Bay Mills Indian Community
Biological Services Newsletter

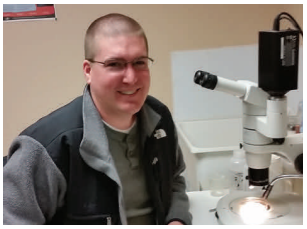
AUGUST 2015 ISSUE 1

INSIDE THIS ISSUE:

Meet Our Staff

Paul Ripple
Fisheries Biologist

Paul grew up in Milwaukee, WI. He earned a Bachelor of Science degree from Northern Michigan University and a Master of Science degree in Biology from Michigan Technological University. Paul joined Biological Services in 2003 as a fisheries biologist and taught science and math classes at Bay Mills Community College from 2005-10 while continuing to help with fisheries work. He has worked full time in Biological Services since then.



Brian Wesolek
Aquatic Biologist

Brian is from Saginaw, Michigan. He studied stressed aquatic systems and received a Master of Science degree in Biology from Laurentian University (Sudbury, Ontario, Canada) in 2009. In 2007, he received a Bachelor of Science degree in Fisheries and Wildlife Management from Lake Superior State University. Brian began working at Bay Mills in 2013 to manage the Tribe's Water Quality Program.

Wesley Parish
Invasive Species Specialist

Wesley is a Bay Mills tribal member and was raised on the Bay Mills reservation for most of his life.. He is an avid outdoorsman and was recently certified as a wildland firefighter. He began working for the Bay Mills Biology Department in Spring 2013, and is currently working on a number of invasive species eradication projects.

Skip Parish
Lead Fisheries Technician

Skip is a Bay Mills Tribal member, third generation commercial fisherman, and the captain of the Research Vessel Gichi Gami through which most of the assessment work is done. He started his work in biological fisheries in 1996 at the Inter-tribal Fisheries and Assessment Program and brought that experience to the Bay Mills Biological Department in 2004.

Emily Martin
Inland Biologist

Emily is from Montague, MI. She received a Bachelor of Science in Zoology from Northern Michigan University in 2011, then studied smallmouth bass population dynamics and received a Master's degree from Central Michigan University in 2013. Emily began working at Bay Mills in May 2014 as the Environmental Specialist. She has now assumed the position of Inland Biologist.

Bill Bernier
Fisheries Technician

Bill is from Brimley, MI. He received an Associate of Science Degree from Bay Mills Community College and a Bachelor of Science Degree in Fisheries and Wildlife Management from Lake Superior State University. Bill started working for Bay Mills in April 2015 and is a fisheries technician.

Ben Bowen
Water Quality Technician
Ben is a Bay Mills Tribal member and attends Bay Mills Community College, majoring in construction technology. This was his third summer working with the Biology Department, and he ended in early August. Previously, he has worked as water quality technician as well as an invasive species intern.

James Osga
Assistant Fisheries Biologist
James is from Frederic, Michigan. He graduated from Lake Superior State University in December of 2012 with a bachelor's degree in Fisheries Management. James started working with the Biology Department in May as the Assistant Great Lakes Fishery Biologist. He spent the past three years working for the Alaska Department of Fish and Game.

Matt Konieczki
Environmental Specialist
Matt is originally from Horton, MI. He graduated from Adrian College in May 2015 with a bachelor's degree in biology and environmental science. He started working for Bay Mills in May 2015, and manages the Clean Water Act nonpoint source pollution program and tribal capacity grant.

Community Involvement

Fisheries Program

The Bay Mills Fisheries program has an overall mission to ensure the responsible management and protection of the commercial fishery in the 1836 treaty ceded waters of the upper Great Lakes. In August 2000, Bay Mills entered into a Consent Decree with four other Michigan tribes, the State of Michigan, and the United States of America to cooperatively manage the fisheries resources of the Great Lakes waters of the 1836 treaty. As a result, the Technical Fisheries Committee was created to oversee monitoring, develop population estimates, and make management recommendations. A Modeling subcommittee was also created to assist with development of these estimates. Paul Ripple, Fisheries Biologist, represents Bay Mills Indian Community on both of these committees and oversees all other fisheries program activities. The fisheries staff also includes Skip Parish, Lead Fisheries Technician, James Osga, Assistant Fisheries Biologist, and Bill Bernier, Fisheries Technician.

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.

Fisheries staff conduct several other types of surveys on Lake Superior and Lake Huron:

- **Pre-recruit lake whitefish surveys (annual on Superior, Huron)**
  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.
- **Whitefish Bay & Upper St. Marys River assessments (3 per year)**
- **Annual spring lake trout assessment (Lake Superior)**
  Biological information on lake trout is used for harvest limit estimates. Diet analysis is also performed for several types of lake trout.
- **Lake whitefish assessment project (Lake Superior)**
  Data are used for evaluating abundance and population characteristics of lake whitefish in each management unit of the Great Lakes.
- **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.

