

Current Reflections

FALL / WINTER 2017



Battle on Invasive Mussels Continues

On a misty July morning, just before dawn, a large aluminum barge crept across Round Lake near Petoskey. Guided by a high-grade GPS unit, the barge and its crew readied itself on the border of a nearshore study plot flanked by flags. With the boom lowered and the pumps engaged, the barge began its pattern across the plot. In its wake, a hazy white substance wafted through the water column. This marked the first open water application of Zequanox®, an environmentally compatible control product for invasive zebra and quagga mussels.

That application, and several more, were the culmination of efforts over the past year as the Watershed Council partnered with other organizations to orchestrate a research project funded by the Great Lakes Restoration Initiative (GLRI). The project will provide critical information for furthering the use of this promising bio-based control measure to rid lake environments of invasive zebra and quagga mussels.

Zequanox® is not a chemical; rather, it is composed of dead cells of the common soil bacterium, *Pseudomonas fluorescens*, grown in Bangor, Michigan, by Marrone Bio Innovations. The powder is mixed with lake water and injected above the lake's bottom, where zebra and quagga mussels filter feed on the material just as they would zooplankton, their natural food source. Within 7-20 days, Zequanox® causes the digestive system of the mussels to fail, resulting in their death. A large body of past laboratory work confirms that other aquatic organisms such as unionid mussels (native clams), invertebrates, fish, birds, mammals, and plants are unlikely to be harmed by Zequanox®. Furthermore, Zequanox® is biodegradable and quickly dissipates within the aquatic environment.

This project brought together researchers from the University of Michigan Biological Station, United States Geological Survey, and the Michigan Natural Features Inventory to monitor many aspects of the aquatic environment surrounding Zequanox® treatments. This study will provide statistically-rigorous and detailed information on large-scale Zequanox® use, bringing this promising technology to mainstream use.

While monitoring efforts will continue into 2018 and the results are preliminary, the project is well on its way to success. Informal observations taken during and after Zequanox® use documented a healthy lake. No obvious impact to aquatic organisms was observed and dissolved oxygen remained high throughout treatment plots. The data will be processed over the winter, compared with data from next year, and the results will be shared with the public. Look for more information in a future issue of *Current Reflections*.

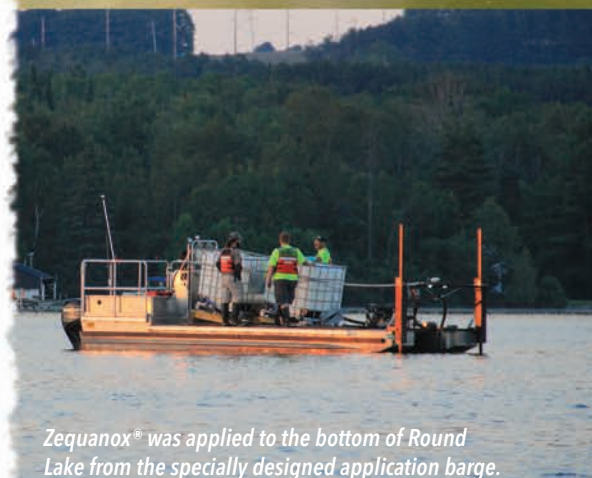
Zebra and quagga mussels can attach to and smother native mussels, reduce available food for larval fish and other animals, and cause nuisance aquatic vegetation to grow as a result of increased water clarity.



Monitoring native mussels prior to Zequanox® application.



Collecting native mussels.



Zequanox® was applied to the bottom of Round Lake from the specially designed application barge.



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Reflections From Our Executive Director

Once again this summer, the staff and volunteers at Tip of the Mitt Watershed Council were hard at work on a myriad of projects to protect and restore Northern Michigan's water resources. I say protect *and* restore because the two actions go hand in hand. Our actions to protect resources include gathering data and information on the state of our lakes and streams so we can assess their health and respond to threats in a knowledgeable manner. We build on this knowledge to influence the policies that impact our resources. Please read about our efforts to save Michigan's wetland protection program on page 5 as one example of our policy work. Our success on this effort is tied directly to our knowledge of wetland ecology and the implementation of the regulatory process in the field. Our respect and influence is based on firsthand knowledge and we believe the outcome in the policy arena depends on it.



Gail Gruenwald
Executive Director

You will also see in this newsletter that managing invasive species and restoring the ecology of our lakes and streams is a priority for us. I can't think of a greater threat and challenge to our lakes and streams than the continual introduction and proliferation of exotic invasive plants and animals. Through our surveys and management actions, we are addressing this onslaught to restore our resources.

One definition of "restore" is to bring back to health and vigor. Many question if lakes and streams can be fully restored after their ecology is so greatly disturbed by invasive species. We believe that positive results are possible and that a great deal can be done to reverse the negative impacts our lakes and streams have felt. Our study and use of Zequanox® on Round Lake to treat the ongoing invasion of zebra and quagga mussels illustrates how we take action to address this threat. See the cover article in this issue.

Through our policy efforts on the national level, we are working to prevent the introduction of new species. We are both working to protect and restore our lakes and streams from the devastation of invasive species.

We will continue with our multi-tier approach of protecting and restoring our resources. Our surveys, management, on-the-ground actions, and policy initiatives will combine to provide Northern Michigan with the tools we all need to keep our waters healthy now and in the future.

