

# indepth

ANNUAL  
REPORT 2016



SCIENCE | ADVOCACY | EDUCATION

## Petoskey Regional Chamber of Commerce 2016 Chairman's Award

Since 1979, we have been the primary caretaker of Northern Michigan's waters. In recognition of our accomplishments, the Petoskey Regional Chamber of Commerce presented the 2016 Chairman's Award to the Tip of the Mitt Watershed Council as an expression of appreciation for assuring our precious water resources remain pristine for generations to come.



*Left to Right: Claire Rasmussen, Tom Adams,  
Gail Gruenwald, and Lindy Buffington*

Northern Michigan's waters are the backdrop for our communities. Our lives are connected to these waters. Through sound science, respected advocacy, and innovative education, we work every day to protect our lakes, streams, groundwater, and wetlands. We were honored to be recognized for our dedication.

### 2016 Staff

**Executive Director/  
Staff Attorney**  
Gail Gruenwald

**Administrative Team**  
Lynn D. Buffington  
Sandy Schreck

**Policy and Advocacy Team**  
Grenetta Thomassey, Ph.D.  
Jennifer McKay

**Watershed Protection Team**  
Jennifer Buchanan  
Kevin Cronk  
Matt Claucherty  
Dan Myers

**Communications and  
Development Team**  
Kristy Beyer  
Kate Cwikiel  
Debbie Esposito

**Education Team**  
Maria Affhalter

**AmeriCorps Volunteer**  
Eli Baker

### Board Members

**Board President**  
Claire Rasmussen

**Vice President**  
Al Terry

**Treasurer**  
John Kafer

**Secretary**  
Jan Quaine

**Board Members**  
Tom Adams  
Dave Clapp  
Charlie Gano  
Jim Ford  
Bob Kingon  
Larry Levengood  
Susan Page  
Sue Reck  
Pam Roudi  
Ham Schirmer  
Scott Smith  
Susan Stewart





## *From the Board President*

Dear Friends,

This 2016 Annual Report reflects the breadth and depth of this past year's Watershed Council accomplishments. These were highlighted by the presentation of the Petoskey Area Chamber of Commerce 2016 Chairman's Award in recognition of assuring protection of water resources in our region.

We have experienced significant development in our **educational programs**. The Watershed Academy added schools served, curriculum enhancements and provided detailed water quality protection experience to many area students. The new science based brochure on Climate Change Adaptation provides a detailed toolkit of Best Management Practices for Coastal Wetlands in Michigan and the Watershed Council was a key partner in development of the Michigan Shoreline Stewards recognition program for inland lakeshore property owners.

Our ongoing **water quality and invasive species monitoring** programs are critical to maintain an active profile of trends and emerging issues. The data gathered and interpreted drive the actions required to manage water protections. **Watershed management plans** continue to evolve with updates to existing plans and the addition of the Duncan and Grass Bays plan. Long standing partnerships with lake representatives, educational institutions and governing bodies are integral to these efforts.

Please read about the many remarkable examples of **respected advocacy** and their results facilitated and accomplished by the Watershed Council. We have been a voice for Michigan's waters for many important issues with the Line 5 pipeline, again headlining both member and staff concerns.

You, our members, make it possible to do all these. Thank you! Please continue to bring forward your comments and participation so that we may appropriately balance our attention to matters consistent with the needs of the service area. Also, please acknowledge our outstanding staff as they execute their duties with passion.

Respectfully,

Claire Rasmussen  
President



# OUR WORK is deep and wide

The Watershed Council's programs are as diverse as the lakes and streams we work to protect.

In 2016, we addressed a myriad of issues that impacted Northern Michigan's waters. Being recognized with the 2016 Chairman's Award by the Petoskey Chamber of Commerce was just one of many examples of community support for the important work that we do, not just this year, but over the past 37 years.

