



# Huron River Report

Published quarterly by the Huron River Watershed Council

WINTER 2015



feature  
story

## HRWC Looks Ahead

*The final part of a series celebrating 50 years of history, growth, and achievement*

This year HRWC celebrated our 50<sup>th</sup> anniversary with friends, colleagues, partners, volunteers, members, and the public. Over the past three issues of the *Huron River Report*, I've recounted HRWC's long history and many accomplishments. I have really enjoyed digging in to the archives, some at our office and some at the Bentley Historical Library, and learning about the issues, the personalities, and the solutions that HRWC has encountered and advanced. I'm still finding old newsletters and meeting minutes, and I appreciate those of you who have dug through your personal archives to share. While we started out mainly as mayors and academics, we've expanded our community to include teachers, outdoor recreation enthusiasts, anglers, scientists, policy-makers, homeowners, gardeners, planners, and more.

*continued on page 2*



*In October, State Representatives presented a proclamation to HRWC honoring fifty years of success. Pictured (L to R) Tom Cochran, Jeff Irwin, Bill LaVoy, Kristy Pagan, Laura Rubin, Gretchen Driskell, Adam Zemke, Eunice Burns, Evan Pratt, Hank Vaupel, Kurt Heise, and Klint Kesto.*

credit: B. Merlos

## Eyes on the River • HRWC volunteers protect the Huron

Through HRWC volunteering and education, citizens learn to identify, report, and solve real-world problems. Below are a few recent stories.

### Mill Creek sea wall

While traversing Mill Creek during a routine woody debris maintenance outing, Trout Unlimited volunteers

Bill Phillips and Ethan Cramer, along with HRWC staff, stumbled upon a significant amount of construction along the creek bank. After a quick conversation with the construction workers, they were able to deduce that work was likely occurring without a permit (all work impacting waters of the state requires a permit

from the DEQ). A couple of photos were snapped and emailed to HRWC. A few calls later to the DEQ, Scio Township, and the Washtenaw County Water Resource Commissioner's Office resulted in a stop-work order the next morning. Neither the landowner nor the contractor had

*continued on page 3*

**INSIDE: UPCOMING EVENTS AND WORKSHOPS** *Salt and the River: Why It Matters*  
*Oral History Project: Paul Rentschler | Monitoring Trends and Lessons Learned*





### Marking the occasion

During the past year, we celebrated the results of 50 years of hard work towards clean water in a variety of ways – with music, recreation, food, and drink. We hosted an event at the Ark with songs, poetry, and visual arts. We offered a few hundred free canoe rides and got hundreds of people out on the river, many for the first time. We offered free fishing lessons and a tournament, walks, swims, and a big dinner ushering in our status as a National Water Trail. This past fall, Suds on the River sold out again with 350 attendees celebrating clean water and a healthy Huron River. Thank you for marking this milestone with us.

### The stories are changing

As I've seen many of you at these events, I hear a lot of stories from you about the river. These stories are changing. This year I've heard more about art, osprey, tubing, kayaking, fishing, camping, walking, biking, and even snorkeling.

When I started with HRWC 17 years ago, I heard more about land development threats, invasive species, gooey, smelly stuff in the water, and fish kills. I think about those days and how far we've come. More people are getting in the river, recreating on the river, and having great experiences along the river. These experiences are possible because of the improvements we've made in clean water, recreation access, animal diversity, protective policies and laws, strong master plans, enforcement, restoration, and parks in river towns!

The river and its watershed didn't look like this 50 years ago....all of us have been working hard to get here. I would say we are well on our way! Some of the signs of a vibrant and healthy 'shed are the busiest canoe livery in the state, thousands of acres of protected high quality natural areas, a reputation as the cleanest urban river, active trails and trail towns, a National Water Trail designation, phosphorus reductions and a statewide phosphorus ban on residential lawn fertilizers, and some strong and forward thinking



*Swimmers and paddlers enjoyed Baseline Lake as part of Huron River Appreciation Day. credit: HRWC*

stormwater protection ordinances and rules.

