



## UPDATE: Watershed Management Plans

What have we been up to, lately, at Tip of the Mitt Watershed Council? Working on watershed management plans, of course! All across our four-county service area, we have watershed plans being written, updated, approved, and implemented. A watershed plan is an asset to the community that attracts investment. They create jobs and improve the health of local waters. Having an approved plan in place is often required for grant programs that we use to fund projects that protect and restore water resources. And you are always welcome to participate!

We often say: “No matter where you are, you are in a watershed.” When rain falls and snow melts, that water goes somewhere. The boundaries of a watershed are defined by surrounding land areas. Let’s take a trip around Northern Michigan to bring you the latest from five important watershed areas.

Our tour begins near the Watershed Council’s headquarters – Little Traverse Bay. Water drains into Little Traverse Bay from Petoskey and Harbor Springs, in addition to numerous townships in Emmet and Charlevoix Counties.

Fortunately, the Bay and its tributaries are the focus of protection and restoration efforts, thanks to community partners working to implement the Little Traverse Bay Watershed Protection Plan. We are in the process of updating this Plan, which is done every 10 years. The update is funded in part by the Petoskey-Harbor Springs Area Community Foundation and will be finished this winter.

Next, we head northeast to Duncan and Grass Bays outside the City of Cheboygan.

This Watershed is unique as it includes valuable wetland resources such as a state-designated environmentally sensitive area on Duncan Bay. In 2012, the Watershed Council received a grant from the Michigan Department of Environmental Quality (MDEQ) to develop the first ever Duncan and Grass Bays Watershed Management Plan. After several stakeholder meetings, the Plan is now approved by MDEQ and we are awaiting final approval from the U.S. Environmental Protection

Agency (EPA). We look forward to implementing the Plan with our partners on the new advisory committee.

Moving south, we encounter the Burt Lake Watershed. Here, we are writing a brand new Plan, funded by the MDEQ, which includes the Sturgeon, Crooked, and Maple Rivers. We met with stakeholders several times and will submit the Plan for approval this fall. We are excited about its potential to guide positive efforts to protect this important Watershed.

Now let’s move to the southwest and visit the Elk River Chain of Lakes (ERCOL) Watershed. Our active and engaged Watershed Plan Implementation Team (WPIT) worked with a group of students from the University of Michigan to create a comprehensive first draft of a new Plan funded by the Joyce Foundation. The ERCOL-WPIT will help us write the final draft in 2017.

Finally, we end our tour in the Lake Charlevoix Watershed. This Watershed Plan Advisory Committee has been meeting for decades and remains deeply involved in efforts to protect the Lake. The current Plan update was approved in 2012 and we continue to implement Plan steps, such as addressing septic system oversight in the Watershed and improving aquatic connectivity by replacing undersized culverts at road/stream crossings.



**STAY INFORMED.** Visit our website for more information.  
[www.watershedcouncil.org/watershed-management-plans](http://www.watershedcouncil.org/watershed-management-plans)



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## Reflections From Our Executive Director

The Mission of the Tip of the Mitt Watershed Council includes the following statement.

**“We are dedicated to protecting our lakes, streams, wetlands, and groundwater through respected advocacy, innovative education, technically sound water quality monitoring, thorough research, and restoration actions.”**



**Gail Gruenwald**  
Executive Director

The Watershed Council keeps this mission statement front and center in all that we do. It hangs in our board room and we reflect on it often as we consider positions on important issues during our planning and program development work. We are careful, thorough, and bring our scientific knowledge into each position we take. We also take pride in our remarkably skilled staff that dig deep into the policies and on-the-ground science that drives each issue.

One example of this is our work on oil and gas pipelines. Pipeline regulations and management is a remarkably complicated topic. Our Policy Director, Jennifer McKay, has spent hundreds of hours delving into the world of pipeline rules and regulations, as well as pipeline operations, cleanup procedures, maintenance guidelines, spill prevention techniques, and other related topics. Jennifer serves on the Michigan Pipeline Safety Advisory Board pushing for a comprehensive review of the risks and alternatives relating to Line 5 which traverses the Straits of Mackinac and Northern Michigan. She represents all of us concerned about the potential disaster a Line 5 rupture would cause.

It is this careful, science-based assessment that we believe will result in concrete actions and responses to Line 5 that will protect our water resources from an oil spill disaster. We continue to present our research and our position on Line 5 to the public in a variety of ways. We have conducted pipeline symposia and presented information across our service area to groups that desire this knowledge. Our website has a wealth of information on the topic.

Our challenge is to convey this complicated topic in an understandable manner so that everyone knows what actions we have taken and what they can do to have a positive impact on this critical issue. On page 11 you will read about our latest effort – a series of short pipeline videos intended to bring you the straight talk on Line 5 and Michigan’s pipelines.

We feel strongly that factual information is the key to protecting our waters from pipeline disasters. Our work on Line 5 illustrates how we combine our research and actions to better protect resources.

For much more information, please visit our website ([www.watershedcouncil.org](http://www.watershedcouncil.org)). As always, feel free to call our office at 231-347-1181 with comments and questions.





**MICROPLASTICS** are defined as plastic pieces measuring less than 5 millimeters (mm). The microbeads found in personal care products are almost always smaller than 1 mm.

## Microplastic Pollution

Plastic pollution is everywhere – it is in our oceans, rivers and lakes, our fish and waterfowl, and even in the sediments. Plastic particles come in many forms, including lines/fibers, pellets/beads, foams, films, and fragments. Research has shown an alarming amount of plastic pollution in

**Microplastics were found in every single sample.**

the Great Lakes, up to 1.1 million plastic particles per square kilometer. Surveys revealed that the Great Lakes have some of the highest concentrations of microplastics. Microbeads were among the most prevalent, accounting for 16% of the collected samples. The least common type of plastic found in the Great Lakes were fibers, which made up only 2% of the samples on average.

New research looking at the rivers that feed the Great Lakes found different, and surprising, results. In the tributaries that flow into the Great Lakes, plastic fibers - which come from items such as synthetic clothes, diapers, and cigarette butts - were the most common type detected at 71% of the total particles. Researchers did note that the study underestimates the actual microplastic concentrations in the rivers because only large microplastics (greater than 3 mm) were sampled and the majority of microplastics are smaller than 1 mm.