Our work ranges from extensive water quality monitoring on our lakes and streams, to serving on statewide commissions such as the Michigan Pipeline Safety Advisory Board. Because of our breadth of knowledge of both science and policy, we are "at the table" in so many ways and are proud of the positive impact we have on the health of our waters.

You will find us in Washington D.C., Lansing, and every local township, city, and village in our service area. With the future of water resource protection waivering at the federal level, it is important for us to continue our valuable partnerships with local businesses, community members, volunteers and supporters. Together, we can protect our water resources for the good of our community, today, and for future generations.

To fully appreciate the depth of our work, please visit our website at **[www.watershedcouncil.org](http://www.watershedcouncil.org)**.



# SOUND SCIENCE

## *A Tool for Change*

Our work is based in science. Citizen scientist volunteers and our staff monitor water quality data on our lakes and streams year-round. The data we collect strengthens our advocacy and restoration work.

### **Comprehensive Water Quality Monitoring**

Our waters are under threat from nutrient pollution and algal blooms, sedimentation, and toxic pollutants that persist in the environment for decades. Since 1987, the Watershed Council has tracked the health of Northern Michigan's waters, monitoring on a 3-year schedule. 2016 marked the 10th round of comprehensive water quality monitoring for water bodies in Northern Michigan. This extensive data set now spans nearly three decades and includes 57 different water bodies.

On some water bodies, our data has remained consistent with the first readings taken in 1987. For these water bodies, the baseline of data serves as a tool to ensure future protection. In other water bodies, impacts from human activities are evident, as pollutant values have shown increases over time. The data collected on these waters provides evidence to back up recommendations for remediation and prevent future degradation.







## Volunteer Lake Monitoring Program

The Tip of the Mitt Volunteer Lake Monitoring Program is our longest standing water quality monitoring program, with data on some lakes spanning over 30 years. In 2016, 46 volunteers monitored 30 sites on 23 lakes. Each spring, the Watershed Council provides a training session, equipment, and technical support to volunteers. In return, volunteers collect a wealth of data, which we use to assess the water quality and biological productivity of our lakes. From June through August, volunteers venture onto the lake each week in their personal watercraft to record water transparency and surface temperature. Every other week they collect water samples for chlorophyll-a analysis. In addition, volunteers on a handful of lakes monitor dissolved oxygen.

## Volunteer Stream Monitoring Program

Streams are the freshwater circulatory system of Northern Michigan, carrying rainwater, snowmelt, and groundwater into and out of the region's lakes. In 2016, we celebrated the program's 11th year with over 160 volunteers helping to monitor 44 sites on 24 different rivers and creeks! Volunteer stream monitors perform biological monitoring, collecting aquatic insects and other macroinvertebrates that are used to assess stream ecosystem health. Community diversity and species sensitivity are key factors in determining water quality. The data collected is used to track stream health over time and support restoration of degraded streams.

## Volunteer Botulism Monitoring Program

Since 2007, the Watershed Council has recruited volunteers – Beach Rangers – to document bird fatalities along the Lake Michigan shoreline in Charlevoix and Emmet Counties. In 2016, the Watershed Council's Beach Rangers surveyed an impressive 136 miles of Lake Michigan shoreline documenting 410 dead birds. Many of these were likely killed by avian botulism. Sadly, this was the highest rate of mortality since 2012. This data collection effort contributes to a lake-wide research program coordinated by Michigan Sea Grant and the Michigan Department of Natural Resources.

## Elk River Chain of Lakes Invasive Species Monitoring

The Watershed Council recently undertook a comprehensive monitoring effort to document aquatic invasive species within the Elk River Chain of Lakes (ERCOL) and its connecting waterways. Watershed Council staff and interns surveyed aquatic plant communities and documented infestations of the following: purple loosestrife, invasive *Phragmites*, curly-leaf pondweed, and Eurasian watermilfoil. In addition, an invasive mussel survey was conducted. Lastly, comprehensive aquatic vegetation surveys were completed for Elk, Skegemog, Intermediate, and Hanley Lakes. This project was funded by the Michigan Department of Environmental Quality. Survey results are available on our website at [www.watershedcouncil.org](http://www.watershedcouncil.org).