### Work zone ahead

Our work is not yet done. We have a lot more to do and the HRWC board and staff have developed some guiding principles to get us there.

As our accomplishments have shown, HRWC protects and restores the river for healthy and vibrant communities. Our vision is a future of clean and plentiful water for people and nature where citizens and government are effective and courageous champions for the Huron River and its watershed. To achieve that, we:

- work with a collaborative and inclusive spirit to give all partners the opportunity to become stewards;
- generate science-based, trustworthy information for decision makers to ensure reliable supplies of clean water and resilient natural systems; and
- passionately advocate for the health of the river and the lands around it.

### What the future holds

What is next? We will be in the watershed monitoring our river, streams, and natural areas. We will use that information to engage stakeholders and partners in taking actions to protect and restore the watershed. We will use that information to prioritize our outreach

and education programs. Finally, we will inspire others to get to the river, enjoy the river, have a new experience, love it as much as we do, and care about its future.

We also have a few key opportunities we need to seize:

- with more people getting to the river, we need to instill a river stewardship ethic and provide clear options for action;
- in order to develop a collaborative environment that encourages different ideas, perspectives, and experiences, we need to attract and retain volunteers, members, and stewards that represent the diversity of socioeconomic, gender, race, religion, and sexual orientation that are representative of the watershed; and
- we need innovative and effective solutions that come from the bottom up and require strong local leadership.

We have strong and far-reaching goals, and we need *you* to get it done. Please reflect on what inspires you to be a part of HRWC and where you can have an impact. I hope you'll jump in to make the next 50 years as successful as the past 50.

—Laura Rubin





applied for the appropriate permits.

Since the violation was identified, all three permitting agencies have been working with the landowner to develop a resolution plan. HRWC continues to push for full restoration and appropriate fines.

### High conductivity in Swift Run

While reviewing summer field datasheets completed by HRWC volunteers, staff identified that the Swift Run Creek long-term monitoring site near Shetland Drive had high conductivity readings that warranted further investigation. Conductivity is a measure of the salts or ions in the water, and high conductivity indicates potential pollution. Staff took further conductivity readings at four locations upstream of the site.

The readings narrowed the area of concern to between Clark and Hogback roads. Investigation of parking lots around the area yielded nothing unusual. The area included Washtenaw County government buildings, so HRWC notified the county of the findings. As a result, the county conducted an investigation of this stream reach and found an 8-inch pipe connected to the county jail's detention pond with high conductivity readings in the water. In the course of the investigation, the county also found a potentially problematic sewer

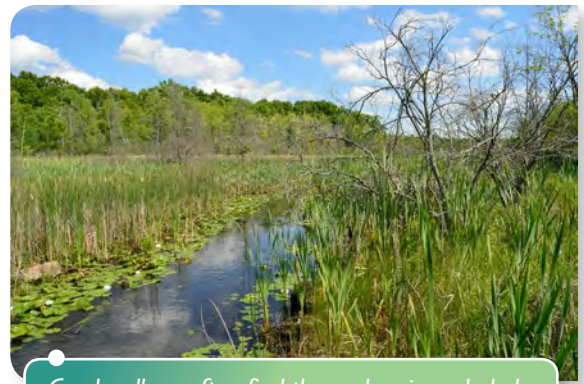
manhole with evidence of past overflow and are working with the City of Ann Arbor for further study and resolution, if needed. HRWC will continue to follow this situation.

### South Branch of Ecorse Creek oil spill

In early April HRWC volunteers noticed an oil sheen on the surface at a water quality monitoring site along the South Branch of Ecorse Creek. An HRWC volunteer reported these observations to the Wayne County Department of Public Services, who further investigated the situation along with MDEQ. Field staff found a 4-inch pipe leading into a catch basin with an oil/water mixture coming out of it. They talked to businesses in the immediate area and worked to track the origin of the pipe. The oil sheen did dissipate, but, unfortunately, the source was never identified.

