

Current Reflections

SUMMER 2018



Inspiring the Next Generation

Stewardship of Northern Michigan's water resources is one of the primary goals of the Tip of the Mitt Watershed Council. There is no better way to protect the lakes, rivers, streams, and wetlands that we all love than imparting that love with the next generation of stewards. For years, the Watershed Council has been working with local students through programs like the PALS (Program for Able Learners with Special needs) program at Sheridan Elementary or the high school stream monitoring program, the Watershed Academy.

Due to the success of these programs, the Water Resources Education Program (WREP) was created and successfully piloted in the 2017-2018 school year. Originally funded by the Great Lakes Fishery Trust, WREP engages middle school students in introductory watershed experiences that enhance the local curriculum, increase water resources literacy, and foster a stewardship ethic in a team structure.

This past school year, over 300 students from Ellsworth, Petoskey and Wolverine Middle Schools participated in the program. Each group spent time in the classroom and on the school grounds learning about local water resources and issues. The students explored important topics like watersheds and the water cycle, groundwater, sources of pollution in the watershed, and invasive species. They used this knowledge of water resources to brainstorm a solution to an issue and implement their plan with the help of other watershed stakeholders.

Students identified and addressed a wide range of water resources issues on their school grounds. Teams at Wolverine Middle School tackled issues like poor habitat by planting native vegetation and creating bird and bat houses. They also raised money for future projects. Ellsworth Middle School teams focused on picking up trash and preventing erosion in their community by planning a greenbelt planting at a local park. Eight teams at Petoskey Middle School split up to take on multiple projects. Several groups worked to improve habitat by planting vegetation and installing bird and bat houses. Another team cleaned up the grounds by picking up and properly disposing of trash. They also placed recycling bins inside the school to prevent more litter. Two teams worked together to develop a plan to deal with erosion from stormwater runoff. They planted deep-rooting vegetation to hold soil in place and installed a gutter and a rain barrel to control the flow of water. Not only did these students work to improve watersheds in Northern Michigan, they also worked towards developing ownership and love for our incredible water resources.

After a successful pilot year for the Water Resources Education Program, the Watershed Council received funding from the Charlevoix County Community Foundation Youth Action Committee to offer WREP to three schools in Charlevoix County for the 2018-2019 school year. The Watershed Council has also received funding from the Petoskey Rotary Club to purchase a septic system model and a new watershed model. These models will help further water resources education in the classroom and beyond.

We would like to thank our Northern Michigan communities for helping us support programs like WREP that foster our future watershed stewards. If you are interested in learning more about WREP or other Watershed Council Education programs, visit www.watershedcouncil.org or contact Eli Baker at (231) 347-1181.



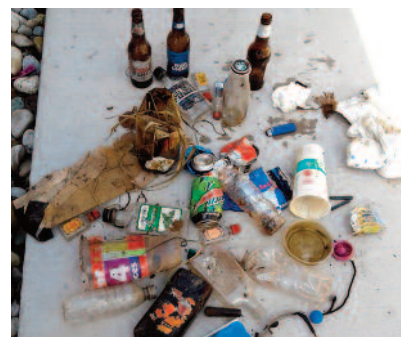
WREP students learn about their watershed in a classroom setting and on their school grounds.



Petoskey Middle School students increased habitat by building bird and bat houses.



Wolverine Middle School students designed, built, and installed flower boxes and rain barrels for their project.



Ellsworth Middle School students did a beach cleanup and are preparing to do plantings next year.



426 Bay Street, Petoskey, MI 49770
(231) 347-1181 • (231) 347-5928 fax
www.watershedcouncil.org

Board of Directors

Claire Rasmussen, *President*
Bob Kingon, *Vice President*
Rick Brandi, *Treasurer*
Jan Quaine, *Secretary*

Herm Boatin	Larry Levensgood
Rick Doornbos	Jim McKimmy
Jim Ford	Susan Page
Bill Foster	Pam Roudi
Charlie Gano	Susan Stewart
Scott Kendzierski	Donna Stine

Watershed Council Staff

Gail Gruenwald,
Executive Director/Staff Attorney

Administrative Team

Lynn D. Buffington,
Financial and Operations Director
Sandy Schreck,
Office Manager

Development/Communications Team

Kristy Beyer,
Communications Director
Debbie Esposito,
Data and Membership Specialist
Kate Cwikiel,
Communications and Development
Specialist

Policy and Advocacy Team

Grenetta Thomassey, Ph. D.,
Watershed Policy Director
Jennifer McKay,
Policy Director

Watershed Protection Team

Jennifer Buchanan,
Watershed Projects Director
David Edwards,
Monitoring and Research Director
Caroline Keson,
Water Resource Specialist

Education Team

Eli Baker,
Water Resources Education Coordinator



Macy Doster,
Huron Pines AmeriCorps
Volunteer

Member
of:



Reflections From Our Executive Director

The Watershed Council employs a remarkable staff with extensive experience and knowledge on hundreds of water resource topics. While we appreciate this incredible source of talent here at the Watershed Council, we recognize that engaging Northern Michigan's residents, visitors, and the public is the key to making progress toward cleaner water. As you will read in this issue of our newsletter, almost every article describes a program of outreach and engagement. The newsletter also includes articles that do not include a direct engagement component, but they are informative and help our readers understand sometimes complex topics to prepare them for future opportunities for getting involved.



Gail Gruenwald
Executive Director

Our cover story describes our Water Resources Education Program (WREP), a school-aged education program for middle school students. WREP builds on the Watershed Academy, which is our high school science education program that we conduct in 13 high schools throughout our service area. Both of these programs are truly making a difference in the lives of middle and high school students, raising the bar on their knowledge and understanding of Northern Michigan's water resources.

In addition to these school-aged education programs, you will notice other ways to engage with us to protect resources that you enjoy and hold dear. The first is our new WAVE (Watershed Action Volunteer Experience) initiative. This new program offers an opportunity and structure to engage a wide range of volunteers in resource protection and restoration. There is also our annual Bear River Cleanup, which draws over 100 volunteers each summer to keep the Bear River healthy.