Michigan Swimmer's Itch Partnership

The Michigan Swimmer's Itch Partnership (MSIP), an informal partnership of lake associations, was awarded a special appropriation of \$250,000 from the State of Michigan to work on control, prevention, and research relating to swimmer's itch in Michigan lakes. Tip of the Mitt Watershed Council has contracted with the Michigan Department of Natural Resources (MDNR) as fiduciary for the project.

Susan Price has been contracted as the Project Director. She spent twenty-six years managing the operations, finances, and outreach programs of the Leelanau Conservancy and was directly responsible for managing annual giving programs during that period. Susan will be in charge of administering and tracking the work of sub-contractors conducting control, mitigation, and research programs on lakes chosen for the study.

The MSIP Conference was held September 18, 2017, at the Haggerty Center in Traverse City to unveil the work conducted this year and the plans going forward in the next year with another \$250,000 appropriation. We will soon have a video on our website so you can learn more about this great new program. In the second year, the Watershed Council hopes to become more involved programmatically in the project, assisting with volunteer monitoring and data gathering.

Learn more about MSIP's efforts, visit www.misip.org

UPDATE: Line 5 at the Straits of Mackinac

The draft Alternatives Analysis for the Straits of Mackinac Pipeline report was released by the State of Michigan this summer for public comment. The Watershed Council took the opportunity not only to submit detailed comments on the draft report, but we also held public engagement workshops to help citizens effectively participate in the public comment process. Thanks to generous funding provided by the Petoskey-Harbor Springs Area Community Foundation and the Charlevoix County Community Foundation, we hosted seven workshops throughout Northern Michigan, providing approximately 100 individuals with information on what was in the draft Alternatives Analysis report, including our critique of the report and how to most effectively submit public comments.

The Watershed Council's comments were among the thousands that residents, environmentalists, local governments, petroleum trade associations, state agencies, and even the government of Canada submitted in response to the draft report. Our comments focused on the significant errors in the report that led to inappropriate evaluations and conclusions. We provided a long list of primary concerns including flawed methodologies, inaccurate assumptions, and extensive data gaps.

In particular, the report failed to evaluate the "worst-case spill" scenario, significantly underestimating the probability, size, and impact of a spill in the Straits of Mackinac. This also led to a

dramatic undervaluation of the costs associated with a release. With respect to the alternatives, the report failed to analyze multi-modal options or the use of multiple modes to transport the commodities. The report also took an approach that assumes that the citizens of Michigan are responsible for ensuring that Enbridge Energy can deliver its products. This results in the elimination of certain alternatives prematurely. There is a lengthy list of vital information missing from the draft report including how long the current pipeline can effectively operate without needing to be replaced or repaired, and how regulatory requirements and timeframes impact alternatives. For example, Attorney General Bill Schuette has stated, "You wouldn't site, and you wouldn't build and construct pipelines underneath the Straits today." The list of missing information also includes how past excessive span lengths impacted pipeline integrity, how frequent anchor drops occur in the Great Lakes, and so much more.

We hope that these and all the other deficiencies pointed out during the public comment period are adequately addressed before the report is made final. After all, the Alternatives Analysis is a critical component to ensure the State makes the best decision regarding the future of Line 5 and our water resources.

To read the full comments the Watershed Council submitted, visit www.watershedcouncil.org/pipeline.

ALTERNATIVES ANALYSIS FOR LINE 5 AT THE STRAITS OF MACKINAC Opportunities to Submit Public Comments on Final Report

The Alternatives Analysis final report is scheduled to be released publicly on November 20 and comments will be accepted at public meetings, online, or by mail until December 22.

With the report's release November 20 on the Pipeline Safety Advisory Board website (<https://mipetroleumpipelines.com>), a 30-day window opens for online comments about what the State should do regarding the future of Line 5. The December 22 deadline for comments includes two additional days to account for the Thanksgiving state holidays during the comment period. Comments can also be mailed to: Department of Environmental Quality, Attn: Line 5 Alternatives Analysis, P.O. Box 30473, Lansing, MI 48909-7973.

Three public feedback sessions have been scheduled in December so the public can suggest the next steps the State should take

regarding Line 5, based on information in the final version of the independent Alternatives Analysis.

- **Wednesday, December 6, in Taylor**, beginning at 6 p.m., at the Heinz C. Prechter Educational and Performing Arts Center, Wayne County Community College District, Downriver Campus, 21000 Northline Road.
- **Tuesday, December 12, in St. Ignace**, beginning at 6 p.m., at Little Bear Arena & Community Center, 275 Marquette Street
- **Wednesday, December 13, in Traverse City**, beginning at 6 p.m., at the West Bay Beach Holiday Inn Resort, Leelanau Banquet Rooms, 615 E. Front Street.

LINE 5 information at your fingertips!

Just send your email by text message:

Text **LINE5**
to **22828**

We will send you action alerts,
updates, news, and more exclusively
about Enbridge Line 5.

Message and data rates may apply.