### Silty creek from Brownstown construction

HRWC volunteers discovered a silty discharge coming out of a pipe while sampling at a location on Brownstown Creek in mid-June for the water quality monitoring program. Wayne County soil erosion inspectors investigated the creek and surrounding area, and discovered that a construction site adjacent to the creek did not have a soil erosion permit. However, at the time of investigation, inspectors did not observe runoff from the site and did not think it was the source of the silty discharge. Another nearby construction site lacked a silt fence, but one was installed a short time later. Officials observed erosion and silt at retention ponds in a subdivision nearby that may have contributed to the discharge. Wayne County is keeping an eye on the situation. HRWC staff and volunteers have not observed silty discharge since their initial reporting.



*Creekwalkers often find themselves in secluded and beautiful locations, like this wetland along Pettibone Creek. credit: S. Girardi*

### Creekwalking

HRWC volunteers have walked miles of creeks for four summers, reporting numerous eroding banks and pollution problems, picking up trash, and noting the beauty of hidden woods and wetlands rarely visited by humans.

Observations made by the creekwalkers are at [www.hrwc.org/creekwalk](http://www.hrwc.org/creekwalk). The associated map and database help HRWC match problems on creeks to grant opportunities and restoration projects. For example, this past summer, creekwalkers took pictures of a straightened and channelized Norton Creek in Lyon Oaks Park. When Ford Motor Company indicated an interest in a creek restoration project, the creekwalkers' observations of Norton Creek led HRWC to suggest it as a possible candidate for funding and restoration.

*— Jason Frenzel, Paul Steen, Stevi Kosloskey, and Ric Lawson*

*If you find a problem in the Huron or its tributaries, please contact HRWC, the DEQ (800-292-4706), or in the case of a suspected chemical spill, call 911.*



*HRWC's Jason Frenzel and Trout Unlimited volunteers came across the construction of a non-permitted sea wall. credit: HRWC*



# New Monitoring Methods

## Investigating crowd-hydrology and remote sampling options

HRWC always looks for ways to increase its data collection reach. Innovations in monitoring methods and equipment can increase efficiency in the use of volunteers and staff. Some new information and techniques provide insights in to the art of public participation and the unpredictability of summer storms.

### Crowd-sourcing stream flow

Long-time HRWC volunteer Dick Chase walks a lot since he retired. One day last April, he encountered HRWC staff member Paul Steen and HRWC volunteers Graham and Alison Battersby on his way through nearby Sylvan Park in Ann Arbor. They had just finished installing a staff gauge (gauge) in Swift Run Creek. These gauges resemble a giant ruler, and the readings indicate creek level. Staff stapled a sign on the railing of the footbridge a few feet away. In big print, the sign said, "What's the water height today? Text us." It provided a phone number and described how to text-message the number of the gauge

and its reading. A website address was listed ([www.crowdhydrology.com/listing/swift-run-creek-mi1033/](http://www.crowdhydrology.com/listing/swift-run-creek-mi1033/)) where a graph of the readings taken by passers-by is provided.

The gauge is a part of a project called CrowdHydrology, which was established in 2010 by the University of Buffalo and the U.S. Geological Survey with the goal of using new methods to collect hydrologic data. Anyone walking by the stream can text the gauge depth. By doing so, citizens working independently can collect much more data about the water levels than any single scientist. CrowdHydrology stations are located all over the country, with most of them in Wisconsin, Michigan, and New York.