## Boyne and Jordan Rivers Road/Stream Crossing Inventory Project

Road/stream crossings (RSX) that are improperly designed or installed, structurally failing, or no longer accommodate current stream conditions impact stream health. They can affect stream hydrology, prevent fish and other aquatic organisms from reaching up and downstream reaches, increase water temperatures, and are sources of nutrients, sediments, bacteria, heavy metals, and other nonpoint source pollutants.

In 2016, the Watershed Council prepared a summary of the inventory results from the 116 RSX sites that were inventoried in the Boyne River and Jordan River Watersheds. The inventory summary highlights the priority sites where attention is needed due to their current conditions and subsequent threat to water quality. This project was made possible through a grant from the Charlevoix County Community Foundation.



## Research Grant to Battle Zebra and Quagga Mussels

In 2016, the Watershed Council was awarded a \$641,000 Great Lakes Restoration Initiative grant to evaluate a new control method for zebra and quagga mussels. The main objective of the study is to evaluate invasive mussel mortality and native mussel recovery in areas treated with a biocontrol product called Zequanox®. This research will contribute to the body of knowledge surrounding invasive mussel control, moving us one step closer to a day when lake

ecosystems can be restored. The project is being conducted in partnership with the United States Geological Survey, Michigan Natural Features Inventory, local lake associations, and the University of Michigan Biological Station, along with other organizations. The project is scheduled to take place in 2017.

# RESPECTED ADVOCACY

## Makes a Difference on Many Levels

Since 1979, the Watershed Council has been a voice for Northern Michigan's water resources. We continue to advocate for their protection at the local, regional, state, and federal levels and help empower others to do the same.

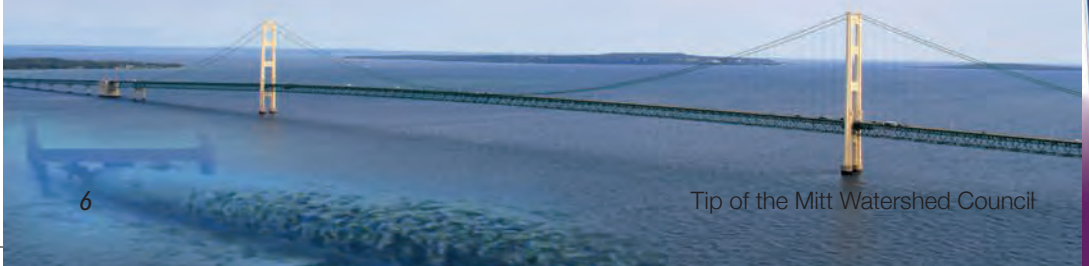
### Waukesha Diversion

On June 21, 2016, the Great Lakes - St. Lawrence River Basin Water Resources Council, representing the governors of the eight Great Lakes States, approved the City of Waukesha's request to divert Great Lakes water outside of the Great Lakes Basin. Waukesha was the first community located entirely outside of the Great Lakes Basin to receive a diversion of Great Lakes water since the Great Lakes - St. Lawrence River Basin Waters Resources Compact became federal law in 2008. Tip of the Mitt Watershed Council, along with our partners and public engagement across the Great Lakes states, contributed to the improvements and conditions that narrowed the original diversion application.

### Line 5

Pipeline regulations and management is a remarkably complicated topic. Tip of the Mitt Watershed Council staff 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. In 2016, we continued to present our research and our position on Line 5 to the public in a variety of ways.