Other engagement programs include our annual Lake Association Summit. The Summit provides a networking opportunity for lake association members to learn from each other and further their efforts to protect their lakes. We also assisted the Leadership Charlevoix County team as they addressed the need to control purple loosestrife in the Lake Charlevoix Watershed.

For those individuals with a particular need for in-depth knowledge of green infrastructure, oil and gas management, clean boating and other topics, we offer hands-on participation in workshops, webinars and "in the field" opportunities to get involved. In other words, if you want to get involved, you can join us for any or all of these programs and add your energy to protecting our waters! Call (231) 347-1181 to get involved.

WELCOME ABOARD: Caroline Keson

Caroline Keson joined the Tip of the Mitt Watershed Council in May as the water resource specialist. Originally from Manistee, MI, she began her love of water playing in streams, ponds and swamps at her family's centennial farm. She earned a Bachelor of Science degree in Environmental Studies and Agriscience at Michigan State University in 2011. She comes to the Watershed Council following seven years of working on surface water quality for the Little Traverse Bay Bands of Odawa Indians in Harbor Springs, MI. Her current projects include Watershed Action Volunteer Experience (WAVE), Volunteer Stream and Lake Monitoring, Avian Botulism Monitoring, *Phragmites* surveys, and various habitat and water quality assessments. A local since 2011, Caroline is excited to continue living along Lake Michigan, enjoying skiing, biking, boating, fishing, gardening, and making pies. Passionate about education outreach, she also volunteers as Secretary of the Board of Directors at Raven Hill Discovery Center in East Jordan.



New Volunteer Program for Charlevoix and Emmet Counties



Tip of the Mitt Watershed Council is excited to announce a new volunteer program to help further the protection of Northern Michigan's lakes, streams, and wetlands. The program, known as WAVE (Watershed Action Volunteer Experience), will provide both technical and financial support to groups who wish to carry out watershed stewardship projects.

Caroline Keson, our water resource specialist, is actively helping teams form. Local watershed committees, lake associations, river groups, service clubs, and inquiring citizens have been approached. Teams will consist of approximately ten members willing to commit ten hours each toward their projects.

Projects will be completed by the end of the summer or fall and may range from on-the-ground restoration to outreach and education. The Watershed Council is helping teams identify and carry out each project based on their availability, interests, and resources needed. Do you have your own project idea or team? It's not too late to join or start a team! This is a perfect chance to enhance an existing project or start something new. Projects must highlight the need and importance of water resources stewardship at the local level. Examples of projects include: installing a rain garden, conducting a beach cleanup, stenciling stormwater drain inlets, tree plantings, and boater education regarding aquatic invasive species and clean boating practices. Teams will be eligible for funds up to \$2,500 to implement their respective projects and funds may be used to purchase materials, print brochures, and pay permit fees, among other needs.

If you're unsure of where to start, but want to be involved, think about priorities and recommendations outlined in local

watershed plans—there are three in Emmet and Charlevoix Counties. The Watershed Council's review of local planning and zoning ordinances, known as the Gaps Analysis, can also provide guidance to teams looking to make an impact through policy and prevention. These documents can be found on the Watershed Council's website – www.watershedcouncil.org. If you've worked on water resource protection before, and know your project should be repeated, enhanced or expanded, WAVE could be a good option to wrap things up.

Funding is pending for Antrim County and we're hopeful to meet teams there later in the summer.

If you're interested in starting or joining a team, or want to learn more, please contact Caroline Keson at (231) 347-1181 or visit our website at www.watershedcouncil.org/wave. WAVE



A WAVE Project Example: Storm drain stenciling in your neighborhood.

is made possible with support from the Petoskey-Harbor Springs Area Community Foundation and the Charlevoix County Community Foundation.



A WAVE Project Example: Installing a rain garden.

Fun for all ages!

Bear River Cleanup

August 4, 2018

9 am - 1 pm

Bear River Shelter

Quaintance Ave., Petoskey, MI
(Entrance across from City Hall)

"Healing the Bear" Bear River Cleanup

On August 4, 2018, the Watershed Council will host the 14th "Healing the Bear" Bear River Cleanup and you're invited! Volunteers of all ages and abilities are needed to walk, wade, or canoe the Bear and pick up trash and debris from its surrounding area. Last year, over 120 volunteers came out on a gorgeous, sunny day to help the Watershed Council clean up the Bear River. Three full truckloads of trash and recyclables were pulled from the River. Each year it seems like we have cleaned every piece of trash from the River, and yet every year there seems to be another pile. This family-friendly event is coming up soon and we need your help! Please pre-register for the Cleanup by July 19th so we can be sure to make this the best year yet. Free t-shirt and a light meal will be provided for all pre-registered volunteers! To pre-register, visit our website at www.watershedcouncil.org/bear-river-cleanup.

Interested in helping the cause, but can't attend the cleanup? Become a sponsor! Any help is appreciated to make this another successful year for the Bear River Cleanup! Call Kate at (231) 347-1181 with questions or to become a sponsor.

Climate Change Summit

The Watershed Council held a Climate Change Summit on May 11 at North Central Michigan College, funded by the Petoskey – Harbor Springs Area Community Foundation. The purpose of the Summit was to inform natural resource managers and local officials about expected local impacts from our changing climate and to begin to plan for how local governments can make our coastal cities resilient to these changes.

As explained by the National Oceanic and Atmospheric Administration (NOAA), “Coastal resilience means building the ability of a community to ‘bounce back’ after hazardous events such as hurricanes, coastal storms, and flooding – rather than simply reacting to impacts.”

All presentations from the event can be viewed online at our website, using the Hot Topics tab, Climate Change, Climate Change Summit. The Summit was opened by Kim Channell, Research Associate for the Great Lakes Integrated Sciences and Assessments (GLISA) at the University of Michigan, with a presentation about impacts of climate change in the Great Lakes region. This was followed by a presentation from Anthony Kendall, Research Assistant Professor, Department of Earth

and Environmental Sciences, at Michigan State University (MSU). Kendall focused on climate change in northwest Michigan using results of an integrated assessment undertaken by a team from MSU.