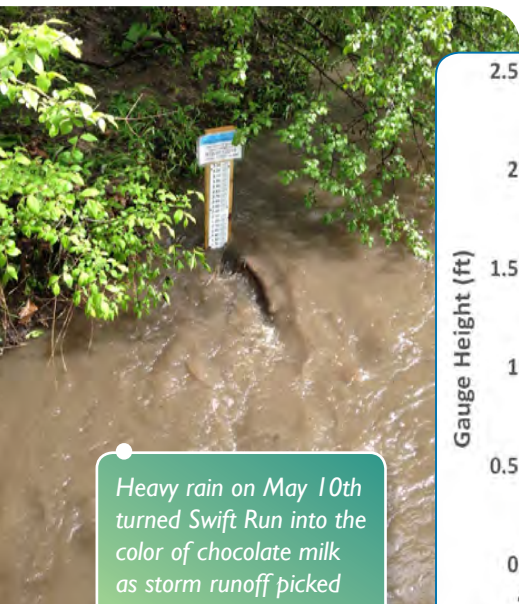
Starting April 18, Dick made it a point to include a walk past the staff gauge in his daily exercise regimen. Things were pretty quiet in April with readings under a few tenths of a foot. But twice in May and twice in June the level was a foot or higher after rain, with levels never dropping back to their low flow readings of April. An orange-brown stain obscured the bottom of the gauge, and Dick made a

few trips into the stream to clean the gauge surface and remove debris. Dick cut back vegetation that started to block the view from the bridge. After some large storms, Dick reported that gravel had eroded from banks upstream and started to block the water flow from reaching the gauge. By the end of July, Paul had to move the gravel and open a channel around the gauge.

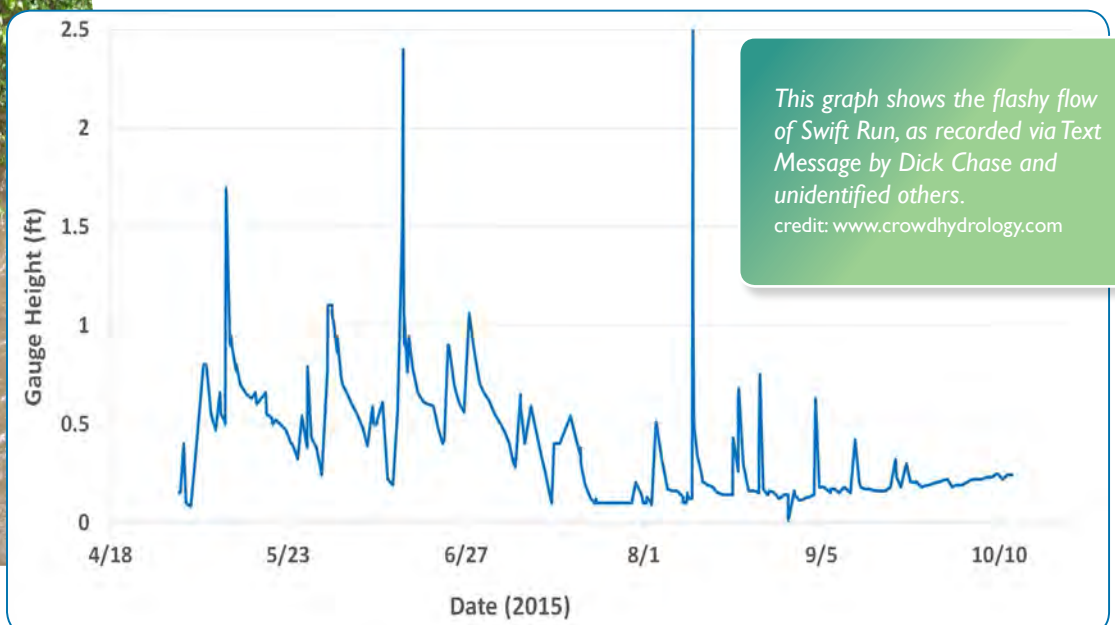
A heavy thunderstorm on August 10 registered two and a half feet on the gauge, filling the creek to the top of its banks and generating the highest reading of the season. The storm moved more gravel downstream. Dick entered the stream after the flow dropped, rearranged the deposits, and returned flowing water to the gauge.

