



BAY MILLS INDIAN COMMUNITY

# BIOLOGICAL SERVICES NEWSLETTER

SUMMER 2018

ISSUE 7



## INSIDE THIS ISSUE

IN THE NEWS: Manistee River Sturgeon Returns	1
WATER QUALITY PROGRAM UPDATE	2
INVASIVE SPECIES: Himalayan Balsam	3
WAKE-UP CALL IN THE STRAITS	4
LAKE HURON LAMP PUBLISHED	5
INLAND FISH & WILDLIFE PROGRAM UPDATE	6
GREAT LAKES FISHERIES PROGRAM UPDATE	7
STAFF CHANGES: Invasive Species, Fisheries & Seasonals	8

## IN THE NEWS: First Released Sturgeon Returns to Manistee River to Spawn

In April 2018, the Little River Band of Ottawa Indians Natural Resources staff, led by Corey Jerome (Sturgeon Biologist), recaptured a lake sturgeon from Manistee Lake that was raised and released in 2008 from their Sturgeon Streamside Rearing Facility at Rainbow Bend on the Manistee River. This is the first released sturgeon that has been documented returning into the Manistee River system from the rearing facility and is thought to be on its way up the Manistee River to spawn this spring. Little River staff were able to confirm the identity of this sturgeon by using the unique identification number scanned from the PIT-Tag in the fish. This tag was implanted into the sturgeon before its release in 2008. The sturgeon was released on 9/20/08 and was 7.3 in, 0.05 lbs and is now 10 years old and 45.27 in, 28 lbs! After taking measurements, the sturgeon was released. This is the first documented lake sturgeon from a streamside rearing facility to return to its natal stream within the Great Lakes.



Photo by Little River NRD

Above: Little River biologist holds Sturgeon.

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

# WATER QUALITY PROGRAM UPDATE

## What is a biofilm?!?

A biofilm is a naturally occurring layer of bacteria that can be found on the surface of mineral-rich wetlands and other waterbodies. Biofilms usually look like an oily sheen on the surface of water, often containing a rainbow of colors. The sheen is often confused with the spill or presence of oil or other petroleum products.

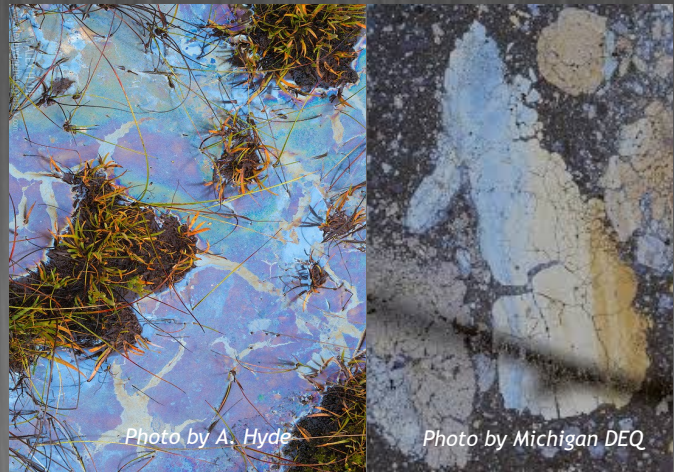
How do you tell the difference between a biofilm and an oil spill?

The easiest way to tell the difference between a biofilm and an oil spill is to attempt to break the film/sheen. For example, after poking or stirring a biofilm with a stick, the biofilm will break apart into waxy, geometric shapes that will not join back together. The sheen of an oil spill will simply merge back together to form a single continuous sheen.

Should I be alarmed if I see a biofilm?

No, there is no need to be alarmed or worried if you come across a biofilm. Biofilms are naturally occurring and common around Bay Mills.

For more information, contact Brian Wesolek at Biological Services 906-248-8648.