During a working lunch session, Harry Burkholder, Executive Director of Land Information Access Association, explored possible solutions by featuring local Michigan case studies. After lunch, “Farming Challenges and Water Impacts” was presented by Dave Lusch, Distinguished Senior Research Specialist at MSU Department of Geography, Environment and Spatial Sciences. “Fish Habitat and Climate Change” was the final presentation, featuring Kevin Wehrly, Fisheries Research Biologist, Institute for Fisheries Research, Michigan Department of Natural Resources and University of Michigan. The day ended with a panel discussion with all the presenters, facilitated by Ann Baughman from Freshwater Future.

The presentation information will also be used by the Watershed Council to create a climate change resiliency plan for local governments. This will be completed and distributed by the end of the summer. For more information, contact Grenetta Thomassey at (231) 347-1181 extension 118.

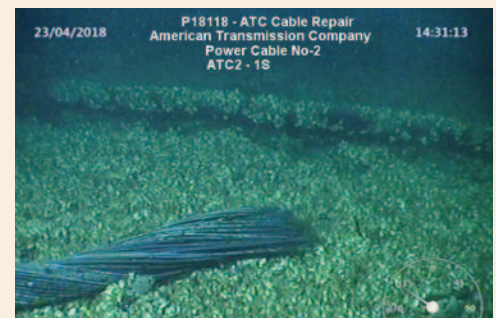
UPDATE: Line 5

On Sunday, April 1, two of six submarine cables owned by American Transmission Co. (ATC) in the Straits of Mackinac were damaged and found to be releasing dielectric oil. Dielectric fluid is part of the mineral oil family and functions as an electrical insulation and as a coolant. Less than 600 gallons of fluid were released, and given the dilution of the fluid in the Straits and the mobility of fish, it was determined there was minimal risk to fisheries and wildlife. The greatest threat was to waterfowl or shore birds that may come in contact with the product floating on the surface, but no impacts to fisheries or waterfowl have been detected to date. The damaged cables have been capped and sealed and returned to the bottom of the Straits for now, but ATC plans to eventually decommission and replace the existing cables.

After learning about the damage to ATC’s cables, Enbridge conducted inspections and confirmed dents and coating damage to Line 5 in the Straits. Visual assessment by a remote operated vehicle (ROV) found two dents in the West pipeline and one in the East pipeline and damaged coating in four areas, down to bare metal in two of the spots.

The damage in the Straits is allegedly due to an anchor being dragged across the lakebed and striking the electric and petroleum pipelines. Michigan’s Attorney General filed a civil suit against Van Enkevort Tug and Barge, Inc, under Michigan’s Natural Resources and Environmental Protection Act. The suit is seeking civil fines, damages and costs for causing the release of hazardous fluid into the Straits of Mackinac. The US Coast Guard has initiated a marine casualty investigation to determine whether a marine vessel was the cause of the damage to the cables.

Because of the possibility of additional anchor strikes and other risks of Line 5, the State of Michigan continues to move forward reviewing the operation of Line 5. The Watershed Council remains vigilant on this critical issue, keeping the risks to our water resources first and foremost in our efforts.



Photos of damaged American Transmission Company cables.

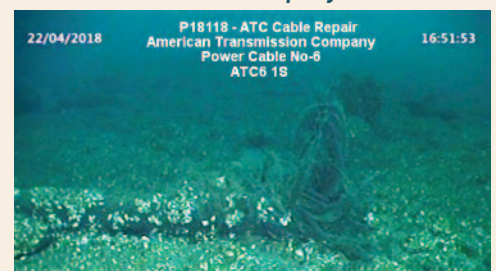


Photo courtesy of American Transmission Company/ U.S. Coast Guard



In-Situ Burn

In June 2016, the Northern Michigan Area Committee formed a workgroup to explore the use of in-situ burn (ISB) technology to enhance preparedness for pollution incidents on the waters of Northern Michigan. ISB is the intentional burning of floating oil as a method to remove large amounts of oil from the water's surface. The workgroup consisted of Area Committee members, including the U.S. Coast Guard, Environmental Protection Agency, National Oceanic and Atmospheric Administration, Michigan Department of Health and Human Services, U.S. Fish and Wildlife Service, tribal sovereign nations, Michigan Department of Environmental Quality, and others. To establish a framework for the application of ISB on the Great Lakes, the workgroup reviewed hundreds of pieces of research publications and collaborated with research entities and academia including the Coast Guard Research and Development Center. The workgroup also studied information about ISB use in Alaska to gain best practices for utilization in severe cold weather environments. The group's efforts culminated in a set of guidelines to request approval for use of ISB on the waters of the Great Lakes in Northern Michigan.

In August 2017, U.S. Coast Guard, Sector Sault Sainte Marie, in partnership with member agencies from federal, state, local and tribal stakeholders, held a widely attended environmental workshop in Mackinaw City, Michigan, to determine the feasibility of using ISB as a response tactic in addition to mechanical recovery of an oil spill in the Straits of Mackinac. The Area Committee and Regional Response Team 5 (RRT 5) members discussed the risk versus reward of ISB, operational parameters necessary to conduct ISB, and public outreach. This workshop was the first of its kind in RRT 5 to evaluate the use of an alternative technology on the Great Lakes.

Following the environmental workshop, the Coast Guard conducted educational outreach with Tribal sovereign nations and stakeholders throughout the region. The sessions have been well received and generated more interest and a greater understanding of the decision making process and use of ISB.

*Guest article submitted by the
U.S. Coast Guard, Sector Sault Sainte Marie*

Photo courtesy of Elastec, www.elastec.com

In-Situ Burning in the Great Lakes could be a useful tool.