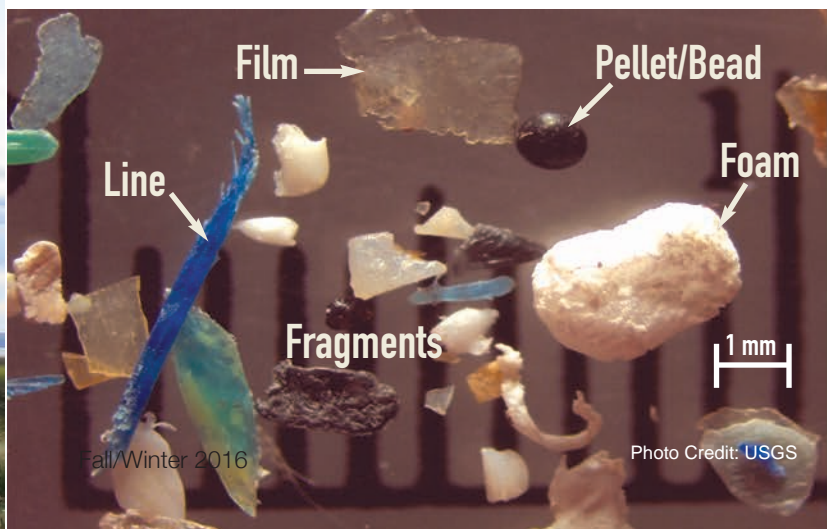
These discoveries are a result of research conducted by scientists with the U.S. Geological Survey and State University of New York at Fredonia. 107 water samples were collected from 29 Great Lakes tributaries in Minnesota, Wisconsin, Indiana, Michigan, Ohio, and New York, which account

for approximately 22 percent of the total river water that flows into the Great Lakes. Microplastics were found in every single sample.

Key findings from the study include:

- The highest concentration of microplastics was detected in the Huron River in Ann Arbor, Michigan at 32 particles per cubic meter, or p/m<sup>3</sup>;
- High levels of microplastics were also detected in the Buffalo River in Buffalo, New York (31 p/m<sup>3</sup>), the Ashtabula River near Ashtabula, Ohio (23 p/m<sup>3</sup>), and the Clinton River near Mt. Clemens, Michigan (21 p/m<sup>3</sup>);
- The median concentration of microplastics in all samples was 1.9 p/m<sup>3</sup>;
- Urban watersheds had the highest concentrations of microplastics; and
- Microplastics were also present in streams in forested and agricultural areas.

In 2015, Congress passed a law banning the manufacture and sale of new products containing microbeads, which takes effect in 2018. However, the ban only addresses microbeads because early studies indicated that microbeads were the most common type of microplastic found in aquatic ecosystems. The results of the new research indicate the problem is more complex and larger than we initially thought. More research is needed to fully understand the problem in order to take necessary steps to address plastic pollution in all of our waterways.



### Categories of plastic pollution

- |                      |  |
|----------------------|--|
| <b>Fragments</b>     | broken down pieces of larger debris such as plastic bottles            |
| <b>Pellets/beads</b> | microbeads from personal care products and other spheroid pellets      |
| <b>Lines/fibers</b>  | particles of fishing lines and nets and fibers from synthetic clothing |
| <b>Films</b>         | plastic bags and wrappers  |



## MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

### Interview with the New Director

Earlier this summer, Gov. Rick Snyder selected Heidi Grether to head the Michigan Department of Environmental Quality (MDEQ). Now that she has settled into her position, we wanted to get her views on the major environmental issues the State of Michigan is facing, her approach to the Enbridge Line 5 issue, and what is in store for the future of the Department.

#### **1) What do you see as the major environmental issues that are facing the State of Michigan and how will you be addressing them?**

The MDEQ is 1,100 people who devote their days to protecting the public health of 10 million residents and every cubic foot of air, land, and water across the nearly 97,000 square miles we call home. In that light, there's no shortage of issues to occupy our attention.

A primary focus forward is on finding stable funding sources for the Department. The Clean Michigan Initiative funding will soon run out and general fund dollars are always a question mark. In addition, we must constantly review rules and requirements to ensure compliance with federal and state laws. As part of this, we work hard to maintain robust stakeholder relations because without this we can never hope to accomplish all that is needed to meet our responsibilities to public health, protection of our environment and the promotion of a sustainable economy for the people of Michigan.

#### **2) How will your background with the oil and gas industry impact your involvement and decision-making on Enbridge's Line 5?**

My experience provides a bit more understanding of the industry and consumer demands for its products. My approach to Line 5 is guided by the roadmap laid out in the Michigan Petroleum Pipeline Task Force Report and continuing deliberations of the Pipeline Safety Advisory Board.

Many people have made it evident that they wish us to take actions to shut down Line 5 completely without a clear understanding of what that would ultimately mean to Michigan residents. We have embarked on two studies: an independent risk analysis and an independent examination of alternatives to the pipeline. It is understandable that some prefer to move forward without these studies, but it is simply irresponsible to do so without the fuller understanding of our options, which we will have once the studies are completed.

My only concern is that we know, as best as possible, what we are getting into before we take such action. The impact on Enbridge's business model regarding the pipeline is not my concern.

**3) After years of budget cuts, staff reductions, and most recently the Flint debacle, how do you plan to rebuild the MDEQ, as well as the public's trust in the MDEQ, to become an agency dedicated to environmental protection and public health?**

Since I arrived in August, we have initiated a top to bottom review of our processes and practices within MDEQ. We have made significant changes to the leadership team of the Department. By the end of the year, we will have changed four of six executive team members and another four of our six division chiefs. More than these changes, though, are my approaches to people and issues that are built on fairness and open-mindedness. We will endeavor to understand all perspectives, weigh options, and follow both the spirit and letter of the law. That is my commitment and my expectation of all MDEQ staff.

I am challenging our employees to seek creative solutions in the work they do, and I will support them. We are adopting lessons learned by one division in other divisions and across the department - be they in operational efficiencies, new technologies, or customer relations. We are also looking at other departments to learn from their advances.

When I spoke at my Senate confirmation hearing last month, I pledged that MDEQ will be a healthy, dynamic organization under my leadership. As a regulatory agency, we cannot expect to please everyone all the time, but we can always "stand in their shoes" and listen to various points of view. We will leverage the many talents, education, and expertise of our 1,100 teammates in ways that deliver exceptional customer service and base our decision-making on sound science. I would tell you what I've told others: Tell us what we can improve on and tell us also what we do well.

We are writing a new chapter in the MDEQ story, and my expectation is that during my time here, we will move forward from past challenges and create an MDEQ the public trusts and respects and in which employees can be proud.