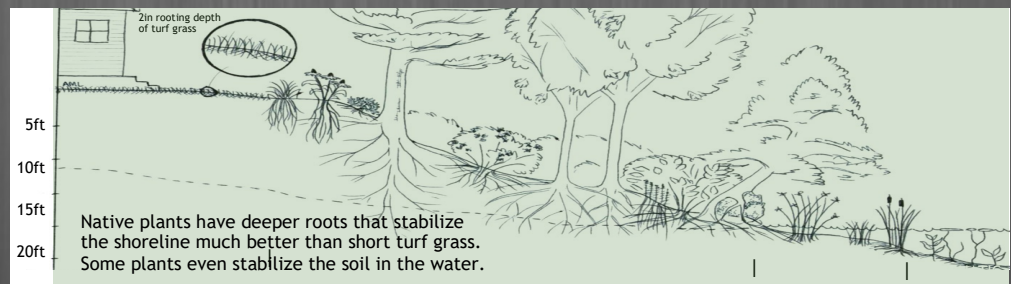
Left: Biofilm sheen. Note the iridescence and oil-like appearance. Right: Broken biofilm. Note the broken edges.

## 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 swimming 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, songbirds, nesting waterfowl, & insects
- Reduces and filters runoff containing fertilizers
- Improves water quality



What Makes a Good Buffer?

**SPACE:** More is better. 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, even in sand dunes.



# FEATURED INVASIVE SPECIES: Himalayan Balsam



5452940  
Photo by L. Mehrhoff, Bugwood.org



UGA2138021  
Photo by B. Tokarska-Guzik, Bugwood.org



UGA2137097  
Photo by B. Tokarska-Guzik, Bugwood.org

Himalayan Balsam (*Impatiens glandulifera*) is originally from the Himalayan region in Asia. It thrives in riparian zones (area that separates land and water bodies), but can be found in numerous locations ranging from yards to the roadside. Himalayan Balsam is also tolerant of various soil compositions.

Himalayan Balsam can be identified by its distinct hollow red-tinted stem with 5-10 flowers per stem. The flowers are composed of 5 petals and coloration can range from purple to pink. The plant usually ranges from 3 to 6 feet tall.

Currently, Himalayan Balsam has not been found on the Bay Mills Reservation. Unfortunately, it has been found in Brimley and in Sault Ste Marie. The Three Shores Cooperative Invasive Species Management Area (CISMA) has been working on mapping and control of this invasive in these locations since 2017.

## Why it's a Problem

Himalayan Balsam creates a large amount of nectar that encourages pollinators to visit the plants while neglecting other native plants, thus decreasing native plant pollination. It also alters water flow which can promote erosion and flooding.

## Ways to Control Himalayan Balsam

You can control Himalayan Balsam by pulling the plant and disposing of it. The most effective way to dispose of the plant is by burning it, though they can also be sent to the landfill. If there is a large quantity, the plants can be mowed down continuously below the first nodes on the stem. Plant seeds can last up to 18 months so any management plans should last a minimum of 2 years.

## Reporting Himalayan Balsam

For more information on Himalayan Balsam or to make a report contact Bay Mills Biological Services at (906) 248-8647 or [misin.msu.edu](mailto:misin.msu.edu). There will be ID workshops announced in the near future with the CISMA as well.

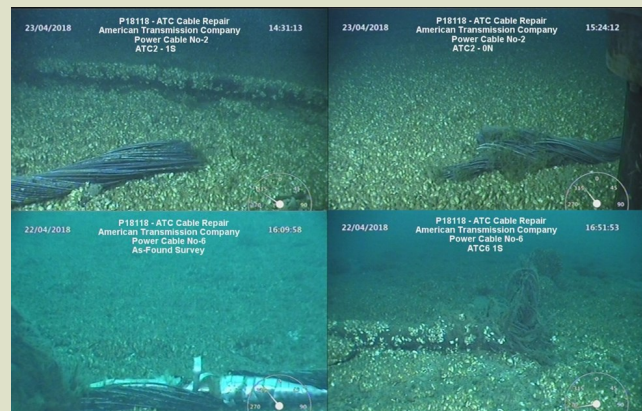
# WAKE-UP CALL IN THE STRAITS

## What Happened?

On April 1, 2018, a vessel allegedly dragged its anchor across the Straits of Mackinac. Many of the utility lines that traverse the Straits were damaged. The worst of the damage impacted American Transmission Company's (ATC) electrical transmission lines, severing two of the company's six lines which cross the bottom of the Straits. The severed lines leaked approximately 600 gallons of dielectric mineral oil, a coolant for the cables. Enbridge's Line 5 pipeline was also impacted, causing denting and metal gouging on the pipeline.