The Watershed Council serves on the Northern Michigan Area Committee and participated in many discussions regarding ISB. After careful evaluation and consideration of the risks and benefits of ISB versus other current methods of containment and recovery, the Watershed Council is supportive of having ISB as a tool available for use in the Great Lakes region. Under the right conditions, ISB can significantly increase the effectiveness of oil recovery. We are encouraging the State of Michigan and other emergency responders to continue to develop a protocol that will allow for the expedited approval of ISB, should the environmental and situational conditions prove optimal. In addition, we recommend that Enbridge and other operators that could release oil invest in the equipment necessary for ISB, such as fire boom and air monitors.



VOICES FROM THE LAKE: Volunteer Lake Monitoring



Tom Darnton, Volunteer
Lake Monitor

Several times each summer, on sunny, quiet mornings, I'll walk out on our dock, take the cover off my little utility boat, load my science kit aboard, pull the starter rope on the 4-cycle Mercury, and head out to a spot mid-way between Evergreen Pointe and Olds Point in the west basin of Lake Charlevoix to test the water. When I do this, I'm continuing a practice that was begun more than 30 years ago by Tip of the Mitt Watershed

Council. The goal is to continue gathering data on the health of Lake Charlevoix. The Watershed Council is now monitoring three different sites on Lake Charlevoix, and has monitors like myself at work on most of the lakes in Northern Lower Michigan.

Monitoring the water quality of Lake Charlevoix is a long way from practicing law in Washtenaw County, which I did for 40 years from 1972 to 2012. In early 2012, I was diagnosed with a stage 4 cancer. What followed were two very challenging years of treatment and recovery. After my second round of treatment, I moved to our family home on Lake Charlevoix, both because I love it here and to help my sister care for my mother, who was living in American House at the time. As both my health and my life expectancy improved, I began looking for ways to resume an active life, which is how I found myself in a position to volunteer for the water monitoring assignment.

My testing kit, which I store in a rectangular plastic bucket, consists of a Secchi disk, a 100' measuring tape on a reel, an old coffee can with a handle fashioned from a coat hanger in which a one quart plastic bottle with a hole in the screw-top cap is embedded in concrete, a one pint plastic bottle with an intact screw-top cap, a thermometer on a string, and a clip-board with data sheet and carpenter's pencil clasped to its face. I motor out

to my spot, make notes about the weather, record the air temperature, tie the thermometer to one of my stern lines and put it over the side to take the water temperature. I hook the Secchi disk to the measuring tape, lower it into the lake until it disappears from view and record the depth where it just goes out of sight. I attach the coffee-can apparatus to the tape, slowly lower it to twice the depth I recorded for the disk and bring it slowly back up to the surface. The hole in the top of the collecting bottle slowly emits a string of bubbles as water enters the bottle; the idea is to have it just be reaching a state of fullness as I bring it back to the surface. Once surfaced, I transfer one pint of the collected water to the smaller bottle, retrieve the thermometer, record the water temperature, crank up the engine and head back to my dock to finish the task.

At home in the basement, I set out my sampling equipment and run 240 cc's of the collected water through special filters that collect the particles which were suspended in the water column. These filters are sealed in a test tube labeled with the date and location, which is then wrapped in aluminum foil and stored in my freezer. When the collection season is over at the end of August, I deliver the samples, along with my data sheet, to the Watershed Council headquarters in Petoskey. The whole operation takes about an hour and produces a sense of satisfaction which lasts for days.

For more information about volunteer lake monitoring, please visit www.watershedcouncil.org/vlm-program. If you are interested in continuing the long tradition of monitoring our Northern Michigan Lakes, please contact Dave Edwards at (231) 347-1181.

*Guest article submitted by
Tom Darnton, Volunteer Lake Monitor*



*Aerial photo overlooking the Lake Michigan
shoreline, Round Lake and Lake Charlevoix*

MAYFLIES! In The Spotlight



Summer is here and so are the mayflies. The ultimate fish food, mayflies are here to delight fishermen and gross out the faint of heart.

After one to three years of grazing and scraping algae and decaying organic material underwater, life moves to land for the matured mayflies. Mayflies transform from larvae to mature adults and they emerge from the water to form large clouds along the shoreline and near the water's surface. Often, the emergence is highly synchronized, meaning all members from one generation can emerge together within a day or two. In

fact, some emergence events can be so large they are detected on Doppler radar! The majority of mayfly emergence events take place in late spring and early summer. The amount of time required for a mayfly to

mature in water is often regulated by water temperature, with warmer water providing conditions for quicker maturity. Mayflies emerge without the ability to feed, since adults do not have functional mouth parts. Nature has a strict plan – mate and die. With only 24 hours to a few days to reproduce before they perish, mayflies have little time to find a mate.

Not a fan of these seasonal swarms of critters? Consider this: healthy mayfly populations indicate good water quality. Along with caddisflies and stoneflies, mayflies serve as an important food source for fish. Many anglers use their bait to imitate a dancing mayfly at the surface of the water in hopes of catching a hungry trout. Late spring and early summer are also blossoming times for other species such as birds, frogs, and other amphibians. Many of these species rely on mayflies to help feed their offspring and survive. Do not fret about the mayflies for they are harmless and mean a lot to our great Northern Michigan waters.



FLAB: What is this stuff?

Nearly each spring, we receive concerns about “goosey slime” floating in a few of our lakes and along shorelines. Thankfully, this filamentous slime is just algae that has grown over winter in the benthos (bottom) of the lake. The algae is not dangerous or harmful to the environment. Codenamed “FLAB” (floating algal benthos), the algae begins growing on the lake bottom, then detaches in the spring from shifting ice and wave action.

Nearly all of the algae brought to our attention is locally associated with a genus of diatoms called *Cymbella*. Diatoms are single-celled algae with cell walls composed of silica and serve as the base of the food chain in water ecosystems. The slime material may appear golden brown or darkish green in coloration. In warmer months, *Cymbella* grows on the bottom of lakes (benthic zone) in areas where sunlight is readily available underwater (photic zone). In cold winter months, algae growth is very slow because of low light conditions under the ice and limited availability of phosphorous and nitrogen. To cope with low light and nutrient availability, *Cymbella* has a growth pattern of clumping into filamentous stalks. Like a tree in the forest, *Cymbella* algae grows branch-like stalks to optimize the amount of surface area through which sunlight can be attained and nutrients absorbed. This life cycle is typical for certain species of benthic diatoms.