As August turned to September, the base level at the gauge slowly increased. It appeared that the change was due to a small rock dam about 80 feet downstream that caused the water to back up beyond the gauge. Back in April, the water impounded by the dam only reached to the bridge downstream of the gauge, and, along with woody debris in the

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Heavy rain on May 10th turned Swift Run into the color of chocolate milk as storm runoff picked up sediment from roads, streams banks, and the stream bottom.  
credit: D. Chase







creek, provided habitat for schools of fish, as well as crayfish. In April, water still flowed freely past the staff gauge. But as autumn neared, leaves and other debris began plugging gaps between the rocks of the dam, and the impoundment moved upstream beyond the gauge. By October, the base level at the gauge had increased from 0.06 feet in April to more than 0.20 feet.

### Where's the crowd?

This gauge was a pilot project for HRWC. Could CrowdHydrology produce useful data? Unfortunately, the crowd part of CrowdHydrology never really materialized, despite an article in Dick's neighborhood newsletter. It appears that only one other person was reporting data and then, only occasionally. In late July, vandals stole the sign from the bridge railing, but they did not damage the gauge. Clearly, periodic maintenance of the gauge and its surroundings was needed to keep the gauge markings visible and the water flowing past it. In the end, thanks to Dick's diligence, HRWC accumulated a detailed record of creek behavior over the past five months that should be useful in the future as projects upstream are implemented to minimize the flashiness of the creek.

In 2016, HRWC will install more CrowdHydrology gauges in creeks of the Huron River watershed at well-traveled parks, hoping to boost participation. Locations will be announced on a HRWC blog as spring approaches.

### Remote storm sampling

HRWC has long been challenged to collect water quality data from sampling sites during storms. Such data is critical to understanding the dynamics of a stream's response to rainfall runoff in flow and nutrient/pollutant concentration. When HRWC first attempted storm sampling, staff or volunteers would go out during the storm and collect samples at different times as the stream rose and fell. This

*Brandon Wong with the prototype "autonode" showing the solar power cell, cellular transceiver, processor, and conduits to a variety of environmental sensors.*  
credit: University of Michigan



approach sounds simple enough, but summer storms often take place in the middle of the night and the stream rise and fall can take place over many hours to even days. Finding volunteers and staff who can be that spontaneous is challenging. Collection and monitoring in extreme storms also presents a variety of safety risks.

HRWC has improved the logistics of storm sampling by working with partners at the City of Ann Arbor and Wayne County to obtain automatic samplers. Autosamplers are mechanical units that include a hose, a pump, a computer control, and a set of up to 24 bottles. With these units, volunteers or staff set the autosampler prior to a storm and program it to sample every hour. If the storm materializes, staff picks samples that best fit the rise and fall of the stream. This approach presents several problems: forecast summer storms often don't meet their predicted volume, so effort is wasted on a storm that does not generate runoff; a big storm can be missed completely; or, the rise and fall happens between samples.

Recently, HRWC began working with Dr. Branko Kerkez and doctoral candidate Brandon Wong at the University of Michigan. Kerkez and Wong have been working on technology to remotely and cheaply control environmental sensors over the internet.

Last year, they developed a prototype controller that used a cellular connection to communicate between an internet-based control interface, the autosampler, and a set of other sensors. Staff can now leave the autosampler in place, turn it on or off, and direct it to draw a sample at any time. In this way, staff get samples remotely at exactly the most opportune parts of the stream's rise and fall cycle.

Further, Wong programmed the controller to collect weather forecast information from the internet and data from sensors, and then select sample points on its own using an algorithm. All this technological improvement allows HRWC to save time (no more trips to sites just to dump samples), characterize a greater number of storms, and improve sampling precision. Next year, HRWC and the university team will work with students to install a greater number of these new automated "nodes," in the hopes of eventually building a network of samplers across the watershed.

