade trees cool water, keeping fish healthier
- Reduces shoreline erosion
- Provides habitat for small fish, amphibians, song-birds, nesting waterfowl, & insects



- Reduces and filters runoff containing fertilizers
- Improves water quality

What Makes a Good Buffer?

**SPACE:** More is more. 35ft is the standard distance from water, but even a narrow vegetated buffer is better than none. (35ft is often inadequate for large water bodies experiencing big storms.)

**NATIVE PLANTS:** Mowed lawn only roots 2-3in deep, but many native plants, shrubs and trees have deep roots that stabilize the shoreline and even sand dunes.



# OIL PIPELINE UPDATE: CALLS TO DECOMMISSION LINE 5

North Americans have been dependent upon petroleum for decades and have used many methods to get the raw material to market. Although pipelines are one of the safest methods of transport of oil products, they still pose significant threats the environment and public health. Enbridge, Inc operates pipeline Line 5 that runs from Superior, WI to Sarnia, Ontario, Canada. Along its 645 mile-long path, Line 5 traverses 50mi in close proximity to Lake Superior, 140mi along Lake Michigan coast, and lies exposed under the Straits of Mackinac.

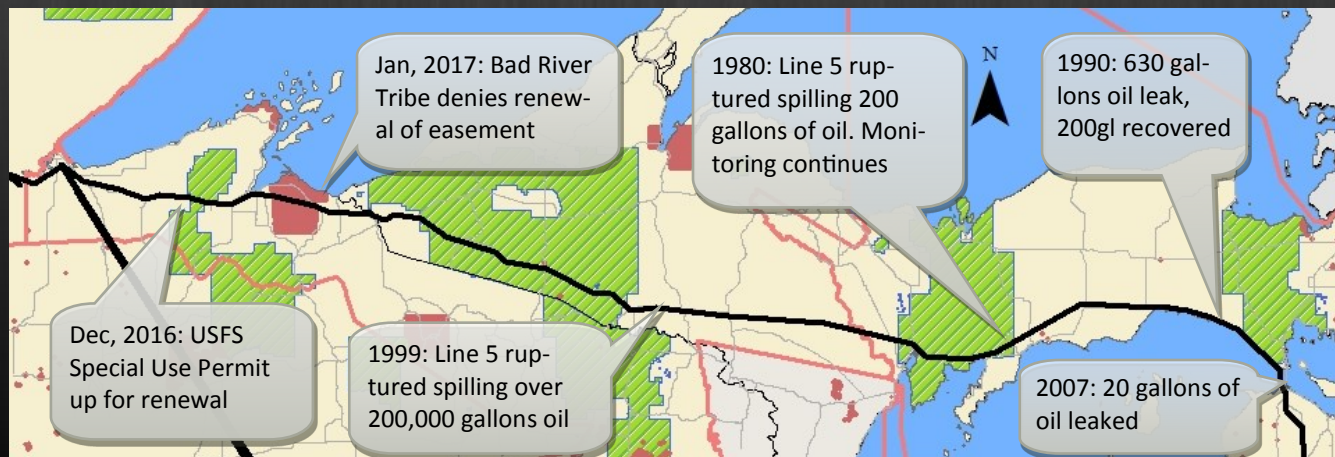
Lakehead Pipe Line Company, Inc, now Enbridge, Inc installed Line 5 over 63yrs ago (in 1953). Engineers at the time gave it a life expectancy of 50yrs. It has already been subject to a significant rupture near Crystal Falls, MI in 1999 and small ruptures which have been documented along upland portions of the Line, areas within the 1836 Ceded Territory. Enbridge has also failed to adequately monitor and maintain other pipelines; one which caused the Kalamazoo River oil spill in 2010. A report published in fall 2016 also suggests the protective coating to prevent corrosion may be delaminating in areas of pipe under the Straits. A third party analysis of the company's ability for emergency cleanup response determined the oil company was unprepared to handle an oil spill in the Great Lakes, especially if it occurred in windy weather or was complicated with winter ice cover. Enbridge announced last summer it would invest \$7 million in safety equipment for the Straits of Mackinac, but to many, it's not enough.