The shifting ice melt tears the algae into messy clumps that float on the water's surface. As with anything undergoing decomposition, these clumps may have a rather unpleasant smell, but they provide great food in early spring for macroinvertebrates and, in turn, for the fish we catch later in the season!

Photo of FLAB Needed here

Caption space for image above.



Cymbella viewed through a microscope.

Youth Programs

Building a strong future for our water resources by investing in our youth today.



Petoskey WREP Team

Petoskey WREP Team



WREP Summit at Petoskey Middle School



Water Resources Education Program (WREP)

Over 300 students from Ellsworth, Petoskey, and Wolverine schools learned about their watershed and completed a project to improve it.

Students Experience Lake Charlevoix

Over 300 middle school students from Charlevoix County learn about the Lake Charlevoix Watershed aboard the Beaver Islander.



Students Experience Lake Charlevoix



Students Experience Lake Charlevoix



Watershed Academy



Watershed Academy

Watershed Academy

The Watershed Academy engages high school science students and provides them an opportunity to become experts in their local watershed. Currently, we have 13 schools participating in the program.



Sheridan Elementary School

Petoskey Robotics Classes

We partnered with Petoskey elementary to compliment their robotics curriculum with hands-on training about their watershed.

If you are interested in learning more about the Watershed Council education programs, visit www.watershedcouncil.org/youth-education



Hands-on experiences for all ages.



Watershed Academy



Summer interns (left to right) Stephanie Facchine, Daniel Gonzalez, and Elizabeth Michaelson greeting the attendees of the Lake Association Summit at North Central Michigan College.

Welcome Interns

With summer comes a plethora of great things: sunshine, warm air, happy faces, and interns! This summer, we have four incredible interns here at the Watershed Council, each bringing a unique set of skills to the table and each eager to help the Watershed Council achieve our summer goals.

Stephanie Facchine: Steph graduated from the State University of New York (SUNY) at Oswego in May 2018 as an undergraduate in Zoology with a minor in Sustainability. In the future, Steph hopes to pursue a career in conserving wildlife and water resources, while involving both field research and community outreach. When Steph isn't hard at work at the Watershed Council, you can find her hiking, kayaking, playing tennis or the guitar, and watercolor painting.

Elizabeth "Lizy" Michaelson: Lizy is currently a student of Earth and Environmental Science at the University of Michigan in Ann Arbor. Lizy is working towards becoming an aquatic ecologist with the hope of one day defending the Great Lakes against anthropological changes. In her spare time, Lizy participates in community organizing and grassroots activism. When she's not passionately spreading awareness about issues she cares about, you can find her swimming in a lake or getting some sunshine.

Daniel Gonzalez: Daniel is going into his senior year at Miami University in Oxford, Ohio. He is studying Political Science with a double major in Sustainability and a minor in Urban and Regional Analysis. Daniel would love to have a career in environmental advocacy and policy writing to ensure that the scientific community receives the funding it desires and to establish the newest sustainable community techniques through policy. Daniel's free time is spent doing the things he loves: rowing crew, cooking, and beekeeping.



Sean Clark: Sean is currently a rising sophomore at the University of Michigan, and comes to the Watershed Council as a CLEAR fellow from the University of Michigan Biological Station. Sean is majoring in Ecology, Evolution, and Biodiversity with a potential double major in Earth and Environmental Science and a minor in Spanish. In addition to being interested in a future in environmental research, Sean is considering the possibility of a future in environmental law. Sean is a Great Lakes surfer, a backpacker, and a vegetarian who loves Thai food.



Alumni Gathering

June 6, 2018, marked the 4th annual board and staff member Alumni Gathering. We started this event four years ago to ensure that past Watershed Council board and staff members get to know current board and staff members and to keep them up to date on all of our current work. This year's event was held at Irish Boat Shop in Charlevoix, and we had a great turnout! Michael Esposito, President of Irish Boat Shop, Inc., and past Watershed Council Board President, spoke on the great advantages of becoming a Clean Marina. As a participant in the Clean Marina Program, marinas voluntarily promote and use environmentally-sound marina and boating best practices to maintain and improve Michigan's waterways. Mr. Esposito gave a tour of the Irish Boat Shop grounds, showing a "green seawall," which acts as a natural shoreline buffer that filters runoff before it enters the water. Irish Boat Shop has been a wonderful partner and we are proud of the Clean Marina practices that they use on a day-to-day basis to ensure our water quality is always protected. Thanks for hosting us, Irish's!



Green Infrastructure Workshop



Dr. Don Carpenter provided information to local government and nonprofit organizations about how green infrastructure can have economic, social, and environmental benefits to communities.

On June 20, 2018, Tip of the Mitt Watershed Council hosted a green infrastructure workshop for local government and nonprofit representatives. Held at North Central Michigan College, the workshop provided attendees with an introduction to various green infrastructures techniques and applications. Green infrastructure reduces and treats stormwater at its source. Examples of green infrastructure techniques include rain gardens, permeable pavers, green roofs, and rainwater harvesting.

The presenters, Dr. Don Carpenter, PhD, PE, LEED AP, vice president of Drummond Carpenter, PLLC, and Nathan Griswold, ASLA, GRP, Founder and President of Inhabitect, LLC, also provided information about how green infrastructure can provide economic, social, and health benefits to communities. Both presenters highlighted some of their work included in the growing portfolio of green infrastructure projects in other Northern Michigan communities that are making a difference in protecting our region's water resources.