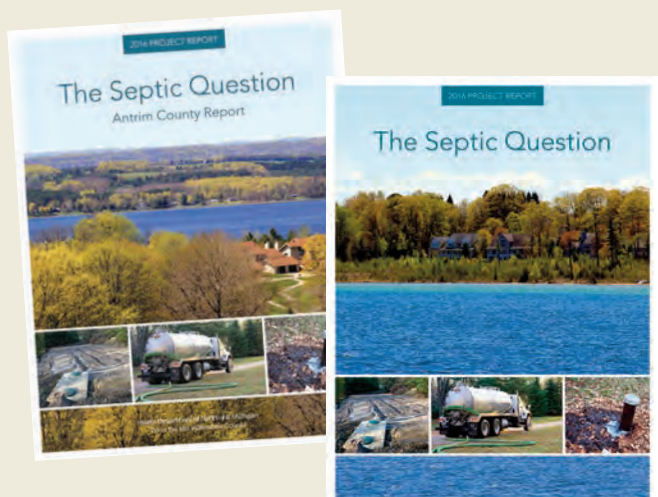
## The Septic Question Continues

In our last issue, we told you about our work to address failing septic systems. Most on-site septic systems in the State of Michigan are never inspected again, once installed. After a system is built, most Michigan counties do not follow up to make sure those systems are functioning properly. Michigan is the only state in the nation without uniform standards for how on-site septic systems are designed, built, installed, and maintained. Because of this, public health officials believe that reported septic system failures represent only a fraction of the total number of failures statewide, and many go undetected or remain unreported for years. This important follow up is non-existent and therefore creates a potential threat to public health and water resources.

The goal of our Septic Question Project is to closely examine septic system policies for the entire Lake Charlevoix Watershed, identify any problems, and examine potential ways to solve them. The project committee published a final report for decision makers that includes specific policy options to consider.

The final report from that project was well-received, and served as the basis for requests to do similar reports in other areas. We recently completed a version for Antrim County, and are currently working on a version for Cheboygan County. You can find a copy of this report on the home page of our website at [www.watershedcouncil.org](http://www.watershedcouncil.org).

It is extremely important for us to collect citizen feedback on this topic to share with local decision-makers. **If you live in either Charlevoix or Antrim County, we ask you to please take our septic question citizen survey.** The links to the survey can also be found on our homepage. Thank you!

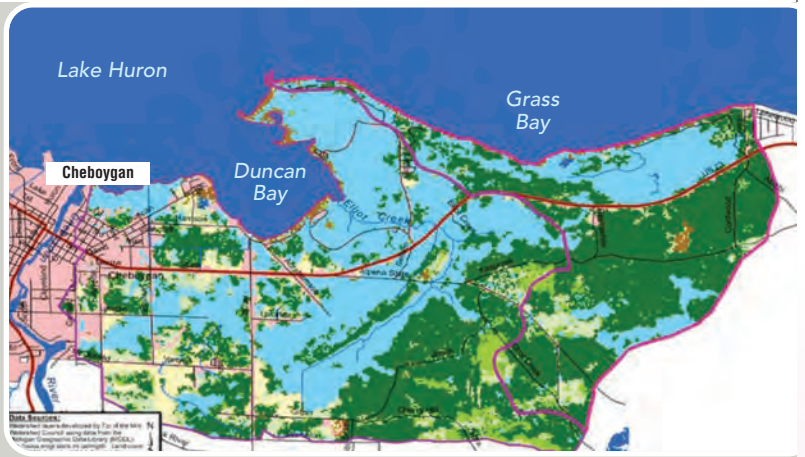


For more information, contact Grenetta Thomassey, Program Director, at [grenetta@watershedcouncil.org](mailto:grenetta@watershedcouncil.org) or (231) 347-1181 ext. 118 or visit the Aquavist webpage at [www.watershedcouncil.org/aquavist-network](http://www.watershedcouncil.org/aquavist-network).

## Duncan and Grass Bays Watershed Management Plan Final Steps to Approval!

We are pleased to announce that our new Watershed Management Plan for Duncan and Grass Bays received approval from the Michigan Department of Environmental Quality (MDEQ) under the State's Clean Michigan Initiative. We are anticipating approval this fall from the United States Environmental Protection Agency (EPA) under Section 319 of the Clean Water Act (the Nonpoint Source Management Program). Duncan and Grass Bays are located on Lake Huron in Cheboygan County. Duncan Bay extends eastward from the Cheboygan River outlet in the City of Cheboygan to the tip of the peninsula jutting forth on the east side of Cheboygan State Park. Grass Bay is broad, stretching five miles from the tip of the Cheboygan State Park Peninsula eastward. The Bays' Watershed covers just under 12,000 acres. The Watershed includes a range of land cover types, but of particular importance are the diverse and valuable wetlands found throughout.

The Watershed Management Plan was developed as part of our grant-funded project through the MDEQ's Nonpoint Source Program by the EPA. The Plan was developed around the results of our resource inventories, including



streambank erosion, shoreline surveys, road/stream crossing inventories, stormwater mapping, and water quality monitoring. An advisory committee comprised of watershed stakeholders also contributed to the development of the Plan. The Plan identifies areas within the Watershed that should be protected, such as areas with high groundwater recharge. The Plan also identifies areas that should be addressed in order to mitigate nonpoint source pollution, such as a severely eroded streambank where a road crosses the stream. Dozens of recommendations for both protection of high quality areas and restoration of degraded areas are included in the Plan. We look forward to working with stakeholders to implement important steps toward both protection and restoration of water resources within this unique Watershed.

# We want to recognize YOU for protecting Michigan's inland lakes.



### Become a MI Shoreland Steward!

- 1** Take the online questionnaire to determine if your lakefront property qualifies as a gold, silver, or bronze stewardship level.
- 2** Learn important tips on how you can protect your lake and improve your shoreland.
- 3** Once you complete the questionnaire, you can print a stewardship certificate. If you want to **let everyone else know you're a MI Shoreland Steward**, purchase a sign to display in your shoreland.

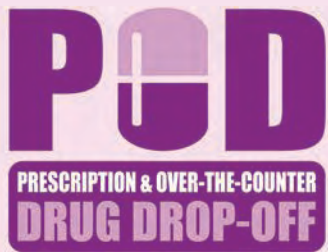


[www.mishorelandstewards.org](http://www.mishorelandstewards.org)

## 2016 POD PROGRAM UPDATE

The year 2016 was yet again phenomenal for Northern Michigan's Prescription and Over-the-Counter Drug Disposal (POD) Program. Thanks to the numerous community partners and all of the participants, we prevented 6,387.88 pounds of unwanted and unused medications and personal care products from ending up in our precious waterways. The POD Program has proven to be a convenient and environmentally sound way for residents to properly dispose of medications. Nine community collection events held in the counties of Antrim, Charlevoix, Cheboygan, and Emmet properly disposed of more than 600 pounds from approximately 300 participants. Add to that 5,758.66 pounds collected at permanent drop-off boxes located at law enforcement offices throughout Northern Michigan. **Over 26,600 pounds have been collected since the program started.** These impressive numbers are evidence of a truly successful community program that serves not only to protect our magnificent waters, but also keeps our families and communities safe. Thanks to all of you for helping to ensure the success of the POD Program in Northern Michigan!