Silver carp jumping in the Fox River in Illinois

Photo: Ryan Hagerty/USEWS

ASIAN CARP

Report Finally Released



On August 7, the U.S. Army Corps of Engineers (USACE) released a draft plan for how to protect the Great Lakes from the invasive Asian carp. The USACE looked at options for bolstering defenses at the Brandon Road Lock and Dam near Joliet, Illinois, a choke point between the current location of Asian carp and the Great Lakes.

The USACE evaluated six options, from taking no action to putting in place a host of technologies and structures to repel the fish. The USACE's tentatively selected plan (TSP) calls for building a new lock in combination with other technologies such as water jets, complex underwater sound, and electric fences to defend the Great Lakes from Asian carp. The estimated construction cost for the recommended plan is approximately \$275 million, and the construction could be done by 2025.

Overall, the solutions proposed to bolster defenses at Brandon Road Lock and Dam are a very good upgrade over our current inadequate system. This will be a big step in our effort to protect the Great Lakes from Asian carp. The USACE needs to finalize

this plan as quickly as possible and Congress must act with urgency to authorize the necessary actions to implement it.

However, these defenses are geared only toward reducing the risk of invasive species moving upstream from the Mississippi River Basin. Congress originally authorized the USACE to find a two-way solution to stop the transfer of invasive species between the Great Lakes and the Mississippi River. Eventually, we need to put in place a system that blocks any and all invasive species from spreading from the Great Lakes to the Mississippi River—and vice versa. The Great Lakes have used the Chicago Area Waterways System as a superhighway for spreading invasive species to other parts of the country, including zebra and quagga mussels and the round goby, to name a few. We need the USACE and others to immediately investigate more aggressive measures that will prevent species movement in both directions while also moving forward on implementing the TSP.

The draft plan can be found at: www.glmris.anl.gov/brandon-rd



Map showing locations of key features or measures of the tentatively selected plan at Brandon Road Lock and Dam.

Source: USACE

Repeal of Clean Water Act Rule

The Trump administration is rolling back an environmental rule intended to define which bodies of water are subject to federal authority under the Clean Water Act. The President signed an Executive Order directing the U.S. Environmental Protection Agency (EPA) and the U.S. Army Corps of Engineers (USACE) to review the 2015 "Waters of the United States" rule. In doing so, President Trump began the process to repeal and replace the current rule.

The EPA and USACE adopted the Clean Water Rule (Rule) in May 2015 to clear up longstanding confusion over which water bodies are protected by the landmark 1972 Clean Water Act. The rule more clearly defines what kinds of waters get guaranteed coverage and which ones are exempt. Before finalizing the Rule in 2015, the EPA held more than 400 meetings with stakeholders across the country and published a synthesis of more than 1,200 peer-reviewed scientific publications, which showed that the small streams and wetlands the Rule safeguards are vital to larger downstream waters.

Despite the strong scientific basis and vigorous public engagement, Trump would like the Rule eliminated and would like "Waters of the United States" to be limited to "only relatively permanent, standing or flowing bodies of water." The implications of this are astonishing. It could mean the loss of pollution protections for the nearly 60% of streams in the lower 48 states that don't flow year-round - almost 2 million miles of streams! It also could mean the end of Clean Water Act protection for countless wetlands, perhaps even most of the 110 million acres in the continental U.S., because they don't have a surface connection to "relatively permanent" waters.

Repealing the Clean Water Rule is a misguided direction that places our waters and wetlands at risk. It jeopardizes not only the health of the Great Lakes, but also the citizens who rely on it for our drinking water, our economy, and our way of life.

What's at risk?

**Nearly 60 % of streams
in the lower 48 states.**

**Approximately 110 million
acres of wetlands in the U.S.**



UPDATE: State Wetland Program

For nearly the last 20 years, the State of Michigan has not been administering Section 404 of the Clean Water Act correctly. To keep the authority to administer Section 404, which governs wetland activities, the State must maintain a program that is equivalent to the federal program administered by the U.S. Environmental Protection Agency (EPA).

In July of 2013, Michigan enacted Public Act (PA) 98, which contained significant amendments originally intended to fix problems with the State's wetland program. However, PA 98 failed to do so. As the Watershed Council expected, which is why we opposed the bill, the EPA disapproved many of the revisions included in PA 98.

With formal disapproval of the changes, stakeholders were once again asked to work to fix these inconsistencies. But rather than working towards a solution to ensure Michigan can maintain its authority to administer the federally-delegated program, the Michigan Chamber, in partnership with the Michigan Farm Bureau, are requesting that the EPA take a second look at Michigan's wetlands law to determine if the law complies with federal requirements. Their hope is that under the Trump administration, which is already attacking the Clean Water Act and hoping to eliminate a fundamental rule essential to wetland protection (see article to the left), the State of Michigan will be allowed to rollback protections as well.

While such a move can be expected from entities that have continuously fought to weaken Michigan's wetland program, the response from the Michigan Department of Environmental Quality (MDEQ) came as quite a surprise. To our dismay, the MDEQ is also asking the EPA for a second review of Michigan's amended program. While we were hoping to see a strong showing from the MDEQ to make the necessary changes to ensure a long-term, efficient, and effective wetland protection program, we are instead seeing actions that will only jeopardize the health of Michigan's wetlands and Great Lakes.

AQUAVIST NETWORK

Aquavist ('ä-kw-vist) noun: A member of Tip of the Mitt Watershed Council's Local Activist Network; from Aqua - water, and Activist - one who seeks change through action.