Two additional workshops will be held this fall and will feature green infrastructure success stories from other Michigan municipalities and will highlight their "lessons learned." This workshop series is part of the Watershed Council's Promoting

Green Infrastructure within the Little Traverse Bay Community through Education and Awareness project. The project also includes water quality monitoring at five stormwater outfalls on the Bear River and Little Traverse Bay. Many thanks to the attendees, including Petoskey city staff, council, and planning commissioners, among others, the presenters, and the Little Traverse Bay Protection and Restoration Fund of the Petoskey-Harbor Springs Area Community Foundation for supporting the workshop series and monitoring efforts. If you would like to know more about green infrastructure or future workshops, please contact Jen Buchanan at (231) 347-1181 ext. 112.

Ice Berms

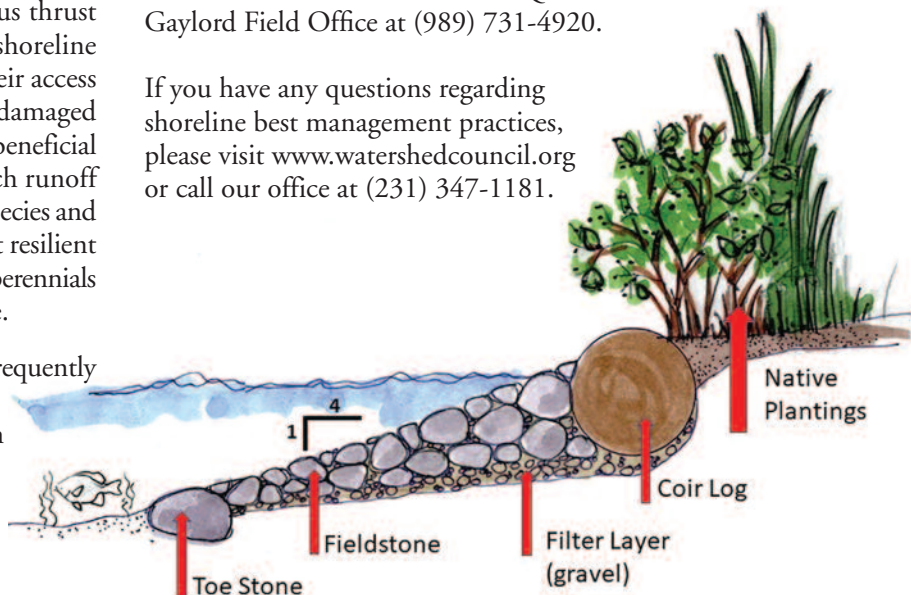
Shoreline property owners likely know the damage that ice can cause to inland lake shorelines. Each spring, Tip of the Mitt Watershed Council receives numerous calls from property owners who are frustrated with winter's outcome and are looking for advice on restoring their shorelines. While we cannot guarantee ice will not harm your shoreline, a better understanding of ice damage and strong shorelines help when considering post-winter actions.

The most unmistakable form of ice damage is an ice berm. Ice berms are mounds of earth formed by the tremendous thrust action of a lake's ice sheet against the shore. Many shoreline property owners feel ice berms are unsightly, block their access to the lake and should be flattened to remediate their damaged land. Despite their appearance, ice berms can be very beneficial in their ability to limit contaminants and nutrient-rich runoff from entering the lake. They also harbor diverse plant species and protect against future damage, which is key as the most resilient shorelines have a greenbelt, or a buffer of native grasses, perennials and shrubs that stabilize and strengthen the shoreline.

In high-energy inland lakes, fieldstone revetments are frequently used to further limit winter's destructive forces. While the size, composition and configuration may differ from place to place, smaller fieldstone (less than 10-12" diameter) is typically most effective at reducing shoreline damage.

If you find your shoreline has a newly formed ice berm, consider the benefits of cultivating a healthier greenbelt or adding small fieldstone along the shoreline to prevent future ice damage. Please note, permits must be acquired from the Michigan Department of Environmental Quality (MDEQ) for shoreline work extending below the Ordinary High Water Mark (OHWM). If you are not sure if you need a permit, refer to www.michigan.gov/documents/deq/wrd-jpa-decision-tree_558235_7.pdf for more information or contact the MDEQ Water Resources Division Gaylord Field Office at (989) 731-4920.

If you have any questions regarding shoreline best management practices, please visit www.watershedcouncil.org or call our office at (231) 347-1181.



A Better Backyard

There are many ways you can maintain a healthy and better looking backyard. In fact, your own personal property isn't the only backyard you can help maintain. The Great Lakes and many other beautiful waters are also in "our backyard." Using environmentally-friendly lawn care practices can help your own personal lawn and our waters. Recognize that your lawn care practices can impact nearby lakes and streams when runoff enters stormwater systems. Here are a few tips to help create a better backyard for your property and the Great Lakes region.

Fertilize responsibly! Healthy soil is rich with biological activity and contains a balanced supply of nutrients necessary for healthy grass. You can create a better backyard by supporting long-term soil health and the quality of our waters.

What works well:

- Slow-release, organic fertilizers with protein-based ingredients like ground corn, cottonseed, soy, and other grains.
- Grass clippings, well-aged manure, and finished compost.

Keep in mind:

- Refrain from fertilizing within 30 feet of a shoreline.
- If you buy chemical fertilizer, make sure it's slow-releasing and PHOSPHOROUS FREE. Phosphorous free is indicated when the middle of the three label numbers is 0.
- A soil test kit from your local Michigan State University Extension office can help determine nutrient deficiencies.

Mow sustainably!

- Cut grass at least 3 inches or higher to maintain healthy root systems, shade out weeds, and keep soils cool and moist.
- Sharpen your mower blades to prevent tear and disease.

Water lightly and frequently!

- Actively growing turf requires about 0.5 to 1.5 inches of water per week through irrigation or rainfall.
- Irrigate early morning (6AM to 10AM) to minimize evaporation.
- Keep an eye on the weather forecast and avoid excessive watering.

One of the most environmentally friendly ways to improve your backyard is to reduce your lawn area by not mowing and letting areas naturalize. Repurpose these areas as organic vegetable gardens, orchards, or woodlands.

For more information, visit www.watershedcouncil.org/fertilizing-tips.



Fertilize
Responsibly!