—Dick Chase, Paul Steen, and Ric Lawson



# Oral History Project

*Paul Rentschler recalling the “boom years” at HRWC - babies, a body behind the door, kids in the halls, and expanding success*



Paul at a staff event in the 1990s.  
credit: HRWC

*As part of HRWC’s Oral History Project, Karen Snyder sat down with Paul Rentschler to discuss his time at the helm of HRWC.*

## Grad school and sewers

Before joining HRWC in 1989, Paul Rentschler was a graduate student working as an intern for the Huron River Abatement Project, a joint project of the Washtenaw County Health Department and the County Drain Commissioner. The project’s goal was to identify cross-connections among sanitary and storm sewers.

Most of these cross-connections were the result of improper initial drain connections, generally because someone tapped into the wrong pipe. As a result, oil, gas, and grease from floor drains in about 60 percent of the area’s automotive facilities were going into the Huron River untreated. Even an entire dorm at Eastern Michigan University inadvertently dumped its waste water from toilets and showers into storm, not sanitary, sewers and then into the Huron River. There were many such bad connections. Raw sewage dumping had been going

on for about 40 years. The abatement project for which Paul worked later became federally-mandated for communities around the country, but was piloted in Ann Arbor.

## Rapid organizational growth

When Paul began at HRWC, it was a simple step to move from government work to a related job in the non-profit sector, again focusing on the Huron River. During Paul’s tenure as Executive Director, HRWC expanded, including an increase in staff; growth from limited financing to more grants and support from communities throughout the watershed; from an old office above the city garage at 415 West Washington Street in downtown Ann Arbor to multi-room offices at the newly built NEW Center on North Main Street in 1993; and, going from a very informal work place to one with more structure. Most importantly, HRWC added programs to help measure and assure water quality watershed-wide.

## The building on Washington

About the old office on Washington Street, Paul said:

*The place was ‘retro’, if you like. It had its charms. The wall to the hallway was all windows. The windows to the street didn’t quite close all the way, so in the summer you got all this dust coming in, and in the winter you had the snow coming in. There were holes in the floor where the fumes from the (city) trucks would come up.... But it was a really nice space in a dingy kind of way. It was a space, and it worked for us. And at one point before we moved into the NEW Center, we were so cramped for space that Kris Olsson and I*

*had our desks such that our backs faced each other. We had to tell the other one if we needed to get out of our chair. We couldn’t maneuver otherwise.*

## Tales of informality at HRWC

Situations at the office were often casual and fluid:

*We were in that (Washington Street) office and I came into work at midnight one night just to grab something, not to come in for any extended period. I opened up the door and tripped over a body in the middle of the floor. It was Scott McEwen, who ran our Adopt-A-Stream program. His apartment lease had ended and he was sleeping in the office. Well, I didn’t know that. So I just tripped on him in his sleeping bag.*

Scott found permanent housing and went on to found the Adopt-a-Stream Program for HRWC, funded partly by the Washtenaw County Drain Commissioner, and grew it to a nationally-acclaimed model of continuing water quality measurement and assurance by Joan Martin and a host of dedicated volunteers.

*We just had a great time as a staff. We’d have parties at people’s houses, especially over the holidays. I can remember combination Hanukkah/Christmas parties, etc. Some of us were having kids at the time, too, so there were a few of the staff who had little babies on the floor while we were trying to get work done. For a while I was*