For the past two years, the Watershed Council has worked on septic system health and maintenance. We recently received a grant from the Michigan Department of Environmental Quality to continue our Septic Question Project, in partnership with the Health Department of Northwest Michigan, in the Lake Charlevoix Watershed. We are also working with the Burt Township Planning Commission as they debate passage of a time of transfer septic inspection ordinance. In Emmet County, we will print and distribute a version of our Septic Question Project Report over the winter.

In the Elk River Chain of Lakes (ERCOL), we are also working with a septic subcommittee of the ERCOL Watershed Plan Implementation Team. The subcommittee includes local groups, lake associations, the Health Department, and The Watershed Center Grand Traverse Bay. The goal is to identify causes of priority problems and examine potential solutions to protect water quality in our region.

Milton Township adopted a time of transfer septic inspection ordinance in 2012. From that ordinance, we know that 23%

of the inspected systems had no record on file at the Health Department. The subcommittee established a pilot project to see if we could collect this missing information. In late August, a mailing went out to 1100 addresses. It included a letter of explanation, a form to fill out, and a pamphlet of practical information about caring for your septic system. Participation is voluntary, and recipients who agree to help are entered into a drawing for a gift package from Short's Brewery worth over \$75! Having complete information about septic systems is beneficial when evaluating and managing regional water quality and wastewater issues. We are happy to report that over the past few weeks the responses have been pouring in. We will share results in our next newsletter and announce who wins the drawing! If you have questions about this topic, please call Grenetta Thomassey at 231-347-1181, ext. 118.

For more information, contact Grenetta Thomassey, Watershed Policy Director, at (231) 347-1181 ext. 118 or visit the Aquavist webpage at www.watershedcouncil.org/aquavist-network.

Stover Creek Dam

Early this year, Tip of the Mitt Watershed Council took the first steps toward restoration of the lower stretch of Stover Creek by contracting with Northwest Design Group to investigate the possibility of removing a small dam at the mouth of the Creek. The study, generously supported by the Charlevoix County Community Foundation, concluded that while not currently impounding flows, the dam serves as a barrier to migration of fish and other aquatic organisms, effects hydrology, and may affect stream temperatures. Furthermore, the dam is currently impounding a significant quantity of sediment. If the dam were to fail and accidentally release this sediment, there would be very negative impacts on habitat and aquatic species. Debris also frequently builds up on the dam's upstream face and leads to flooding during high flows. In addition, the dam currently has no use. Therefore, its removal is recommended.

Looking ahead, the Watershed Council will work with resource managers and adjoining landowners to continue this effort, including identifying potential funding sources for engineering, construction, and restoration.



PROJECT RAIN GARDEN

Petoskey Rain Garden Project coordinator, Jennifer Buchanan and Chris Leifon of Wild Flowers! discuss the progress of the rain garden installation at the corner of Fulton and Howard Streets in Petoskey.



NEW DIY GUIDE AVAILABLE

For those of you who identify with the green-thumbed, do-it-yourself crowd, the Watershed Council has just the resource for you. Pick up your free copy at our office at 426 Bay Street, Petoskey, or feel free to download *Plant a Rain Garden: A How-To Guide for Homeowners* to learn the basic steps to locating, constructing, planting, and maintaining your very own rain garden. Don't wait for a rainy day, get planning for your rain garden today! Support for this publication generously provided by the Little Traverse Bay Protection and Restoration Fund of the Petoskey-Harbor Springs Area Community Foundation.

Fall / Winter 2017

Project Rain Garden is underway in Petoskey!

This past spring, the Watershed Council launched Project Rain Garden as part of our ongoing efforts to protect the water quality of Little Traverse Bay. Rain gardens are a smart and proven way of using landscaping to protect our water resources, enhance habitat, and beautify our homes and neighborhoods. A rain garden is a bowl-shaped garden designed to slow, filter, and absorb stormwater runoff from nearby impervious surfaces, such as roofs and driveways. Stormwater, which is the greatest source of pollutants to Little Traverse Bay, carries with it nutrients, sediments, bacteria, and other forms of nonpoint source pollution that can impact water quality, aquatic habitat, and public health.

As part of Project Rain Garden, a total of 12 residential rain gardens and one public rain garden will be installed using a cost/share program. Participating homeowners will be subsidized 40% of the construction costs, up to \$1500! To date, four rain gardens have been installed. The Watershed Council is still looking for homeowners within the City of Petoskey who may be interested in participating. If you think you might have just the spot for a rain garden, schedule a site meeting with Watershed Council staff. The best sites have well-drained soils, are located where runoff can be intercepted, are at least ten feet from any structures, and are not over any buried utilities. If your location is selected, you have the option of either working with the Watershed Council's landscape contractors or you can do it yourself! Support for Project Rain Garden was provided by the Little Traverse Bay Protection and Restoration Fund of the Petoskey-Harbor Springs Area Community Foundation.



Rain gardens are specifically designed to address stormwater runoff on each property and vary in shape, size, and complexity.



Geomorphology and habitat mapping were completed prior to removing and replacing the two undersized culverts that restricted flow and fish passage on Minnehaha Creek.



During construction.



After installation of the new culvert.