For more information about the POD Program or to find a drop-off location near you, visit [www.pillsinthePOD.com](http://www.pillsinthePOD.com).



*Put your pills in the pod!*

**Your participation in this program helps protect our waters and our community.**



## Climate Change Adaptation: Focus of New Publication

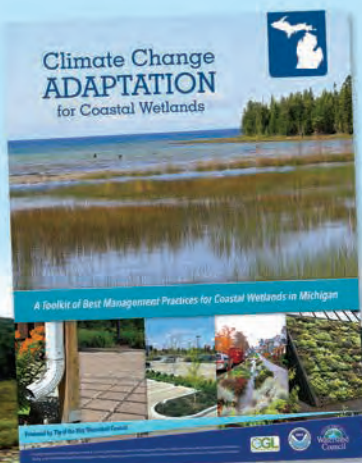
Tip of the Mitt Watershed Council is pleased to announce the release of a new publication: *Climate Change Adaptation: A Toolkit of Best Management Practices for Coastal Wetlands in Michigan*.

Climate change is already having significant and widespread impacts on Michigan's economy and environment. In order to ensure Michigan's coastal wetlands and waters can continue to provide recreational, commercial, and ecological benefits and services, actions need to be taken to help avoid or reduce climate change impacts. Our new Toolkit provides information about climate change adaptation best management practices (BMPs) that can be implemented on an individual, local, or regional level to address many of the potential

impacts of climate change. The BMPs identified are designed to protect, manage, and restore coastal wetlands so as to increase their resistance and resiliency to climate change. The Toolkit can be used by almost anyone in Michigan, including homeowners, developers, municipalities, organizations, and water and wetland resource managers.

Financial assistance for this project was provided, in part, by the Michigan Coastal Zone Management Program, Office of the Great Lakes, Department of Environmental Quality, under the National Coastal Zone Management Program, through a grant from the National Oceanic and Atmospheric Administration, U.S. Department of Commerce.

The Toolkit is available online at [www.watershedcouncil.org](http://www.watershedcouncil.org) or to obtain hard copies, contact the Watershed Council at (231) 347-1181 or email Jennifer McKay at [jenniferm@watershedcouncil.org](mailto:jenniferm@watershedcouncil.org).



**For more information about climate change adaptation, visit**  
**[www.watershedcouncil.org/climate-change](http://www.watershedcouncil.org/climate-change)**

# ONE HOT SUMMER

*A reflection on the impacts of warming temperatures.*

## Volunteer Lake Monitoring Data Maximum Summer Temperature Readings

Lake Name	Degrees Fahrenheit
Walloon Lake – Foot Basin	82
Walloon Lake – North Arm	82
Thayer Lake	82
Thumb Lake	81
Pickerel Lake	81
Intermediate Lake	80
Crooked Lake	80
Long Lake	80
Munro Lake	79
Mullett Lake	79
Mullett Lake – Pigeon Bay	79
Paradise Lake	78
Twin Lakes	77
Lake Marion	77
Douglas Lake	77
Huffman Lake	77
Round Lake	77
Lake Charlevoix – Main Basin	77
Lake Charlevoix – South Arm	77
Burt Lake – Main Basin	77
Walloon Lake – West Arm	77
Walloon Lake – Wildwood Basin	77
Black Lake	77
Larks Lake	75
Burt Lake – South Basin	75
Lake Charlevoix – West Basin	73

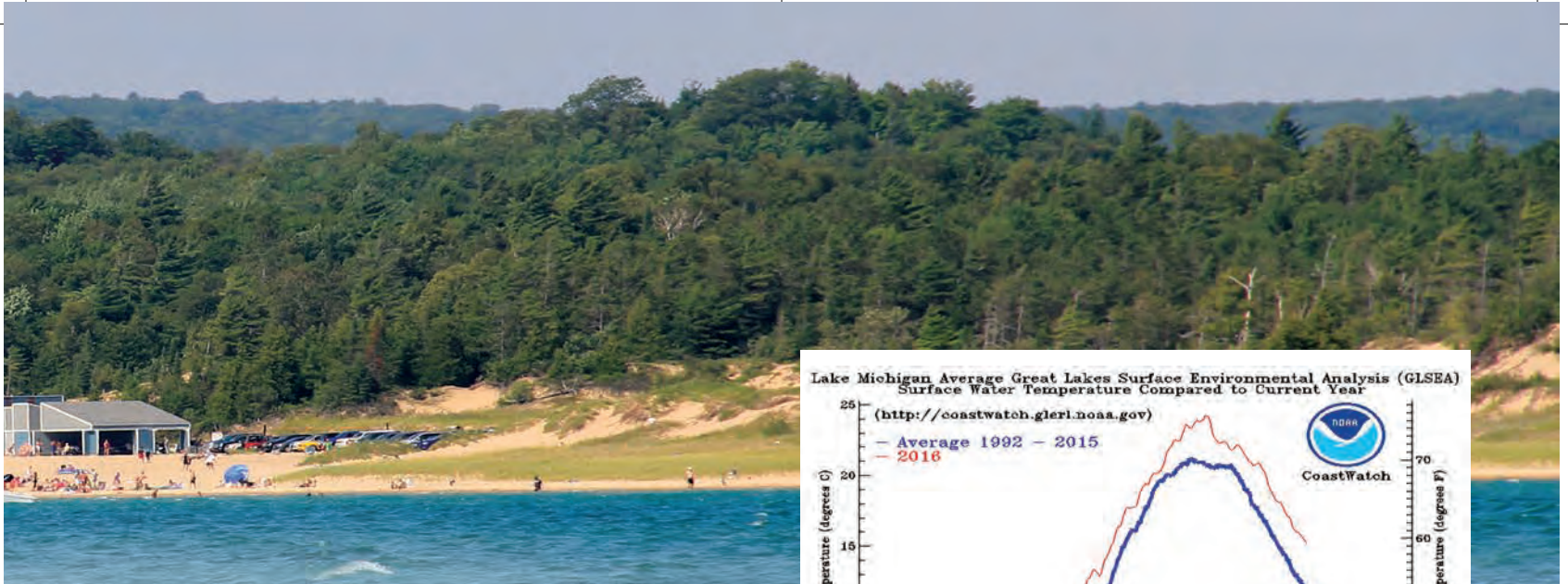
For many part-time residents, summers in Northern Michigan represent a reprieve from the sweltering days experienced in other parts of the country. Year-round residents look forward to pleasantly warm summer days punctuated by cool nights and misty mornings on the water. This past summer was perfect for water recreation lovers, with some days in the 90's and an unrelenting sun overhead. With so much of Northern Michigan's economy based in outdoor activities, the hot and clear weather was a boom for many local businesses. Campgrounds, outfitters, restaurants, and retailers were among those reporting increased traffic. While hot weather may benefit our local economy in some ways, it also has an impact on water resources.