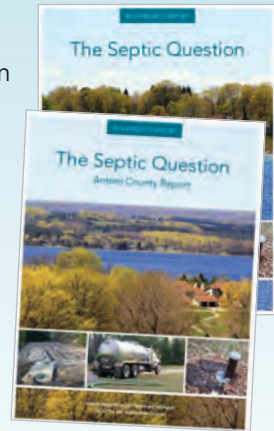
In addition to presenting at countless meetings and events, we also produced a series of educational videos about Line 5 and pipeline safety in Michigan. The series of 12 videos provide answers to some of the pressing questions on this topic. It also presents the Watershed Council's position on crude 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 risks of pipelines. Funding for the video series and education and outreach on this topic were funded in part by the Petoskey-Harbor Springs Area Community Foundation.





## The Septic Question Project

Michigan is the only state in the nation without uniform standards for how on-site septic systems are sited, designed, built, installed, and maintained. Public health officials in Michigan believe reported septic system failures represent only a fraction of the total number of failures statewide, and many go undetected or remain unreported for years. In most counties in Michigan, after a system is built, the counties do not follow up to make sure those systems are functioning properly. Because this important follow up is non-existent in most places, it creates a potential threat to public health and water resources.

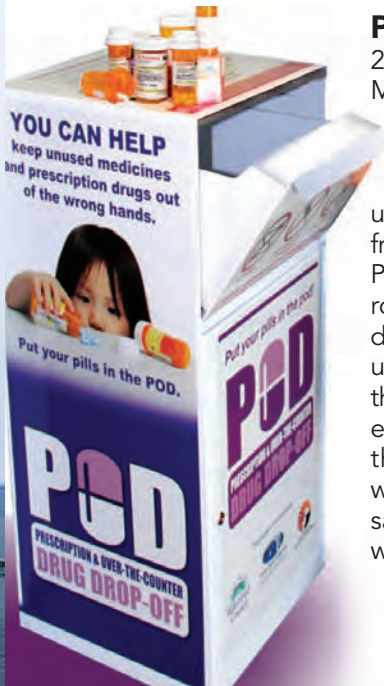


In 2016, Tip of the Mitt Watershed Council, in partnership with the Health Department of Northwest Michigan, received grant funding from the Michigan Department of Environmental Quality to conduct *The Septic Question project for the Lake Charlevoix Watershed*. The goal of the project was to closely examine septic system policies for the entire Watershed, identify any problems, and examine potential ways to solve them. The final report from that project was well-received and served as the basis for requests to do similar reports in other areas.

Thanks to a grant from the Joyce Foundation, *The Septic Question report for Antrim County* was also completed in 2016. Copies of the reports are available on our website. *The Septic Question* reports for Cheboygan and Emmet Counties, as well as discussions at the state level, are in the works for 2017.

## POD Program

2016 was another phenomenal year 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 6,388 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 friendly way for residents to properly dispose of medications. Over 26,600 pounds of unwanted medications 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. For information about the POD Program, visit [www.pillsinthepod.com](http://www.pillsinthepod.com).



## Watershed Management Plans

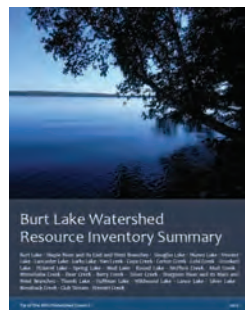
All across our four-county service area, we wrote, updated, and implemented watershed management plans. A watershed management plan is an asset to the community and attracts investment. They create jobs and protect the health of local waters. Having an approved plan in place is often required for grant programs used to protect and restore water resources.



In 2016, the 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 and the United States Environmental Protection Agency (EPA) under Section 319 of the Clean Water Act (the Nonpoint Source Management Program.) The Plan takes into account the known sources and causes of the priority nonpoint source pollutants, the areas within the Watershed most impacted by these pollutants, and the measures necessary to protect or enhance water quality throughout the Watershed. The Plan is a tool and a guide to future management efforts based on the needs of the Watershed and capacity of its stakeholders.

A draft of the new **Elk River Chain of Lakes Watershed Management Plan** was developed around the results of resource inventories conducted in part by students from the University of Michigan School of Natural Resources and Environment. Funding for this project was provided by the Joyce Foundation, MDEQ, and University of Michigan. It is expected to be completed in 2017.