## Spill Response Efforts

The US Coast Guard coordinated response efforts. Federal, State, and Tribal representatives were briefed daily about the incident. Aerial surveys were conducted to look for oil in the Straits. Surveys were conducted by boat to look for oil and oiled wildlife. A remote operated vehicle was deployed to visually inspect the damaged lines. After these efforts, the severed lines were capped to prevent any further pollution. The type of dielectric fluid that was released was rather harmless to the environment. No oil was recovered from within the Straits.



Above: Severed electrical lines on the lake floor.

## Lessons Learned

There were many delays in the response to this oil spill. It took many days to determine the toxicity of the oil spilled. Critical equipment wasn't on site for weeks after the original spill date. If this spill had been Line 5 that leaked, given the weather conditions, very little could have been done to respond to the spill in the Straits.



Left: Ice conditions near the spill site in the Straits on April 2, 2018. Right: Capped electrical line on May 7, 2018.



# LAKE HURON 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 Bay Mills Indian Community. The Lake Huron LAMP was completed this fall with contributions from Bay Mills and many other tribes and agencies.

The general goals for the Lake Huron LAMP are:

1. Be a source of safe, high-quality drinking water
2. Allow for swimming and other recreational use, unrestricted by environmental concerns
3. Allow for human consumption of fish/wildlife, unrestricted by concerns of harmful pollutants
4. 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)
5. Support healthy and productive wetlands and other habitats to sustain resilient populations of native species
6. Be free from nutrients that directly or indirectly enter the water as a results of human activity, in amounts that promote growth of algae and cyanobacteria
7. Be free from the introduction and spread of invasive species that impact the quality of water of the Great Lakes
8. Be free from the harmful impact of contaminated groundwater
9. Be free from other substances, materials, or condition that may negatively impact the chemical, physical or biological integrity of the Great Lakes



Above: Lake Huron watershed including the St Marys River

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.

To view the complete Lakewide Action and Management Plan for Lake Huron, visit <https://www.epa.gov/greatlakes/lake-huron-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 Lake Huron or any of the Great Lakes, visit <https://binational.net/category/a2-2/lamps-paaps/> or <https://www.epa.gov/greatlakes/lake-huron#lamps>.

# INLAND FISH AND WILDLIFE PROGRAM UPDATE



Right to left: BMIC Biological Services staff working in collaboration with State of Michigan on a fish population assessment on Brevort Lake, capturing geese for banding, a sport-fish assessment on the Two-Hearted River, goose banding, and a sport-fish assessment on Naomikong Creek.



## Collaboration in Natural Resources

The Inland Fish and Wildlife program worked with numerous agencies and tribes to exchange information and experience to benefit fisheries and wildlife management throughout the 1836 treaty area in the summer of 2018. One of the agencies Inland staff worked with this summer is Michigan Department of Natural Resources (MDNR) Newberry Office by assisting with a fish population assessment in Brevort Lake, annual fish assemblage survey of the Two Hearted River, and a sport-fish survey of Naomikong Creek. Along with MDNR, Michigan State University, Little Traverse Band Band of Odawa Indians, and Grand Traverse Band of Ottawa and Chippewa, Inland staff completed a young-of-year assessment of lake sturgeon on the Black River. We also worked with the U.S. Fish and Wildlife Service's invasive species early detection unit to monitor the lower St. Marys River area for new Aquatic Invasives and assisted the MDNR with goose banding in Sault Ste Marie. Collaboration is not just a one-way street, the feedback and interactions with these other agencies betters sampling, methodology, and creates lasting relationships. The continued inter-agency cooperation is important to sustaining natural resources for future generations. "It is the long history of humankind, (and animal kind too), that those who learned to collaborate and improvise most effectively have prevailed." -Charles Darwin.