At the most basic level, higher air temperatures and more sunlight mean warmer water. According to the Great Lakes Environmental Research Lab, the average surface temperature of Lake Michigan peaked at 24.2° C (75.6° F) on August 18th. This was 3.4° C (6.2° F) warmer than the long-term average for that date. Many of our inland lakes reached the upper 70's and low 80's during late summer. Data from our Volunteer Lake Monitoring Program show the location of our warmest inland lake "hotspots." Tied for warmest surface water temperatures are Walloon Lake and Thayer Lake. Readings from two separate basins of Walloon and from the center of Thayer topped out at 28° C (82.4° F). Refer to the chart on the left to see where your favorite lake fell in the spectrum of warmth.

What does this mean for water quality and the life within and around our lakes? Warmer water promotes biologic activity, meaning that plants, algae, and even some fish grow better in warmer waters.

Conditions favorable to algae growth were moderated by a relatively dry late spring and summer. Less rain translates to less flushing of nutrients from the landscape. This keeps nutrient levels lower in our lakes, and algal blooms less frequent. Our Beach Rangers, Volunteer Avian Botulism Monitors who regularly walk the Great Lakes beaches to document bird die-offs, reported seeing less algae washing up on Great Lakes beaches. This is a good sign, as decaying benthic algae is thought to encourage conditions that result in botulism-induced bird fatalities.

One curiosity of warmer weather is the appearance of *Craspedacusta sowerbyi*, or freshwater jellyfish. The Watershed Council received reports from boaters and swimmers who found the jellyfish in Crooked and Burt Lakes. This

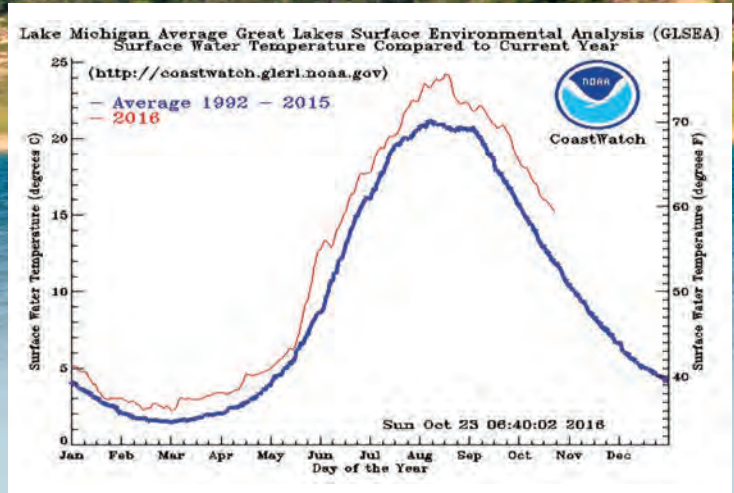


hydrozoan, a small jellyfish native to the Yangtze River Valley in China, has a mysterious life cycle. Much of their life is spent in larval or polyp form, as minute free-floating or benthic-dwelling organisms. Once water temperatures approach the upper 70's or 80's, the polyps bud into their more recognizable adult form, also called a hydromedusa. "Blooms" of these freshwater jellies coincide with heat waves throughout their now-established range across much of the eastern United States. Although nonnative, they are not thought to be invasive due to their limited numbers and brief appearance. The tentacles do have the ability to sting, but are far too small to be felt by humans.

The Watershed Council received many reports of purple loosestrife, Eurasian watermilfoil, *Phragmites*, and other aquatic invasive plant species growing more heavily than normal this past summer. While these invasives can inhibit recreation and lakefront views, more damaging are the ecological impacts. Some of these impacts include monoculture growth, resulting in decreased biodiversity and less food for waterfowl and gamefish. A dense infestation of invasive plants can even alter the hydrology of a stream or wetland.



**Freshwater Jellyfish**  
Photo Credit: Jonathan Miano



The Watershed Council took action in the fight against invasive species this summer on numerous fronts. We implemented biological control of purple loosestrife, mapped and treated nonnative *Phragmites* along the Emmet County shoreline of Lake Michigan, and conducted many other survey efforts aimed at early detection and rapid response. Amid the summer bustle, we increased our boater education and outreach initiatives to enlist boaters and others in our effort to control the spread of invasive species. Continuing our partnership with the Charlevoix, Antrim, Kalkaska and Emmet Cooperative Invasive Species Management Area (CAKE CISMA) ensures that our efforts complement other organizations' efforts throughout the area.

Summer 2016 was abnormally hot across the globe, not just in Northern Michigan. According to the National Oceanic and Atmospheric Administration (NOAA), July 2016 was 0.87° C (1.57° F) above the twentieth-century average. This July was also the hottest July in recorded history, breaking the record by one-tenth of a degree. While these numbers may seem like small differences, they can result in big changes for our climate. The predicted global consequences of our warming trend are: receding glaciers, burgeoning oceans, or more frequent and severe droughts inland. Locally, fluctuating water levels, warmer water temperatures, and the invasion of exotic species jeopardize aquatic habitat. Through the lens of water resource protection, we have our work cut out for us.



## 12th "Healing the Bear" Bear River Cleanup

On the morning of August 13th, 88 eager volunteers gathered under the Bear River Shelter in Petoskey. The morning was cool and rainy, but spirits remained high despite the weather. Coffee and a light breakfast provided by the Grain Train fueled volunteers as they set out into the drizzle to clean litter and refuse from the Bear River. The skies cleared before long and the cleanup was well underway. **Roughly 8.5 cubic yards of trash were collected from nearly five river miles, including five road crossings.** Small pieces of litter filled 14 trash bags, and a large trailer was filled with heavier items such as metal, pallets, and 50-gallon drums. Refuse was taken to the Emmet County Transfer Station for disposal and recycling. A bicycle frame found in the river was dated to the 1890's by Wright Cycle Co. Upon returning to the Bear River Shelter, volunteers were met with a delicious lunch donated by BC Pizza and Plath's Meats. Other businesses and organizations that donated to the Cleanup include Bearcub Outfitters, City of Petoskey, Emmet County Department of Public Works, McLaren Northern Michigan, Meijer, Odawa Casino Resort, Oleson's Farm Fresh Markets, Petoskey News-Review, Petoskey Plastics, and Petoskey Rotary Sunrise. The project was also funded by a grant from the Michigan Volunteer River, Stream, and Creek Cleanup Program. Thank you to all the volunteers and supporters that helped make the 12th Bear River Cleanup a success!