8 Tip of the Mitt Watershed Council

Road/Stream Crossing Restoration Minnehaha Creek at Maxwell Road

The Minnehaha Creek is flowing a bit more freely thanks to a new and improved culvert in Springvale Township. This is great news for the brook trout that inhabit the stream's cold, clean waters. The Maxwell Road crossing is one of two to be addressed as part of the Watershed Council's project Improving Aquatic Connectivity and Water Quality of Northern Michigan's Minnehaha Creek. Prior to its replacement, the culvert was significantly undersized and perched (the bottom elevation of the culvert was not flush with the streambed), which posed a passage barrier to nearly all aquatic organisms. In 2018, a second crossing at Pickerel Lake Road will undergo an even bigger upgrade. Three existing metal culverts will be replaced with a stream channel-spanning timber bridge.

Improving road/stream crossings is just one of several management priorities that will help protect this high-quality, coldwater trout stream. These two sites were identified as priority crossings as part of the comprehensive road/stream crossing inventory completed in 2014 by the Watershed Council. The results from the inventory revealed that of the 182 road/stream crossings within the Burt Lake Watershed, 52 crossings are considered complete fish passage barriers and 63 are rated as severe with regard to overall degree of erosion, hydrology, and fish passage.

The Watershed Council is collecting baseline information at both crossings and will return to these locations after construction to determine if any changes in the stream have occurred. The anticipated long-term benefits include improved hydrology and stream channel form, as well as increased fish passage to upstream portions of the stream.

Funding and project assistance were provided by the National Fish and Wildlife Foundation's Sustain Our Great Lakes program, the US Fish and Wildlife Service Fish Passage program, the Baiardi Foundation, Patagonia, Michigan Department of Natural Resources, and the Emmet County Road Commission.

Make Plans to Improve Your Shoreline

Summer has passed, the leaves have changed, and the docks and boats are safely stored off the lakes. However, even though winter is just beginning in Northern Michigan, it's not too early to be thinking about next summer's lakefront projects. As you begin your planning, be sure to check out the Michigan Shoreland Stewards (MiSS) survey to help you assess your property and inspire you to elevate your stewardship practices. The MiSS survey is a web-based questionnaire that provides recognition and resources for property owners who are using best management practices to protect their lake.

The online survey breaks the shoreline property into 4 sections: the upland zone, the buffer or greenbelt zone, the shoreline

zone, and the lake zone. Specific questions about property management practices in each zone help the survey respondent understand the impact of their actions. The respondent's answers are used to determine areas for improvement and potentially qualify them for a certificate of recognition.

If you own lakefront property and are interested in being recognized for your good management practices or you want to see how you can improve your shoreland management, the MiSS survey is here for you! For more information on the Michigan Natural Shoreline Partnership, visit www.mishorelinepartnership.org. To take the MiSS Program survey visit www.mishorelandstewards.org.

Your answers in these four areas are used to determine areas for improvement and potentially qualify you for a certificate of recognition.



Upland Zone: This zone is the furthest from the lake. It starts where the Buffer Zone ends 35 feet from the top of the shoreline bank. This zone typically includes most of the structures such as the house, driveway, and garage.



Buffer Zone: This zone is immediately next to the lake. It begins at the top of the bank (edge of the Shoreline Zone) and is the first 35 feet of the lakefront property.



Shoreline Zone: This is the transition zone from water to land. There is not an exact line between the buffer and lake zones. It begins at the top of the bank and extends to the land-water interface. The shape and size will vary greatly depending on the lake, water level changes, soils, and other factors.



Lake Zone: This is the nearshore area or "littoral zone" of the lake. It is the shallow part of the lake where there is enough sunlight reaching the lake bottom to allow aquatic plants to grow. The size of this area will vary depending on the lake size, shape of the bottom of the lake (bathymetry), and water levels. Some lakes will have very large littoral zones with a lot of aquatic plants and some will have very small ones with few aquatic plants.



BAY



DAY



2017

BAY DAY

The Tip of the Mitt Watershed Council celebrated the third Waganakising (Land of the Crooked Tree) Bay Day in mid-August during Petoskey's Festival on the Bay. Watershed Council staff were there to demonstrate the watershed model, showcase macroinvertebrates from the Bear River, and teach the fun, hands-on art of fish printing. Local organizations and groups like the Little Traverse Conservancy and the Little Traverse Bay Bands of Odawa Indians were also there to share their work in protecting Northern Michigan's natural resources. The Inland Seas Education Association from Sutton's Bay were our partners during this event and invited local youth to sail on their Schooner, the Inland Seas, during the celebration as well. On the morning of the Festival, local students set sail on Little Traverse Bay. During the sail the students had the chance to study the fish and zooplankton in the lake, collect water quality data, and even sail the ship! If you are interested in joining in the festivities next year, be sure to look for the Watershed Council's Summer Events Calendar in the spring.