Bay Mills fisheries staff have also been actively involved in cormorant assessment control since 2003. Double-crested cormorant populations have been increasing in the Great Lakes basin over the last three decades. Cormorants compete with humans for fish resources and outcompete other indigenous birds for nesting habitats. They seriously debilitate plant communities where they nest.

Control programs seek to reduce effects of cormorant populations through harassment and culling of adults and oiling of eggs.

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

Above: Fisheries Biologist, Paul Ripple, removes fish from a gill net during a fall assessment

Invasive Species: Eurasian Watermilfoil

Eurasian watermilfoil is an invasive plant species that has been found throughout Michigan. This plant forms thick mats in shallow areas of lakes and rivers which displaces native plants that fish and wildlife use for food and as habitat. In addition, these mats can impair your ability to swim, boat, or fish (University of Minnesota Sea Grant).

Eurasian milfoil has recently been found in Back Bay near the Bay Mills Resort & Casino. Our staff is hoping to stop this plant from spreading throughout the bay, but **we need your help**!

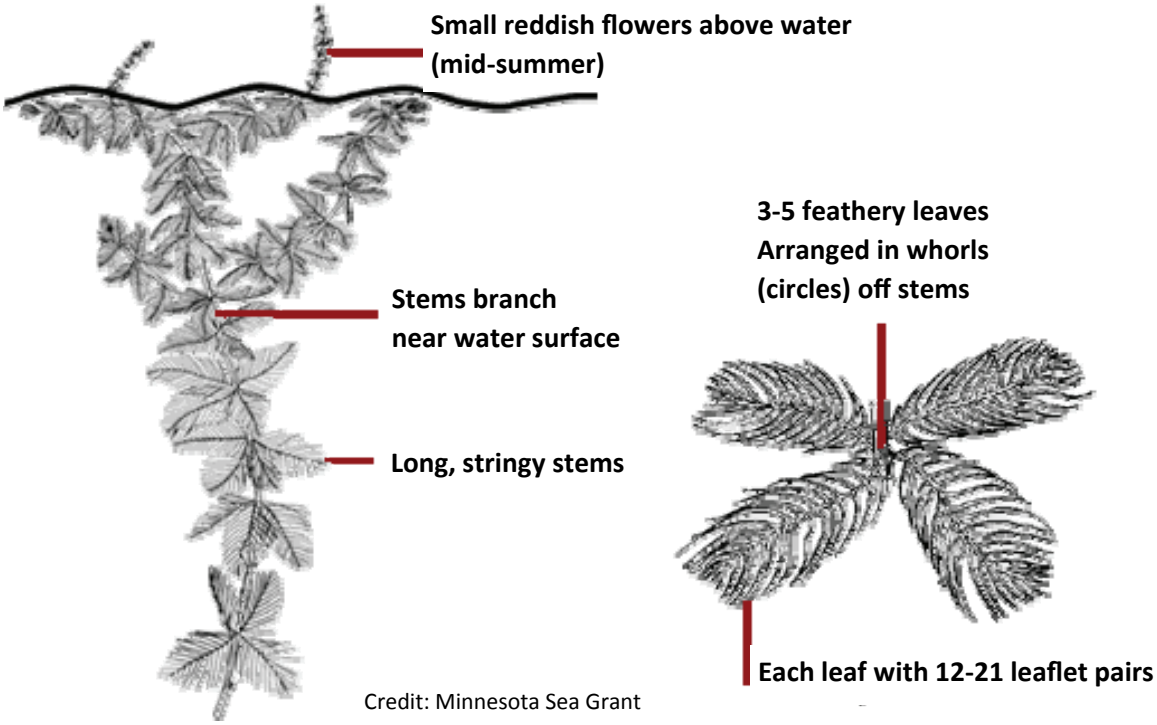
Milfoil is easily spread by plant pieces breaking off and clings to boats, motors, trailers, and fishing gear. The following steps can help you prevent the spread of Eurasian milfoil within the bay and to other waterbodies.

- Please inspect your boat, motor, and trailer when you leave a water body and remove any plant material you find.
- Drain any water from the live well and bilge.
- Rinsing the boat with high pressure hot water or letting it dry for at least 5 days will help kill any plants that you might have missed.

These steps also help prevent the transfer of many other invasive species and supplement control efforts!