## Land And Watershed Education Fund

The Tip of the Mitt Watershed Council, the Little Traverse Conservancy, and the Petoskey-Harbor Springs Area Community Foundation have together created the Land and Water Education Fund.

The goal of the Fund is to establish an enduring legacy at the Petoskey-Harbor Springs Area Community Foundation to support nature exploration and the study of science in Northern Michigan. This new joint agency fund, administered by the Community Foundation, will eliminate fund raising duplication and will provide donors with an option that makes the most of their investment in education programs for area youth.

The Little Traverse Conservancy and the Tip of the Mitt Watershed Council have teamed up to educate area youth about our land and water resources in past years. Most recently, the Conservancy has participated in the Watershed Council's Watershed Academy, which we hope is the first of many collaborative natural resource education projects for the two organizations.

Please contact Gail Gruenwald at (231) 347-1181 if you are interested in joining this exciting effort!



Tip of the Mitt Watershed Council firmly believes that recycling helps prevent waste from entering our environment. Here are two ways you can contribute to reducing waste too.

**1** First, you can pass this newsletter to a friend, family member, or co-worker. Chances are if you enjoy this information, they will too.

**2** Secondly, opt to receive this newsletter digitally. This not only reduces waste, but lowers printing costs, allowing us to invest more into our programs. To start receiving your newsletter digitally, send an email with your wishes to [debbiee@watershedcouncil.org](mailto:debbiee@watershedcouncil.org).

## Pipeline Video Series

In late October, the Watershed Council began the "Fuel for Thought" video series - a video series devoted to Line 5 and pipeline safety in Michigan. The series provides answers to some of the pressing questions, such as: what is at risk?, how old is too old?, how safe are pipelines?, and are we prepared for an oil spill? It will also present the Watershed Council's position on crude oil transportation on the Great Lakes, what we are doing to protect our water resources from a pipeline spill, and what actions the State of Michigan has taken to address the risk of pipelines. Funding for the project was generously provided by the Petoskey-Harbor Springs Area Community Foundation.

The video series can be viewed at:



[www.watershedcouncil.org/pipelines](http://www.watershedcouncil.org/pipelines)



[www.watershedcouncil.org/videos-presentations](http://www.watershedcouncil.org/videos-presentations)



[www.facebook.com/watershedcouncil](https://www.facebook.com/watershedcouncil)



## SAVE THESE DATES

### Ice Breaker Speaker Series

Our winter speaker series **begins on January 12th** and will run through mid-March. We are in the process of lining up some exciting speakers that you won't want to miss. Watch your mailbox in mid-December for a list of dates and topics.

### Volunteer Stream Monitoring Winter Adventure & Potluck

**February 18th**

The date for this fun winter monitoring event has been set. Invitations for this event will go out to our Volunteer Stream Monitors in January. If you would like to be added to the list, contact Matt at (231) 347-1181 or email [matt@watershedcouncil.org](mailto:matt@watershedcouncil.org)

## NEW PUBLICATIONS

### Lake Charlevoix Watershed Homeowner's Guide

The Watershed Council is excited to announce the release of another helpful publication: *"A Homeowner's Guide to Watershed Protection."* This 24-page booklet was developed to promote low impact development (LID) strategies for managing stormwater runoff. Readers can explore LID options such as rain gardens, native plants, porous pavements, and rain barrels. Additional resources and information about greenbelts, septic systems, and the new Michigan Shoreland Stewards program is also included. This publication was written by Tip of the Mitt Watershed Council with guidance from the Lake Charlevoix Watershed Advisory Committee. Funding for this project was provided by the Charlevoix County Community Foundation.

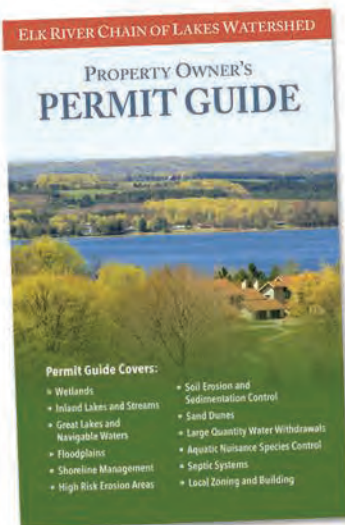


### Elk River Chain of Lakes Watershed Property Owner's Permit Guide

A Property Owner's Permit Guide is now available for the residents, local officials, and development community within the Elk River Chain of Lakes Watershed. The Permit Guide was produced by Tip of the Mitt Watershed Council with funding provided by the Dole Family Foundation.

Our actions in and around the Elk River Chain of Lakes can have direct, and often times adverse, impacts on our

natural resources. For this reason, policies have been adopted at the federal, state, and local levels that regulate certain activities to assure that our waterways are not only protected, but improved over time. These laws protect water quality, limit erosion, conserve wildlife and vegetation, and preserve the natural beauty of the region.



Working through the maze of government regulations can certainly be confusing and overwhelming for many property owners, but it is critical to ensure our natural resources are protected for future generations. By providing a comprehensive Permit Guide, the Watershed Council seeks to help property owners navigate through the right permitting channels, thus protecting our water resources.

The Permit Guide provides information to help property owners determine what permit is needed, which government agency to contact, and the basic requirements to get a permit. The Elk River Chain of Lakes Watershed Property Owner's Permit Guide can be viewed on the Watershed Council website at [www.watershedcouncil.org](http://www.watershedcouncil.org). Hard copies of the Property Owner's Permit Guide can be requested by calling (231) 347-1181 or emailing Jennifer at [jenniferm@watershedcouncil.org](mailto:jenniferm@watershedcouncil.org).

To view these publications and over 180 other informational resources, visit our online download library.

[www.watershedcouncil.org/download-library](http://www.watershedcouncil.org/download-library)

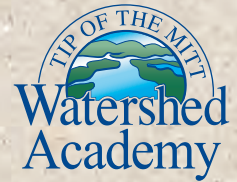


## Watershed Academy Completes Second Year!

This fall, Tip of Mitt Watershed Council's popular stewardship program, the Watershed Academy, completed its second year of stream monitoring. The Watershed Academy is a place-based environmental education program that engages nearly 100 local high school biology students in watershed protection efforts by collecting water quality data vital to maintaining our precious natural resources. Ten local high schools have established teams of students that monitor a nearby stream, in the spring and fall, after a thorough in-school training.