Summer Interns

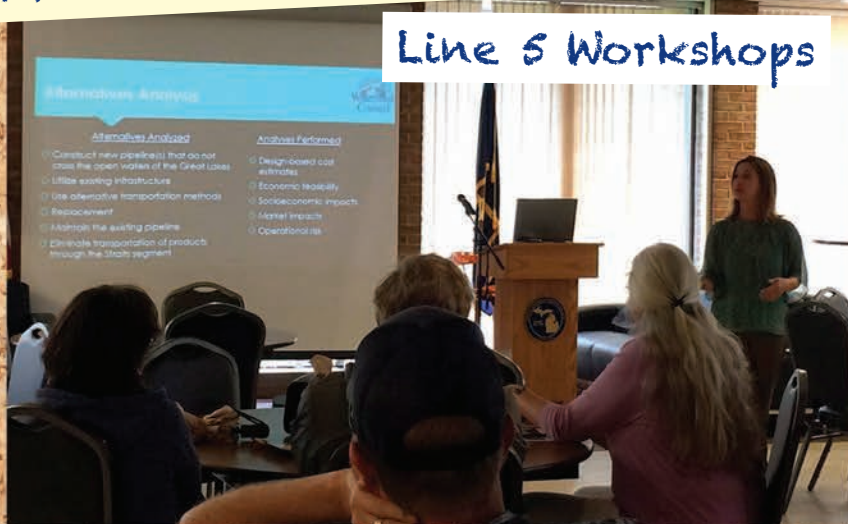


Glad you could
join us for
**One busy
summer!**



Student Visits to the Freshwater Center

Line 5 Workshops





13th Healing the Bear

On August 20th, over 120 enthusiastic volunteers gathered with Watershed Council staff under the Bear River Shelter in Petoskey to participate in the 13th Healing the Bear - Bear River Cleanup. The sun was shining and there wasn't a cloud in the sky as the volunteers ventured into the River on foot and in canoes. After collecting two full truckloads of trash and recyclables from the River, volunteers gathered again under the Bear River Shelter for a picnic lunch provided by the Grain Train Natural Foods Market, Oleson's, and Meijer of Petoskey. Other businesses that donated to the Cleanup were Bearcub Outfitters, Emmet County Department of Public Works, and Petoskey Plastics. Thank you all for your sponsorship and support!



Charlevoix joins the Watershed Academy!



New middle school program!



Youth Education Program Continues to Grow

The Watershed Council is excited to have a new high school team joining the Watershed Academy. This fall, science teacher Christine Burmeister will support a Watershed Academy team at Charlevoix High School. The team will monitor Inwood Creek, located in Fisherman's Island State Park on Lake Michigan. The Inwood Creek team joins three participating Charlevoix County teams from Boyne City, Boyne Falls, and East Jordan.

The addition of Charlevoix High School means the Watershed Academy now has a total of 11 teams that participate in the Watershed Council's successful high school stewardship program centered on stream monitoring. At the end of programming in 2017, over 400 high school students will have participated in monitoring our local streams while being a part of a larger cause – protecting water quality in Northern Michigan.

We would like to thank the Charlevoix County Community Foundation for funding the purchase of three waterproof GoPro cameras and laptops, dedicated for Watershed Academy teams to help communicate their stewardship experience and research through video. The Watershed Council's YouTube channel will feature team video productions showcasing academy members in action during their stewardship experience.

But wait, there's more!

Due to the success of our high school Academy, a new middle school program will support efforts of the Watershed Academy and provide a continuum of water resources education for area students, furthering the education of our future stewards.

The Watershed Council received funding from the Great Lakes Fishery Trust to implement the Water Resources Education Program (WREP) in area schools beginning in late fall 2017. This funding will help provide water resources education and stewardship opportunities to middle school students and support for teachers in Antrim, Charlevoix, Cheboygan, and Emmet Counties.

WREP is a pilot program that engages middle school students in foundational watershed experiences that enhance the local curriculum, increase water resources literacy, and foster a stewardship ethic in a team structure. WREP will engage students in place-based learning experiences both in and with their community.

Using local school grounds, teams will become experts on how soil, vegetation, land use, and personal actions affect water bodies, land, and the organisms that live in them. Teams will develop stewardship "action projects" designed to teach students how they can become watershed stewards and environmental leaders in their communities.

Watershed Council education staff will conduct special WREP seminars that take place during regular science class, introducing both students and teachers to water resource literacy by using place-based education concepts and supporting the development of a stewardship action plan. Teachers participating in the pilot year will have the instructional tools, materials, and support from the Watershed Council to lead their own WREP teams the following year.

Over 400 students from Petoskey, Boyne City, Wolverine and Ellsworth middle schools will start in late October. If you are interested in learning more about this new program, contact Maria Affhalter, Water Resource Education Director or Eli Baker, Education and Outreach Specialist at (231) 347-1181.

Volunteer of the Year: Charlie MacDonald



Grenetta Thomassey (right) congratulates Charlie MacDonald (left), our Volunteer of the Year.

At the Watershed Council Annual Meeting this summer we named our Volunteer of the Year: Charlie MacDonald. Charlie served as our Policy Intern from October 2016 until May 2017, and we were lucky to have him!

Charlie graduated from a small college in Prescott, Arizona. He went to Cooley Law School and then pursued a Masters' degree in Environmental Law at Lewis & Clark College in Oregon. His family visited Northern Michigan when he was a child and his parents eventually retired to Boyne City. Charlie recently moved to Traverse City to pursue job opportunities.