Mow
Sustainably!



Water lightly
and frequently!

Each summer day, residents and visitors enjoy boating on our waterways. Our waterways provide transportation routes, venues for commercial and recreational fishing, and destinations for swimming, diving and paddle sports. In fact, no matter where you stand in the State, you are never more than 6 miles away from a water body or 85 miles from a Great Lake!

Aquatic invasive species are defined as exotic or nonnative species that cause harm to our economy, environment, or human health. **Over 185 nonnative species are already established in the Great Lakes and connecting waterways.** The primary source of introduction of aquatic invasive species in the Great Lakes region is ballast water discharge from commercial ships that have been overseas. They are further spread by personal watercraft as boaters travel between bodies of water.

To prevent the spread of aquatic invasive species:

- Remove visible mud, plants, fish, or animals from your boat, trailer or other equipment (anchor, centerboards, props, etc.) before leaving the water body.

- This summer, Tip of the Mitt Watershed Council has teamed up with the Little Traverse Bay Bands of Odawa Indians Natural Resource Department to encourage clean boating habits and help stop the spread of aquatic invasive species. Watch for a series of informational articles, advertisements, and television messages that have been planned to assist recreational boaters so they can help with this effort.

We all share a responsibility for preserving the boating life we love by keeping our waterways vibrant, clean, and healthy.

For more information about clean boating practices, visit www.watershedcouncil.org/clean-boating.



13th Annual Lake Association Summit

On Monday, June 18, the Watershed Council hosted the 13th Annual Lake Association Summit at North Central Michigan College in Petoskey. Over 40 participants attended this event that was focused on building lake association organizational capacity.

This year the agenda was built around associations sharing information, including challenges and successes. We opened the event with an overview of new features on the Watershed Council website to assist lake associations, including a brand new page devoted to results of shoreline surveys and videos available to share with association members.

Becky Norris of Three Lakes Association in the Elk River Chain of Lakes did a short presentation on their work to address the appearance of what is being called Golden Brown Algae. She asked three key questions: Does your lake have it? If so, are there places that it never shows up? Is this among your association's top three priorities?

A link to an online survey was sent to the lake associations ahead of time, giving them four weeks to answer the survey as a group. In the end, 20 lake associations answered the survey, and those survey results were shared at the summit. Some common points of interest and concern included recruitment of new members, fostering leaders, forming effective partnerships, and mobilizing volunteers.

After the survey analysis was shared, participants divided into five discussion groups to address those common points of interest. After an hour of discussion, each group reported to the larger audience about helpful tips they learned. Feedback from participants was positive, and we hope they can use the information to improve capacity and address their concerns.



Lake Association Summit attendees divided into discussion groups to address common points of interest and challenges.

Washing Away Aquatic Invaders

One of the ways Tip of the Mitt Watershed Council is addressing the challenge of combating invasive species this summer is through boater outreach and education. To promote boater awareness and understanding of the “Clean, Drain, Dry” method of preventing invasive species, the Watershed Council partnered with the Pickerel-Crooked Lake Association (PCLA) to bring the Michigan State University (MSU) Extension's free mobile boat wash to Crooked Lake.

The mobile unit consisted of a trailer-mounted, high-pressure unit with heated water, proven effective in cleaning most invasive species from boats and trailers. A containment mat prevents runoff back in to the lake. At the end of the day, any remaining plant fragments and water caught in the containment mat is vacuumed up, filtered, and kept on board for proper disposal.

Additionally, four MSU students who operate the unit talked with boaters and distributed educational materials and giveaways.

After two days of outreach, 55 boats visited the Little Traverse Township Boat Launch. Of those, 87% were approached with a clean boating message and 12% received a free boat wash. Interestingly, over 85% said this was the first time they had seen a mobile boat wash.

The presence of the mobile boat wash station created an excellent opportunity to teach boaters the importance of the “Clean, Drain, Dry” steps to prevent the spread of aquatic hitchhikers.

Interested in hosting the Mobile Boat Wash?

The MSU mobile boat wash is a free, statewide program funded by Michigan State University, the US Forest Service and the Michigan Department of Environmental Quality. If you are interested in hosting the Mobile Boat Wash, email Dr. Jo Latimore at latimor1@msu.edu or call (517) 432-1491.



Michigan State University's mobile boat washing team with volunteers from the Pickerel-Crooked Lakes Association at the Little Traverse Township boat launch.



MSU mobile boat washing team leader, Korin Foss, sprays down a boat leaving Crooked Lake and headed to Mullett Lake for some additional fishing.

Ensuring the Protection of Our Waters

Planned Giving Opportunities

The Watershed Council relies on planned gifts to ensure the protection of Northern Michigan's waters well into the future. There are several vehicles for making a planned gift or future gift. A bequest is one form of planned gift that supports our work and is easy to implement. We have had several long-time supporters of the Watershed Council name us as a beneficiary in their will or trust documents. We are honored to receive these generous gifts that leave the legacy of clean water.

Any size bequest is greatly appreciated and helps further our work. In addition, a bequest reduces the size of your taxable estate and can take the form of cash, securities, real estate, or other assets.

Please contact Gail Gruenwald, executive director, to discuss your interest in leaving the Watershed Council a bequest to support clean water for years to come. (231) 347-1181. Thank you!



Beetle Mania Project

Leadership Charlevoix County (LCC) is a nine month program made up of monthly class sessions led by community members. LCC encourages aspiring leaders to be informed and active participants in the communities where they live, work, and play. Our LCC class of 2018 spent the past nine months developing a personal leadership plan, bookending the program with a class-led, class-funded community service project.



Galerucella beetles ready for distribution.

We are passionate about environmental projects and efforts to preserve the beauty of Northern Michigan. One class member mentioned the pervasiveness of the invasive species, purple loosestrife, throughout the area and its one predator, the *Galerucella* beetle, which we could receive by mail to unleash on the plants. The beetles would feed exclusively on the loosestrife and help to keep the plants in check. Thus came project Beetle Mania - the release of 300 beetles per site at three locations in Charlevoix County: Oyster Bay, Riverside Park in Boyne City, and Melrose Township Park in Walloon.