Four counties in our service area, Antrim, Charlevoix, Cheboygan, and Emmet, have school "stream teams" committed to creating stewards of our watersheds. The five schools that participated in the pilot year include Alanson, Boyne City, East Jordan, Harbor Springs and Pellston, and have been joined this year by Boyne Falls, Bellaire, Elk Rapids, Mackinaw City, and Onaway schools. Each semester, students monitor 3,000 feet of stream and collect and identify hundreds of aquatic bugs. Their data is then included as part of the Watershed Council's stream monitoring database.

As the Watershed Academy continues to expand and additional educational programs are developed, the wonderful support for this program needs to broaden as well. To ensure that participating "stream teams" have funding to continue their stewardship efforts, the Watershed Council is seeking local support from each community for their school's Watershed Academy team. Several lake associations, community businesses, and private donors have pledged support in their communities. We invite you to join us! Contact Maria Affhalter at [maria@watershedcouncil.org](mailto:maria@watershedcouncil.org) to support the Watershed Academy.



### Thank you

#### Resource Volunteers

Matt Haberkorn,  
Shanty Creek

Jeff Dykehouse,  
Mackinaw State Historic Parks

Caroline Keson,  
Little Traverse Bay Bands  
of Odawa Indians

Lauren Dey,  
Little Traverse Bay Bands  
of Odawa Indians

Greg Walz,  
Trout Unlimited

Brian Kozminski,  
Friends of the Boyne River

Bethany Springsdorf,  
Huron Pines AmeriCorps Member  
at Antrim Conservation District

Mara McMurray,  
Walloon Lake Trust and Conservancy

Christine Steensma,  
Oden State Fish Hatchery

Wayne Blomberg,  
Inland Water Route Historical Museum

Dave Peterson,  
Friends of the Jordan  
Watershed Center

#### Teachers

Brooke Vieau, Mackinaw City

Brooke Groff, Pellston

Becky Lipchik, Alanson

Jennifer Lapoint, Harbor Springs

Scott Steensma, Onaway

Elizabeth Hemming, Boyne City

Alicia Angerer, Boyne Falls

Anna Walker, East Jordan

Tom Baeckeroot, Bellaire

Matt Carter, Elk Rapids



# Thank you for your support!

6/17/3016 – 9/30/2016

## New Members

Jane Severs and Nelson Andrews  
Robert and Christine Arsenault  
Mr. and Mrs. Randall Barnhart  
Joan Bernardin  
Mr. and Mrs. Thomas Bernardin  
Mr. and Mrs. Jack Blanchard  
Mr. and Mrs. Terry W. Blissett  
Mr. and Mrs. William Bowers  
Mr. and Mrs. John Brockschmidt  
Mr. John W. Campbell  
Dr. and Mrs. Joseph Caruso  
Mr. and Mrs. Thomas D. Christian  
Mr. and Mrs. Ty Eugene Conklin  
Mr. and Mrs. Andrew J. Cooney  
Marjorie Green and Drew Costello  
Mr. and Mrs. Scott A. Currie  
Marjorie J. Davis  
Mr. and Mrs. Richard Denardis  
Mr. and Mrs. Michael Didyk  
Mr. and Mrs. Robert Dingman  
Mr. Louis C. Dortch Sr.  
Mr. Jerry Drobek  
Mr. John Dufek  
Mr. and Mrs. William Emerson  
Mr. and Mrs. Edward G. Evers  
Melanie and Kelly Farler  
Mr. and Mrs. James Fountain Sr.  
Mrs. Mary Gard  
Mary Gergel  
Oliver and Carolyn Grin  
Mrs. Caroline Halusek  
Geoffrey and Mary S Heidbrink  
Maureen Lange and Harold Heintz

Mr. and Mrs. Alan K. Henry  
Sheridan Jones  
Ms. Ellen V Kilpatrick  
Timothy S. and Linda L. Kohr  
Mr. and Mrs. Allen Kozlowski  
Mr. Edwin O. Landon  
Mr. David A. Legwand  
Mary Foucard and Roderick Lemmer  
Mr. and Mrs. David Lesh Jr.  
Lorraine Lund  
Dr. and Mrs. Joseph Marshall  
Mrs. Margaret Martin  
John and Thelma McKellar  
Scott and Susan McLeod  
Dr. and Mrs. Anthony Melonakos  
Cynthia A. Michalak  
Mr. and Mrs. Gregory A. Miller  
Marcy Koftan and Janice Moran  
John Royal and Marilyn Morehead  
Daniel W. and Julie M. Murphy  
Mr. and Mrs. John P. Northup  
Mr. and Mrs. David L. Olson  
Richard Owen  
Thomas and Margaret Parker  
Mr. and Mrs. Glenn Patton  
Mr. and Mrs. John D. Paul Jr.  
Mr. and Mrs. Walter Piotr  
John and Kathy Polanski  
ReMax of Elk Rapids  
Ralph and Nancy Rucinski  
Ms. Gail N. Schaefer  
Dr. and Mrs. John M. Schimpke  
Mr. Michael G. Schmidt  
Janet Sofy and Glen Seaman  
Mr. Richard J. Sharkey

Michael and Maria Simonte  
Blondin Smyth  
Mr. and Mrs. George Stancel  
Mr. and Mrs. David Steele  
Sheila Stevens  
Mr. and Mrs. James N. Walker  
Mr. and Mrs. Larry Wallie  
Mr. and Mrs. David Walsh  
Mr. and Mrs. Larry Williams  
Mr. and Mrs. David Young

## Memorial Gifts

Birthday Wishes to Roger Wotila  
Barbara Wotila and Stephen Little  
In Recognition of Friends of O'Neal Lake  
Marian Krzyzowski  
Customers of My Sister's Bake Shop  
In Memory of Agnes Cressy  
Gloria Dobbs  
Johanna Cressy  
In Memory of Barbara Samberg  
Birchwood Association of Mullett Lake  
In Memory of Bruce Bjornseth  
East Burt Lake Association  
In Memory of Dean Grundy  
Birchwood Association of Mullett Lake  
In Memory of Faye Squibb  
Dr. and Mrs. Eugene Thompson  
Mr. and Mrs. James P. Nuffer  
In Memory of Isabell Novak  
East Burt Lake Association  
In Memory of Larry Scharmen  
East Burt Lake Association

## 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 or email [kate@watershedcouncil.org](mailto:kate@watershedcouncil.org).