As part of the **Burt Lake Watershed Management Plan**, funded by the MDEQ's Nonpoint Source Program and the EPA, Watershed Council staff conducted inventories in 2014 and 2015 throughout the Burt Lake Watershed to complete numerous assessments of nonpoint source pollution. The inventories included stormwater, road/stream crossings, streambank alterations and erosion, greenbelts, agriculture, and forestry. In 2016, the information collected was compiled and the Burt Lake Watershed Resource Inventory was published. The Burt Lake Watershed Management Plan was written and submitted for approval in 2016.



Additionally, in 2016, the Watershed Council updated the **Little Traverse Bay Watershed Management Plan**. The updated Plan will go to the MDEQ and EPA for approval in 2017. This Plan was generously funded by the Petoskey-Harbor Springs Area Community Foundation, the Baiardi Family Foundation, Walloon Lake Association, Little Traverse Bay Bands of Odawa Indians, and Tip of the Mitt Watershed Council.



# INNOVATIVE EDUCATION

## Providing Tools and Programs that Inspire Conservation

Empowering others to be good stewards of our water resources is part of our mission. Whether we are educating young people or adults, we use innovative techniques and hand-on experiences to help engage the community and create watershed champions.



### Students Experience Lake Charlevoix

Nearly 300 middle school students from the Lake Charlevoix Watershed participated in Students Experience Lake Charlevoix. During the event, students learn about their watershed, invasive species, macroinvertebrates, water chemistry, water quality monitoring, and more. The program was hosted in partnership with the Lake Charlevoix Association and the Beaver Island Boat Company. 2016 marked the program's 23rd year.

### Watershed Academy

In the fall of 2016, Tip of the Mitt Watershed Council's popular stewardship program, the Watershed Academy, completed its second year. The Watershed Academy is a place-based environmental education program that engages nearly 200 local high school biology students in watershed protection efforts through collection of water quality data. Data collected by the students during their field day is included in the Watershed Council's stream monitoring database. Schools participating in 2016 included Alanson, Bellaire, Boyne City, Boyne Falls, East Jordan, Elk Rapids, Harbor Springs, Mackinaw City, Onaway, and Pellston.



## Innovative Education

### Homeowner's Guide to Watershed Protection

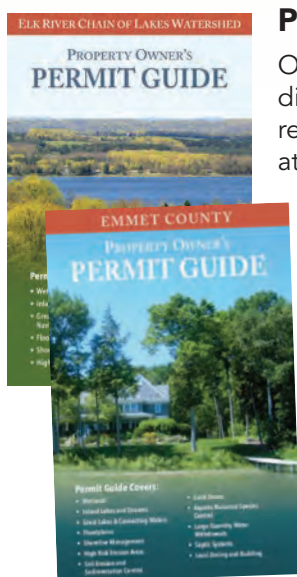
In 2016, the Watershed Council developed and distributed a 24-page booklet for Lake Charlevoix Watershed residents. The *Lake Charlevoix Watershed Homeowner's Guide* promotes strategies for stormwater management. It includes information on how homeowners can do their part by putting into practice simple, practical, and water friendly ways to protect the Lake Charlevoix Watershed. Funding for this publication was provided by the Charlevoix County Community Foundation.

### Statewide Natural Shoreline Recognition Program



After a year of planning and organizing, Tip of the Mitt Watershed Council, in collaboration with the Michigan Natural Shoreline Partnership and local lake associations, created a recognition program for inland lakeshore property owners. The Michigan Shoreland Stewards Program was initiated in the spring of 2016. This recognition program is a web-based questionnaire for inland lakefront property owners. It is intended to be an educational resource to encourage protection of Michigan inland lakes through best management practices and provide property owners with recognition for their efforts. In addition to creating the website, staff hosted and attended a number of public meetings to encourage participation.