With partners Tip of the Mitt Watershed Council, Friends of the Boyne River, Lake Charlevoix Association, and other local waterway associations, we received permission to purchase and release boxes of the *Galerucella* beetles in order to manage purple loosestrife in the area.

To raise funds for the project, we partnered with Stiggs Brewery & Kitchen in Boyne City, local service groups, the Charlevoix County Community Foundation, and Tip of the Mitt Watershed Council. The Watershed Council has served as the fiduciary for the project and will retain remaining funds to continue the treatment of purple loosestrife next summer.

On Thursday, May 31, our class and members of Friends of the Boyne River released the beetles at all three sites to conclude the project. This work will ensure that locals and visitors alike will be able to enjoy the waterways and shorelines of Charlevoix County.

*Guest article and photos submitted by Carly Thompson,
Leadership Charlevoix County Participant*



The 2018 Leadership Charlevoix County class gathers to distribute Galerucella beetles, a natural predator of invasive Purple Loosestrife.

Thank you for your support!

4/10/2018 – 6/10/2018

New Members

Robert and Alana Anderson
Randy and Margaret Asmus
Kirk and Kathleen Aubry
Dr. Ondrea L. Bates
Jeffrey and Stephanie Bigelow
Dr. and Mrs. R. Michael Boyer
Mr. and Mrs. J. Lewis Cooper Jr.
Decka Digital
Mr. and Mrs. John R. Dixon
James and Virginia Ewing
Mr. and Mrs. Bruce E. Gauthier
Mr. Philip C. Gilbert
Mr. John Goeke

Mr. and Mrs. Mark E. Greyerbiehl
Prof. Thomas C. and Mrs. Judith Kohler
Jill and Bill Kurzava
Timothy Lee
Janet Garvey and Jack Maddox
Margaret and Archibald Martin
Arthur and Rita L. McClellan
Richard and Sherwood Mitter
Mr. and Mrs. Pierre M. Moncion
Dr. Kerry L. and Mr. Joseph Polizzi
Timothy and Nicole Quinlan
Doug and Melanie Stieber
Jason and Pamela Tunney
Mr. Paul Van Hese

Honorariums

In honor of...

Carolyn Duryea
Nancy Duryea
Mary Reilly's Birthday
Barbara Wotila and Steve Little

Memorial Gifts

In memory of...

Louis E. Lehmann
Daniel P. and Ann R. Ernst
Phillip Hense
Aaron and Janet Larson

Many Thanks to...

Stigg's Brewery and Kitchen for hosting a Beer Release Party for the "Boyne Riv IPA", a percentage of each benefitted the Watershed Council.

Students Experience Lake Charlevoix volunteers - Trisha Frye, Sara Nachazel, Dan Mishler, Hap Wright, Larry Levengood, Ed and Diane Strzelinski, Tom Darnton, Nancy Cunningham, Cindy Tonkavich, Joel VanRoekel, Lauren Dey, Carrie Coy, Michael Buttigieg, US Coast Guard, and Michigan Department of Natural Resources representatives - Erin and Kaitlyn.

Crooked Lake Mobile Boat Wash volunteers - Gail May, Larry Marvin, Linda Oelke, Jan Quaine, Roger Winslow, Mary Netzky, and Greg Warner.

Habitat Landscapes for maintaining the landscape at the Freshwater Center.



All great food and drink starts with fresh, clean water! That is why this past June, the Watershed Council partnered with many Petoskey venues in a series of events called "Spring into Summer." The purpose of these partnerships was to raise funds for the Watershed Council's programming, increase awareness of our organization, and encourage the community to support our amazing local food and drink venues. We partnered with 10 venues in downtown Petoskey, which ended up being over 15 days of fundraising for the Watershed Council. We are so grateful to these businesses who believe in our mission and want to help us grow as an organization. Venues who participated in "Spring into Summer" were:

Beards Brewery
City Park Grill
Dripworks Coffee
High Five Spirits
Julienne Tomatoes
Palette Bistro
POUR
Roast and Toast
Tap 30
Petoskey Farms Vineyard and Winery



A Huge Rummage Sale for Water Recreation Lovers!

WHALE of a SALE

SATURDAY

JULY 21, 2018

8:00AM - 2:00PM

RAIN OR SHINE! • NO EARLY SALES

IRISH BOAT SHOP STORAGE UNIT
7580 S. STATE ROAD  HARBOR SPRINGS


Watershed Council
426 Bay Street
Petoskey, MI 49770



ADDRESS SERVICE REQUESTED



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

Nonprofit
Organization
U.S. Postage
PAID
Petoskey, MI
Permit No. 108

Waganakising Bay Day

August 18, 2018

12:00 p.m. - 4:00 p.m.

Bayfront Park, Petoskey

Free admission. Public Welcome.

Celebrate Little Traverse Bay! Join us for a family-friendly water festival at Bayfront Park with hands-on activities for kids. Learn from Northern Michigan's environmental experts on wildlife, water quality, stewardship and recreation. Crafts, demonstrations, and much more!

For list of events, visit the Bay Day page at
www.petoskeyfestival.com



Sponsored in part by Little Traverse Bay Bands of Odawa Indians, Little Traverse Conservancy, Tip of the Mitt Watershed Council and Walloon Lake Trust and Conservancy.



June 23 - August 5, 2018

St. James Township Hall

37735 Michigan Ave., Beaver Island

For a complete list of events, visit www.beaverislandhistory.org

August 11 - September 23, 2018

Raven Hill Discovery Center

4737 Fuller Rd., East Jordan

For a complete list of events, visit www.miravenhill.org

The newest traveling exhibition from the Smithsonian's Museum on Main Street (MoMS) program, Water/Ways examines water as an environmental necessity and an important cultural element. Experience this summer's must see attraction. Enjoy exciting exhibits, art, music, presentation, and more, all with water as the central point of inspiration.