If you find Eurasian Milfoil within Bay Mills Indian Community, call Wes Parish at (906) 248-8647

Photo credit: Wisconsin DNR



Credit: Minnesota Sea Grant

Water Quality Monitoring

Bay Mills Indian Community began developing its Water Quality Monitoring Program in 2004 after partnering with the U.S. EPA and receiving funding through the Clean Water Act, Section 106. This program is essential for the Tribe to monitor and protect all of its aquatic resources including streams/rivers, lakes, ponds, and wetlands. Currently, the Water Quality Monitoring Program is responsible for four major activities:

- **Routine Surface Water Quality Monitoring** – 26 sites throughout the Reservation are monitored for temperature, pH, dissolved oxygen, conductivity, turbidity, and nutrients. Biological communities including stream fish, aquatic invertebrates, and plankton are sampled as they are excellent indicators of the health of an aquatic system. The collection of these data is essential to understand baseline conditions, determine long-term trends, and to detect and mitigate any decreases in water quality.
- **Beach Monitoring** – Riverview and Gumshoe beaches are monitored weekly during the swimming season for bacteria which may indicate a hazard to public health. Beach closures and community-wide notification are enacted if samples show levels that are unsafe for swimming.
- **Waishkey River Watershed Monitoring** – 12 sites on the Waishkey River are monitored for bacteria and nutrients to determine how the river affects water quality of Back Bay and the upper St Mary's River, both important resources for the Tribe.
- **Dump Site Monitoring** – 4 sites on a small creek draining the now abandoned Superior Township dump site on Plantation Road are monitored for metal inputs in an effort to protect public health.

Past projects completed under this program include Back Bay water quality and sediment studies, a Round Island water quality study, and snow contaminant monitoring. Future water quality projects will include continued routine monitoring of all aquatic resources on the Reservation, and wetland monitoring, including the coastal wetlands of Back Bay.

If you have any questions or comments about the Water Quality Monitoring Program contact the program manager, Brian Wesolek, Aquatic Biologist at (906)248-8648, bwesolek@baymills.org.

Above: Brian Wesolek measures water velocity in Club Creek.

Invasive Species Program

The Bay Mills Biological Services Invasive Species Program's goal is to identify, prevent, control, and eradicate aggressive invasive species on tribal lands. An invasive species is defined as one that is not native to the area and has the potential to cause economic or environmental harm, or is hazardous to human health. One of the biggest projects the Invasive Species Program will be taking on this summer will be the removal of a dense stand of narrow-leaved cat-tails that are invading the south and southwestern shores of Back Bay. This cat-tail (*Typha angustifolia*) has completely choked out native vegetation in some areas and has been steadily spreading along the shore, gaining 12 to 20 feet per year, according to landowners. The native wide-leaved cat-tail (*Typha latifolia*) can hybridize with this plant, creating *Typha xglauca*, which is even more aggressive. Bay Mills Biology will be teaming up with the Loyola University of Chicago, The University of Michigan, and Lake Superior State University with the goal of using a cattail cutting machine and hand held cutters to remove the cattails from the bay.

In addition to the area of narrow-leaved cat-tails, Bay Mills Biology will also be targeting several other aggressive invasive species. Purple loosestrife, spotted knapweed, white sweet clover, and Scotch pine will also be manually removed at multiple locations. We will also be monitoring invasive insects such as the Emerald Ash Borer, Asian Long Horned beetle, and Oak Ambrosia Beetle. Anyone with questions or concerns about these plans is encouraged to contact Wesley Parish, Invasive Species technician for Bay Mills Biological Services, at 248-8647 or waparish@baymills.org.

Above: Narrow-leaved cattail

Nonpoint Source Pollution

The Nonpoint Source Pollution program was developed in 2010 after development of the Water Quality Monitoring program and is funded by the U.S. EPA through the Clean Water Act, Section 319. This program focuses on addressing nonpoint source pollution problems on the Reservation. Nonpoint source pollution or polluted runoff occurs when water runs over the ground and picks up pollutants (bacteria, sediment, fertilizers, road de-icing salt, detergents). These pollutants can come from roads, bridges, urban areas, construction sites, and agricultural sites. However, lawn maintenance, leaking septic systems, marinas/boating, and storm drain dumping are also contributors to nonpoint source pollution.