Funding for this program was through a variety of partners, including the Michigan Department of Environmental Quality.



### Property Owner's Permit Guides

Our actions in and around our lakes and streams 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 to regulate certain activities to assure our waterways are not only protected, but improved over time. Working through the maze of regulations can be confusing and overwhelming. To help property owners navigate through the right permitting channels and protect water resources, the *Elk River Chain of Lakes Property Owner's Permit Guide*, funded by the Dole Family Foundation, and the *Emmet County Property Owner's Permit Guide*, funded by the Petoskey-Harbor Springs Area Community Foundation were developed. Hard copies of these publications can be obtained at the Watershed Council office or downloaded from our website at [www.watershedcouncil.org/download-library](http://www.watershedcouncil.org/download-library).



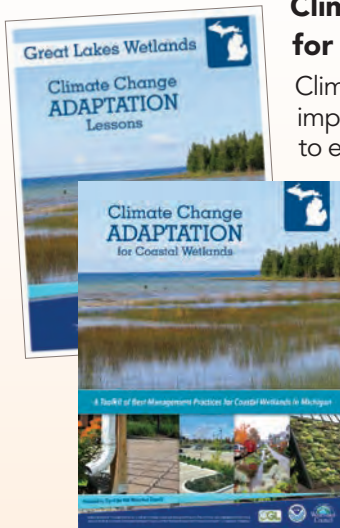
## Invasive Species Awareness Campaign

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. To help combat aquatic invasive species in 2016, the Watershed Council partnered with the Little Traverse Bay Bands of Odawa Indians to launch a clean boating awareness campaign. Many aquatic invasive species are inadvertently spread by recreational boaters. The campaign included 30-second television and radio commercials, website ads, and targeted mobile messaging at all public boat launches in our service area. Additionally, a "Stop the Invasion" pocket card was produced to promote clean boating practices and invasive species identification. Over 2,000 cards were distributed.



## Climate Change Adaptation for Coastal Wetlands

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 continue to provide recreational, commercial, and ecological benefits and services, actions need to be taken to help avoid and reduce climate change impacts.



In 2016, the Watershed Council developed *Climate Change Adaptation: A Toolkit of Best Management Practices for Coastal Wetlands in Michigan*. The toolkit provides information about climate change adaptation best management practices (BMPs) that can be implemented on an individual, local, and regional level to address the potential impacts of climate change.

Additionally, the *Great Lakes Wetlands – Climate Change Adaptation Lessons*, a mini-unit to help middle school students understand how climate change affects coastal wetlands in the Great Lakes region, was developed. The five lessons offer simple instruction, a variety of resources, and focus questions to ensure that teachers can offer students both breadth and depth of content.

As part of this program, the Watershed Council also created a designated portion of their website to climate change resources and hosted an educational webinar featuring three leaders in climate change BMPs. The webinar was attended by nearly 100 people from across the Great Lakes Basin.

Funding for the development of 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.

## Innovative Education

### Ice Breaker Speaker Series

Our annual winter speaker series continues to be a success. Featured presentations in 2016 provided information on our volunteer stream monitoring program, macroinvertebrate overwintering, mercury in Michigan, a comparison of native vs. invasive mussels, invasive species, and the Michigan Pipeline Safety Advisory Board.

### Waganakising Bay Day

In June, the second annual Waganakising Bay Day water festival was held at Bayfront Park in Petoskey. Designed to connect the community with the Little Traverse Bay region, the free, family-friendly event was attended by hundreds of people of all ages who enjoyed numerous hands-on booths hosted by a number of local organizations. Funding for this event was provided by Tip of the Mitt Watershed Council, Little Traverse Conservancy, Walloon Lake Trust and Conservancy, and the Little Traverse Bay Bands of Odawa Indians.