Charlie works very hard and does a terrific job. He was great with researching difficult issues, such as septic system land application laws, and putting information into useful forms. We are so grateful that he spent his fall and winter with us, contributing hard work and enthusiasm. We thank Charlie for his valuable help and are proud to call him our Volunteer of the Year.



SUSTAIN OUR
GREATLAKES

Little Traverse Bay Watershed Green Infrastructure Initiative

The Watershed Council received some very exciting news in August. The National Fish and Wildlife Foundation announced the 2017 Sustain Our Great Lakes grant recipients, and the Watershed Council was one of them! The grant award of just over \$115,000 will allow us to implement the Little Traverse Bay Watershed Green Infrastructure Initiative, which includes a range of green infrastructure projects within the City of Petoskey. Over the next two years, the Watershed Council will partner with North Central Michigan College, the City of Petoskey, and residents to bring green roofs, rain gardens, and other examples of green infrastructure to the community. We look forward to bringing you more information about this exciting project in the months ahead, so stay tuned!

Year End Giving

The end of 2017 is approaching fast. Many of you provide financial support to the Watershed Council at the end of the calendar year. This support is so greatly appreciated! We rely on your contributions to protect our waters in the many ways outlined in this newsletter, plus many more. Please know that federal law and accounting practices only allow us to record your membership for a given year if we receive and deposit your gift by December 31st. We wanted you to know that in case you intend for your membership to remain up to date; otherwise, it gets recorded as a gift in the following calendar year.

In addition to annual contributions, we are also available to discuss vehicles for making a planned gift or future gift to the Watershed Council. Planned gifts help ensure that the protection of Northern Michigan's waters continue well into the future. We place these gifts in our Endowment Fund, our Operating Fund, or in any way you designate.

When it comes to protecting our waters, we're all in this together! Thanks so much for your support.



Give the gift of clean water this holiday season with a membership!

www.watershedcouncil.org

Thank You for your support!

6/27/17 - 11/7/17

New Members

Mrs. Mary Alice Abood
Mr. Thomas G. Baiocchi
Dr. Robert A. Barron
Mr. Robert W. Beaupre
Mr. and Mrs. John Beilein
Steve Bertman
Mr. and Mrs. Thomas Bliznik
Barbara Bohls-Graham
Mr. Thomas J. Brandel
Richard and Christine Brown
Carol Burke
Mr. and Mrs. Walter G. Byers
Nicholas and Julia P. Califano
Mrs. Dixie Dawn Carlisle
Ms. Kathleen M. Cavanagh
Tom and Deb Chapman
Gary and Mary Chenoweth
Jeffrey S. Clark
Mr. and Mrs. Gordon Coleman
Mr. Robert Coletti
Mary Jane Croissant
Mike and Cheryl Delehanty
Rick and Sandy Doornbos
Mrs. Stephen P. Dougherty
Charles G. Drake

Robert and Pamela Draves
Drost Landscape
Mr. and Mrs. Grant L. Elowsky
Mrs. Joseph J. Fredal
Kenneth D. Freeman
Drs. Sara Wassenaar and
Richard Frutiger
Barbara Giesen
Michael Goold
Mr. Wesley Gordon
Daniel A. and Wendy A. Grosshauser
Mr. and Mrs. Paul S. Harkaway
Mr. and Mrs. Mark Heydlauff
David M. Hulefeld
Mr. and Mrs. Fred Imhof
Richard Lord and Sue Jeffers
Mr. and Mrs. George Knight
Mr. and Mrs. Charles Konieczny
Mr. and Mrs. Douglas Krizanic
Larks Lake Association
Mr. and Mrs. Donald LeClair
Mr. and Mrs. Richard Lemon
Robert and Kristin Lenz
Alison Hollister and Thomas Lewis
Mr. and Mrs. Leonard Lundborg
Susan Bay and Frank Macher
Mr. and Mrs. Carl G. Madion

Mr. and Mrs. Tim Manthei
Jacqueline Meier
Mr. and Mrs. Robert L. Metzger
Mary Mikkola
Mr. and Mrs. James Moore
Carol Noel
Mr. Francis A. O'Brien
Barbara Ray
Lawrence S. Richmond
Holly B. Rothschild
David and Linda Sandvik
Mr. and Mrs. William Sarran
Mr. and Mrs. Robert Schram
Drs. Anton and Darcie Sharapova
Jenna Sherman
Mr. and Mrs. Mark Shuert
Mr. and Mrs. Elwood S. Simon
Brook Smith
Mr. and Mrs. Dennis H. Snyder
Andy and Julie Strickland
Mr. and Mrs. Charles M. Stuart
Mr. Christopher Swanson Jr.
Dr. David and Elizabeth Taylor
Christian and Jill Tibbits
Jeffrey and Lisa Vaara-Lewis
Mrs. Thomas VanderWeele

Ron and Linda VanSickle
John and Shelia Vercruysse
Mrs. Sue Watroba
Mr. and Mrs. Christopher
M. Weinzapfel
Mrs. Nancy P. Widman
Mr. and Mrs. Frank Wilhelme
Mr. and Mrs. David Wind
Mr. and Mrs. Terry Wiseman
Mr. and Mrs. Michael A. Young
Steve and Kathy Young
Mr. and Mrs. James Zasadny
Mr. and Mrs. Harry J. Zientek

Tribute Gifts

IN MEMORY OF Barbara Kellogg Blackmore

*Joellen and Jim Rudolph
John and Patricia Carney
Paula Vaughan*

IN MEMORY OF Kim Tonkavich

Ted Riley

IN HONOR OF Christine and Tom Renkes

Jim and Therry Colombo

Cheers for Volunteers!