## Thank You...

**Charlie MacDonald**, Policy Team Volunteer

**Simon Gelb**, Administrative Assistance

**Habitat Landscape Comany, LLC**  
Maintaining the landscape of our Freshwater Center

### Roast & Toast

Providing coffee for our events.

### RSVP Volunteers

Sally Bales	Iris Overholt
Tina Bickes	Doris Robinson
Sharon Brown	Carolyn Snead
Pat Kovach	Lurli Vaughan
Ellen Massey	Dolores Wehrenberg

### "Healing the Bear"

#### Bear River Cleanup Volunteer

Molly Baker and Daughter	Charles Oneill
Eric Baldwin	Mary Pasternack
Gus Baldwin	and grandchildren
Joe Barbercheck	Kassia Perpech
Libby Barbercheck	Leona Phillip
Nancy Barnheart	Tom Ritchie
Randy Barnheart	Margaret Ritchie
Carolyn Belknap	Petoskey Robotics Team
Alan Beyer	Ray Rose
Tim Bigelow	Mary Rose
Steven Brede	Sunrise Rotary Club
Ruth Brede	of Petoskey
Bud Ciciarelli	Truman Seymour
and his grandchildren	Mrs. Seymour
Ruth Claussen	Denise Sheppard
Kelly Dumas	Sherman Shultz
Heidi Dumas	Beth Simmons
Jack Dumas	Craig Simmons
Denise Dundon	Julie Sission
Henry Dundon	Scott Smith
Larry Dyer	Brendan Smith
Ellie Dyer	Angela Snyder
Gavin Dyer	Cathy Solms
Lou Fantini	Kenyon Stebbins
Simon Gelb	Nancy Stewart
Sarah George	Rob Straebel
David George	Kitty Suarez
Pat Gibbons	Emil Suarez
Erin Gibbons	Alan Talcott
Kevin Hammond	Tom Taylor
Brandon Hunt	Thompson Family
Doreen Jagodnik	Annie Trachsel
Jeffery Kozisek	Rob Trachsel
Paul Krecke	Peggy Van Valkenburgh
Kathy Liederbach	Sally Wagle
Fred Liederbach	Sharon Walker
Sarah Liederbach	Hiram Walker
Adriando Macciocchi	Lindsey Walker
Shelia Malleis	Cody Wilcox
Mike Malleis	Jen Winnell
Thea Murray	Todd Winnell
Ginger Nash	Emily Winnell
Carl Nash	Isaac Winnell
Jell Neill	Virginia Zimmerman
Deb Noblett	Matt Zoerner
Quinn Oneill	

## Share your Love of Water This Holiday Season

Since 1979, Tip of the Mitt Watershed Council has relied on contributions from our generous members to help us develop practical and sustainable solutions for protecting and restoring Northern Michigan's water resources. As you consider your gift giving options this holiday season, we hope that you will consider one of the following ideas.

### Gift Memberships

Consider giving a green gift this holiday season. You can show you care about both our water resources and the recipient by giving a gift membership. The recipient will receive a card from us announcing your gift, a one-year subscription to our *Current Reflections* newsletter, and invitations to special events and presentations. Not only does this unique gift idea help protect our water resources, but it will be enjoyed by your friends and loved ones throughout the year. Memberships begin at \$50. For more information about gift memberships, call 231-347-1181.

### McLean & Eakin Giving Program

Did you know that when you shop at McLean & Eakin Booksellers in downtown Petoskey, a portion of your purchase could be going to Tip of the Mitt Watershed Council's in-store credit account? Our in-store credit allows us to purchase books and reference materials for our Watershed Council library. The best part, it costs you nothing extra to give. So, the next time you check out, just mention that you want to donate 10% of your purchase amount to Tip of the Mitt Watershed Council. Not only will you be supporting a local business, but you will also be supporting the Watershed Council!

### AmazonSmile

AmazonSmile is a simple and automatic way for you to support the Watershed Council every time you shop, at no cost to you. You will find the same low prices, vast selection, and convenient shopping experience as Amazon.com, with the bonus that Amazon will donate a portion of the purchase price to your favorite charitable organization.

To shop at AmazonSmile, simply go to [smile.amazon.com](http://smile.amazon.com) from the web browser on your computer or mobile device and enter "Tip of the Mitt Watershed Council" as the organization to receive your donation. You may also want to add a bookmark to [smile.amazon.com](http://smile.amazon.com) to make it even easier to return and start your shopping at AmazonSmile.

For more information about AmazonSmile, visit [smile.amazon.com](http://smile.amazon.com)

*If you own a business or know of a local business that would like to support the important work of the Watershed Council by offering a discount day, a percentage of purchase program, or any other special type of fundraiser, let us know. We are open to suggestions and would like to help promote such events and other local businesses among our membership. It's a win-win for everyone. Contact Kate at 231-347-1181 or email [kate@watershedcouncil.org](mailto:kate@watershedcouncil.org).*

# CHEERS TO YOU

this holiday season and  
best wishes for a joyous  
**NEW YEAR**

2016  
2017

Watch your mail in December  
for our upcoming Winter Speaker  
Series and spring save-the-dates.



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## Invasive Species Awareness Campaign

Invasive species pose one of the greatest ecological threats to Northern Michigan's waters. Their control can be complicated and expensive, and more times than not, their harm can be irreversible. Prevention and early detection can help reduce the burdens they place on our communities.

To help combat invasive species, Tip of the Mitt Watershed Council, in partnership with the Little Traverse Bay Bands of Odawa Indians Natural Resources Division, launched a clean boating awareness campaign. The campaign included 30-second television and radio commercials, website ads, and targeted mobile messaging at all public boat launches in Antrim, Emmet, Charlevoix, and Cheboygan Counties. Additionally, a "Stop The Invasion" pocket card was produced. This handy folding card provides water recreation enthusiasts with information about clean boating practices and invasive species identification. Currently,



This past summer we took a  
multimedia approach to invasive  
species awareness and prevention.

the Watershed Council has distributed over 1,600 pocket cards. The cards are available at our office, free of charge, while supplies last.

As an extension of this program, the Watershed Council staff, along with many volunteers, spent the summer surveying public boat launches to determine if invasive species awareness signage was adequate. Over the winter, the staff will review the survey results and devise a plan to assist local governments and lake associations with obtaining signage to address invasive species identification and prevention in their lakes. For more information about the Clean Boating: Invasive Species Awareness Campaign, contact Kristy Beyer, [kristy@watershedcouncil.org](mailto:kristy@watershedcouncil.org).



Over 2,500 pocket cards distributed. **GET YOURS TODAY!**

Available while supplies last.