### Bear River Cleanup

In August, nearly 100 volunteers participated in the 12th "Healing the Bear" Bear River Cleanup. Volunteers removed approximately 10 cubic yards of trash and recyclables from the Bear River. Volunteers were treated to breakfast, lunch, and t-shirts donated by local businesses. Support for this project was provided by Michigan Volunteer River, Stream and Creek Cleanup Program, Michigan Department of Environmental Quality, Great Lakes Commission, Petoskey Plastics, Meijer, BC Pizza of Petoskey, Plath's Meats, Emmet County Recycling Center, Rotary Club of Petoskey Sunrise, D&W Fresh Market, Grain Train Natural Foods Market, McLaren Northern Michigan, City of Petoskey, Bearcub Outfitters, Michigan Maple Block, Northern Michigan RiverSweep, and Petoskey News-Review.

### TCE Plume Educational Video for ACUTE

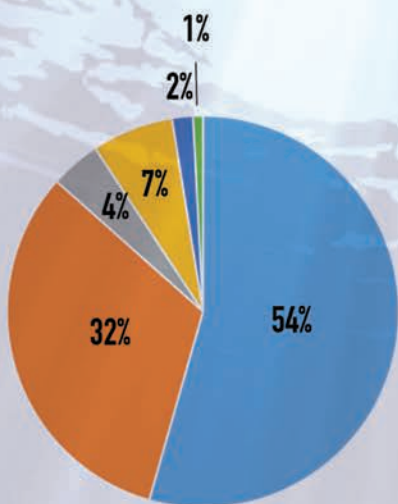
In 2016, the Watershed Council partnered with Antrim County United Through Ecology (ACUTE), Three Lakes Association, and Antrim County to produce an educational video about the management and solutions to a toxic groundwater plume of trichloroethylene (TCE) contamination, which extends from Mancelona and is moving toward Schuss Mountain Resort. The plume is the result of an orphaned industrial site. The video was funded in part by Freshwater Future and Tip of the Mitt Watershed Council.





## 2016 FINANCIAL REPORT

After 37 years we are still going strong thanks to our members and financial supporters. Our strategic financial practices assure our donors that they are making a wise decision when investing in the Watershed Council. They know an investment in us is an investment in the future of our great water resources for generations to come. It is a privilege and honor that we do not take lightly.

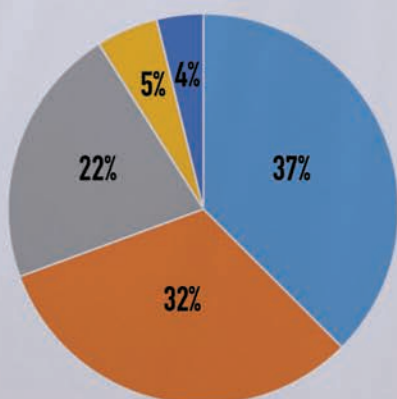


### Operating Fund Financials at a Glance

#### Revenue

Contributions	\$646,236
Grants	363,884
Contracts	46,829
Endowment Support	76,388
Asset Replacement	(19,484)
Fund Investment	
Other	9,281

**TOTAL \$1,118,134**



#### Expenditures

Watershed Protection	\$362,110
Policy & Advocacy	308,421
Outreach & Education	208,896
Development	49,594
Management & General	37,245

**TOTAL \$966,266**

To view our audited financial statement go to  
[www.watershedcouncil.org/annual-reports](http://www.watershedcouncil.org/annual-reports)

# 2016 Staff and Interns



## Left to Right, from the top:

Gail Gruenwald, Kate Cwikiel, Debbie Esposito,  
Jennifer McKay, Dan Myers, Eli Baker, Michael Ewing,  
Sandy Schreck, Grenetta Thomassey, Lindy Buffington,  
Libby Ives, Jennifer Buchanan, Matt Claucherty,  
Kristy Beyer, and Brandon Hunt.



**Missing:** Maria Affhalter, Kevin Cronk,  
Abby Hawley, and Charlie MacDonald.



A list of our financial supporters  
and volunteers is available in the  
online version of this report.



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