To receive this funding, Bay Mills Biology staff and Inter-Tribal Council of Michigan developed a five-year management plan to establish activities that would allow us to address nonpoint source pollution. Currently, we are working on bringing in the Natural Resource Conservation Service to consult on three erosion sites, completing road -stream crossing inventories, revising the management plan, and sampling the Waishkey River. In fall and winter 2015, we hope to also begin transplanting beach grass, developing a Waishkey River Management Plan, and investigating options for potential rain garden sites. In the past, activities have included: monitoring of erosion control at construction sites, beach grass plantings/restoration, development of Waishkey River assessment plan, and snow sampling at Bay Mills Resort & Casino. Education and outreach efforts such as newspaper articles and involvement in summer camps are another important part of the program.

If you have questions about the nonpoint source pollution program, please contact the program manager, Matt Konieczki, at (906)248-8652 or mkonieczki@baymills.org

Above: Emily Martin, Inland Biologist, measures the height of a culvert for a road-stream crossing survey.

New Inland Fish & Wildlife Program

The Inland Biology program is a new program that will focus on activities related to the 2007 Inland Consent Decree. In August 2007, Bay Mills entered into a Consent Decree with four other Michigan tribes, the State of Michigan, and the United States of America to cooperatively manage the inland fish and wildlife populations within the 1836 treaty area. Emily Martin, the Inland Fish & Wildlife Biologist, will be developing the program and beginning fish and wildlife assessments within the next year. Currently, she is working on identifying potential projects and will be representing Bay Mills in meetings of Committees formed under the 2007 Consent Decree, such as the Inland Fisheries Committee. Frog, toad, and waterfowl surveys have been completed in the past by other programs and these will begin again this summer and next spring. Other potential activities include wild rice monitoring, stream fish surveys, involvement in walleye population assessments with other tribes, and assessments on Monocle and Spectacle Lake. We are hoping to collaborate with other tribes or agencies on wildlife projects in the near future. If you have any questions about the new Inland Biology program, please contact Emily at (906)248-8651 or emartin@baymills.org.

Left: White-tail deer caught on a trailcam set by the Inland Biologist.

Right: Inland Biologist, Emily Martin, with a tagged snowshoe hare.

Soo Lock's Engineer's Day

Below: Biological Service's Table.

The Biological Services Department set up a table at the Soo Lock's Engineer's Day this year as a community-outreach event. In addition to talking with hundreds of local citizens and visitors, the staff also handed out information brochures concerning invasive species and brought in native aquatic macroinvertebrates. These critters were a huge hit, especially with kids, and allowed many to see an important part of nature which is often overlooked.

We plan to attend the event again next year in order to continue educating the public about the local watersheds, the Biology Department's work, and how citizens can do their part to protect their local aquatic resources. Please stop by next year. We are always more than happy to answer questions and help

Right: Kids examine the local macroinvertebrates, a good indicator of stream health.

Environmental Program

The tribal capacity grant is funding from the Great Lakes Restoration Initiative through the U.S. Environmental Protection Agency. This funding allows us to increase our capacity for involvement in Lake Superior Lakewide Management Plan (LAMP) and St. Marys River Area of Concern (AOC) efforts. Matt Konieczki, our Environmental Specialist, travels to meetings around the state, as well as Canada, to represent Bay Mills in the LAMP and AOC programs. However, we also use this funding for activities that help protect Lake Superior. This newsletter is considered a form of education and outreach for our department under the grant.

Our free tire collections (over 10,600 lbs collected in 2014 and part of 2015), household hazardous waste collection events, pharmaceutical collection, and the community bike program are all funded by the tribal capacity grant. In Summer 2015, we are also collecting residential compact fluorescent light bulbs, and plan to collect electronic waste. Waste collection events prevent harmful substances from entering the environment and affecting the Lake Superior watershed, while the community bike program helps reduce greenhouse gas emissions within the community. We even have temperature buoys in Whitefish Bay to track temperature changes over the summer months at various depths—this data is important in understanding the impacts of climate change in our area.

Finally, this funding can be applied to other programs with activities relating to the goals of the LAMP and AOC. For example, this funding can be used to purchase equipment for the Water Quality program because the monitoring data is important to LAMP efforts. It can also be used to organize volunteer events to remove invasive plants, such as the spotted knapweed pull held in June this year.

Below: Volunteers remove spotted knapweed near Bay Mills Community College in early September, 2014.

If you have questions about the Tribal Capacity grant or related activities, please contact Matt Konieczki at mkonieczki@baymills.org or (906)248-8652.

Below: Amounts and types of waste collected and properly disposed during the Household Hazardous Waste events on Oct. 11, 2014. & May 19-20, 2015

Waste Type	Amount (lb)
Dry cell batteries	22 lb
Pesticides	18 lb
Aerosols	50 lb
Automotive liquids	790 lb
Solvents	253lb
Paint	2844 lb
Total waste	**4019 lb**

Bay Mills Indian Community
Biological Services

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