# GREAT LAKES FISHERIES PROGRAM UPDATE

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

- Pre-recruit Lake Whitefish surveys (annual): 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.
- Adult Lake Whitefish assessment (annual): Data are used for evaluating abundance and population characteristics of Lake Whitefish in eastern Lake Superior.
- Spring Lake Trout assessment (annual): 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 (annual): Rough fish (Common Carp, suckers, Bullhead), sunfish, Rock Bass, Walleye, Yellow Perch, Northern Pike, and Smallmouth Bass are typically caught in this assessment.

Bay Mills fisheries staff also monitors 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 Great Lakes fisheries program, please contact the program manager, Paul Ripple at (906)248-8649, [pripple@baymills.org](mailto:pripple@baymills.org).



Photo by Biological Services



Photo by Biological Services



Photo by Biological Services

Above left to right: BMIC Biological Services staff set nets in Lake Superior to be left out overnight for a Lake Trout population assessment. A staff member measures and collects biological samples from a fish during the Waishkey Bay fish community assessment. Staff use a beach seine to assess the populations of minnow and juvenile fish in the shallow water, especially whitefish and salmonids.

Below: Lake Whitefish caught during a winter assessment



## STAFF CHANGES in BIOLOGICAL SERVICES

Tiffany Escherich of Dafter, MI joined the Biology team in April as the full-time Invasive Species Specialist. She coordinates mapping, monitoring, and treatment of invasive species in the Bay Mills area. She also participates on the Three Shores CISMA (Cooperative Invasive Species Management Area) Steering Committee. Tiffany has been involved with Three Shores CISMA for the past four years. She also has plans to attend public events to spread the word about invasive species and the benefits of native plants. Tiffany studied Fisheries and Wildlife Management at LSSU. She has previously worked for the MDNR, USFS, UP Land Conservancy, and the Sault Tribe of Chippewa Indians doing invasive species mapping/management.



Above: Tiffany Escherich



Above: Jack Tuomikoski

Jack Tuomikoski recently joined our Biological Services team as a Great Lakes Fisheries Assessment Biologist. He comes to us with over 12 years of experience in fisheries ecology and has related degrees from University of Wisconsin (Superior, WI), North Carolina State University, and Michigan Technological University. Jack primarily works with the BMIC team on fish ecology assessments and studies. Jack is from the Upper Peninsula, and spent the first part of his childhood in the Keweenaw before moving to Grand Marais. He is a graduate of Burt Township High School in Grand Marais and has fond memories of fishing for steelhead, menominee and other fishes in Lake Superior and the nearby streams and lakes.

## SEASONAL STAFF in BIOLOGICAL SERVICES

Brandon Carrick of Brimley, MI worked for Biological Services for his fourth summer and is now a permanent, full-time employee. Brandon assists the Great Lakes Fisheries crew by conducting population surveys and maintaining equipment. He is also studying Criminal Justice at Northern Michigan University.

Caden Moran of Brimley, MI assisted the Invasive Species Program with mapping and pulling invasive plants around Bay Mills. He is studying computer information systems at BMCC, then plans to continue on to LSSU.

Taylor Purrenhage of Holly, MI assisted the Inland Fish & Wildlife Program with small mammal surveys, fish population assessments, wild rice, and ash mapping. Taylor is studying Fisheries and Wildlife Management at LSSU. She hopes to pursue a career in fisheries.

Nick Moorman of Newago, MI also assisted the Inland Fish & Wildlife Program with fish and vegetation surveys. Nick completed his Bachelor's degree in Fisheries Management at LSSU. He hopes to pursue a career in Great Lakes fisheries.

Hadley Reed of East Lansing, MI assisted with water quality monitoring, beach monitoring, and biological sample processing. She is studying Fisheries and Wildlife Management at LSSU and hopes to pursue a career in aquatic biology and entomology.



Above: Caden Moran, Taylor Purrenhage, Nick Moorman, and Hadley Reed.



Bay Mills Indian Community  
Biological Services  
www.baymills.org 906-248-3241  
12140 Lakeshore Dr Brimley, MI 49715  
Newsletter contact: Aubrey Maccoux-LeDuc,  
amaccoux-leduc@baymills.org 906-248-8652

This newsletter funded by the  
Great Lakes Restoration  
Initiative.