Many local tribes and tribal organizations have passed Resolutions calling for the decommissioning of Line 5. Numerous municipalities have also voiced opposition to Line 5. The threat to our communities and environment is too great. Recently, many land easements for the pipeline have come up for renewal. Approval for an easement on the Huron-Manistee National Forest was renewed in 2016. An easement for the Chequamegon-Nicolet National Forest is currently up for renewal. Early this year, the Bad River Band of Lake Superior Chippewa denied renewal of an easement that allowed the pipeline to traverse their Reservation lands. The Bad River Band took bold steps in calling for the decommissioning of Line 5 and removal of the pipeline from Bad River lands. CORA recently passed a resolution supporting Bad River's courageous decision.

To view pipeline locations and details on reported spills visit <https://vpnpms.phmsa.dot.gov/PublicViewer/>

Many local tribes and tribal organizations have passed Resolutions calling for the decommissioning of Line 5 in addition to many cities and townships.

- ✓ Bad River Band
- ✓ Bay Mills Indian Community
- ✓ Chippewa Ottawa Resource Authority (CORA)
- ✓ GLIFWC
- ✓ Grand Traverse Bay Band
- ✓ Lac Vieux Desert Band
- ✓ Match-E-Be-Nash-She-Wish
- ✓ Little River Band
- ✓ Little Traverse Bands
- ✓ Nottawaseppi Huron Band
- ✓ Saginaw Chippewa Tribe
- ✓ Sault Ste Marie Tribe
- ✓ United Tribes of Michigan



# INLAND FISH AND WILDLIFE PROGRAM UPDATE



Photo by Biological Services



Photo by Doug Larson

Top to bottom: check station data collection for elk; biologist holds a sturgeon caught during a population assessment.

What is a “check station”? Check stations allow biologists to inspect and gather information about animals harvested by hunters. The information collected may differ between species but usually includes sex, age and location data about the harvested animal. This also allows biologists to inspect the carcass for any signs of disease. Information gathered is shared among State and Tribal biologists to assist in the management of game populations in MI.

Inland staff were on hand to check elk shot by Bay Mills members during the 2016 MI elk hunt. Three cows and one bull were harvested. Also, this was the first year that Biological Services was open to check bears for members. Normally, hunters that harvest a bear must take it to a state-run check station. Check station hours during bear season run from 8AM-4:30PM, M-F.

Black Lake is one of the few places that Lake Sturgeon (*nme'*) can be harvested in MI. The third largest inland lake in MI, Black Lake holds roughly 1000 adult Lake Sturgeon. Since 1999, the largest Lake Sturgeon caught in Black Lake measured over 76in! Bay Mills Biologists were co-authors on the recently released “Management Plan for Lake Sturgeon in Black Lake”. The management plan outlines the goals for the Black Lake Sturgeon population and is a fantastic example of collaboration between Tribal, State and non-governmental partners. For more information on the Management Plan, go to [www.michigan.gov/som/0,4669,7-192-47796-398710--,00.html](http://www.michigan.gov/som/0,4669,7-192-47796-398710--,00.html) or search, “Black Lake Sturgeon Plan”.

## STAFF CHANGES in BIOLOGICAL SERVICES

Biological Services welcomed a new biologist to the team this year. Ian Harding began working at Bay Mills in January 2017 as a Great Lakes Fisheries Assessment Biologist. Ian is from Lyons, NY (near Lake Ontario). He earned a Bachelor of Science in environmental biology from the State University of New York College of Environmental Science and Forestry in 2009, then studied cisco population dynamics in western Lake Superior and received a Master’s degree from the University of Minnesota-Duluth in 2017. Ian has previously worked for the United States Geological Survey, the Utah Division of Wildlife Resources and the United States Fish and Wildlife Service. Ian grew up in the Great Lakes region and is passionate about the Great Lakes resource. He is also an avid outdoorsman and enjoys fishing, hunting, backpacking and canoeing.



Above: Ian Harding, new Great Lakes Fisheries Assessment Biologist



Bay Mills Indian Community  
Biological Services  
[www.baymills.org](http://www.baymills.org) 906-248-3241  
12140 Lakeshore Dr Brimley, MI 49715

Newsletter contact: Aubrey Maccoux-LeDuc, [amaccoux-leduc@baymills.org](mailto:amaccoux-leduc@baymills.org) 906-248-8652  
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