We would like to take this opportunity to thank our many volunteers for their hard work and dedication to our organization.

Mary Richardson for volunteering her time and energy to maintain the Freshwater Center landscape, the Bay View Association rain gardens, and Tannery Creek bridge landscaping.

Roast & Toast for donating coffee service for our events.

Jet's Pizza for donating pizza for our Volunteer Stream Monitoring Training session.

Our summer interns did a fantastic job this year. Thank you **Abigail Richmond, Jay Dutcher, Hunter Davis, Julia Colasanti, Michael Hinkle, and Jamie Whitley.**


Michael Esposito and the crew at Irish Boat Shop for all of their help during our annual Whale of a Sale fundraiser. Their participation makes this event a success. We couldn't do it without them!

Paula Buckman for volunteering countless hours fundraising on behalf of the Watershed Council.

Have you recently moved?



If the post office is forwarding your mail to you, then chances are you have a forwarding sticker on your newsletter. While this service is offered by the post office, it won't last forever. Mail forwarding only lasts up to 12 months. Avoid missing future issues of our newsletter by calling (231) 347-1181 with your new information.



New Cookbook is Coming!

A fundraiser showcasing local favorites to raise funds for the Watershed Academy.

Tip of the Mitt Watershed Council is teaming up with local restaurants throughout Northern Michigan to gather recipes to create a cookbook. Proceeds from the cookbook sales will help protect the key ingredient of all good food and drink...*water*. If you know a restaurant that would like to participate, please call (231) 347-1181 and ask for Paula or Kate for recipe submission details and information.



"Best internship ever!"

Winter and summer internships for high school and college students are available at the Watershed Council. Watch for our summer intern opportunities on our website beginning in January 2018.
www.watershedcouncil.org/internship

Winter internships are available on a project basis. For details, please call Grenetta Thomassey at (231) 347-1181.






FIVE FALL

Fridays for Water






This fall the Watershed Council partnered with five Boyne City establishments to bring awareness to the need for clean water. An early October event in the Pine Lake Lodge – Boyne City Taproom kicked off the series of events. That first Friday was followed by four more at Stiggs Brewery and Kitchen, Red Mesa Grill, Café Santé, and Seven Monks Taproom! Each event was a roaring success! We are grateful to these establishments for their support and sponsorship. Other Boyne City businesses that sponsored these events were Alpine Chocolat Haus, Grain Train Natural Foods Market, Inspired Living, Lake Street Market, North Country Cycle, Petoskey Area Rally and Car Club, and Smitten. Thank you to all of our sponsors and all who attended these events!

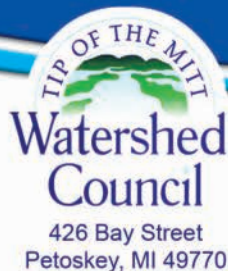

Save These Dates

2018 Ice Breaker SPEAKER SERIES

We are in the process of lining up some interesting guests for our annual Ice Breaker Speaker Series. Mark your calendar and be sure to join us for warm conversation on hot topics. Ice Breakers will be held from noon until 1:00 p.m. on these dates:

- January 11, 2018
- January 25, 2018
- February 8, 2018
- February 22, 2018
- March 8, 2018
- March 22, 2018

Watch our website and your mailbox for complete details coming soon.



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This newsletter contains information worth sharing. When you're done reading it, don't throw it out. **Pass it on!**

CLEAN BOATING

New signs urge boaters to clean their boats to prevent the spread of invasive species

Thanks to a grant from the Petoskey-Harbor Springs Area Community Foundation, Tip of the Mitt Watershed Council, in partnership with the Pickerel-Crooked Lakes Association, recently installed invasive species educational signage at eight boat launches on Pickerel and Crooked Lakes. The signs urge boaters to help stop the introduction and spread of invasive species by ridding their boats of potentially harmful invaders before and after each visit to marinas and boat launches.

Trailered boats and equipment moving between waterways are among the leading ways invasive species can "hitchhike" to new bodies of water. The new signage will help convey important information to recreational boaters at the boat launch, a location where they can have the most impact in preventing the spread of aquatic invasives.

Aquatic invasive species are nonnative plants and animals that not only threaten native plants, wildlife, and their habitats, but also threaten the economy and human health. Aquatic invasive species negatively impact recreation for boating, fishing, and swimming by clogging waterways, changing the aesthetics of water bodies, and adversely altering natural habitat. Species such as Eurasian watermilfoil, zebra mussels, and *Phragmites* have already impacted Pickerel and Crooked Lakes. Preventing their spread and the introduction of new invasive species is critical to protecting our local lakes.



(Left to Right) Pickerel-Crooked Lakes Association President Dudley Marvin and Invasive Species Committee Chairperson Jan Quaine, Tip of the Mitt Watershed Council Executive Director Gail Gruenwald, and Petoskey-Harbor Springs Area Community Foundation Community Donor Engagement Officer Sarah Ford.