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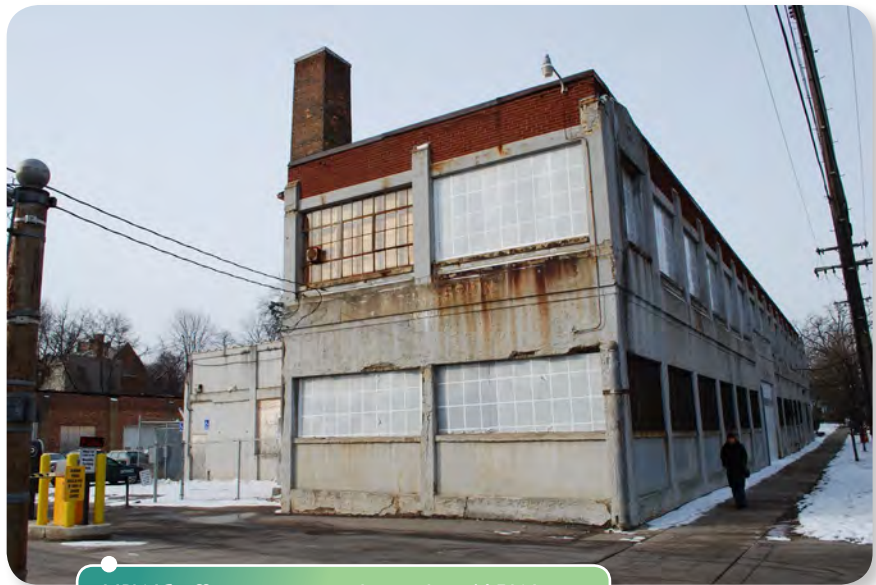




*trading our oldest boy off with my wife. She was working half-days and I'd have the baby while she was at the pediatrician's office where she worked. And then we'd do the hand-off. We had a playpen and blankets on the floor and whatnot, at the office in the NEW Center. When the kids got older they'd play, running around through the various doorways and down the halls. It was nice.*

### Wellheads, TMDLs, and more

Many HRWC programs, in addition to the Adopt-A-Stream program (now with over 600 volunteers), began during Paul's tenure, though Paul is quick to spread the credit, saying he "stood on the shoulders of a lot of folks." Among those programs were a wellhead protection program that worked with municipalities to protect their drinking water, and the phosphorous allocation program, or TMDL, which stands for Total Maximum Daily Load. This last program "allocates" phosphorus maximums among the communities on the Huron to bring the watershed into compliance with national water quality standards. "We had a big role to play in terms of negotiating those numbers and getting the communities in the watershed to agree, figuring out 'the model', etc." This model was the first of its kind in Michigan and has been used widely since.



HRWC offices were once located at 415 West Washington in Ann Arbor. credit: D. Askins

### Increased grant funding

Another sign of success was when, instead of scrambling for grants, HRWC would get a call from an organization like the DEQ, asking them to apply for an upcoming grant. Paul recalled how this shift helped HRWC gain momentum:

*I think we (HRWC) really turned a corner when we had MDEQ staff calling us and saying, "we really think you should apply for this grant. (Nudge. Nudge.) We want to see you get this money." That really helped us grow.*

After nine years, Paul decided to pass the baton as director of HRWC as he realized that his heart was less in the administrative tasks of being the business manager of the organization and having to deal with grant administration and payroll...and more in the project work. Paul now works with ASTI Environmental as an Aquatic and Wetland Ecologist.

—Karen Snyder

## Shared Stories

HRWC is celebrating 50 years! To help celebrate, Karen Snyder, a volunteer committed to preserving our natural resources, is compiling our oral history, interviewing HRWC "old timers" and "new timers" to capture precious stories that are part of our past.

This article is the last in a series of excerpts from these oral histories. All transcripts and photos will be turned over to the Bentley Library at the University of Michigan for preservation.

Founded in 1965, the Huron River Watershed Council (HRWC) protects and restores the river for healthy, vibrant communities.

HRWC coordinates programs and volunteer efforts that include pollution prevention, hands-on river monitoring, wetland and floodplain protection, public outreach and education, and natural resources planning.

Individuals, local businesses and more than 40 communities support HRWC's work through voluntary membership.



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The Huron River Report is published quarterly. Its content is prepared by HRWC staff and does not necessarily reflect the opinion of board members.

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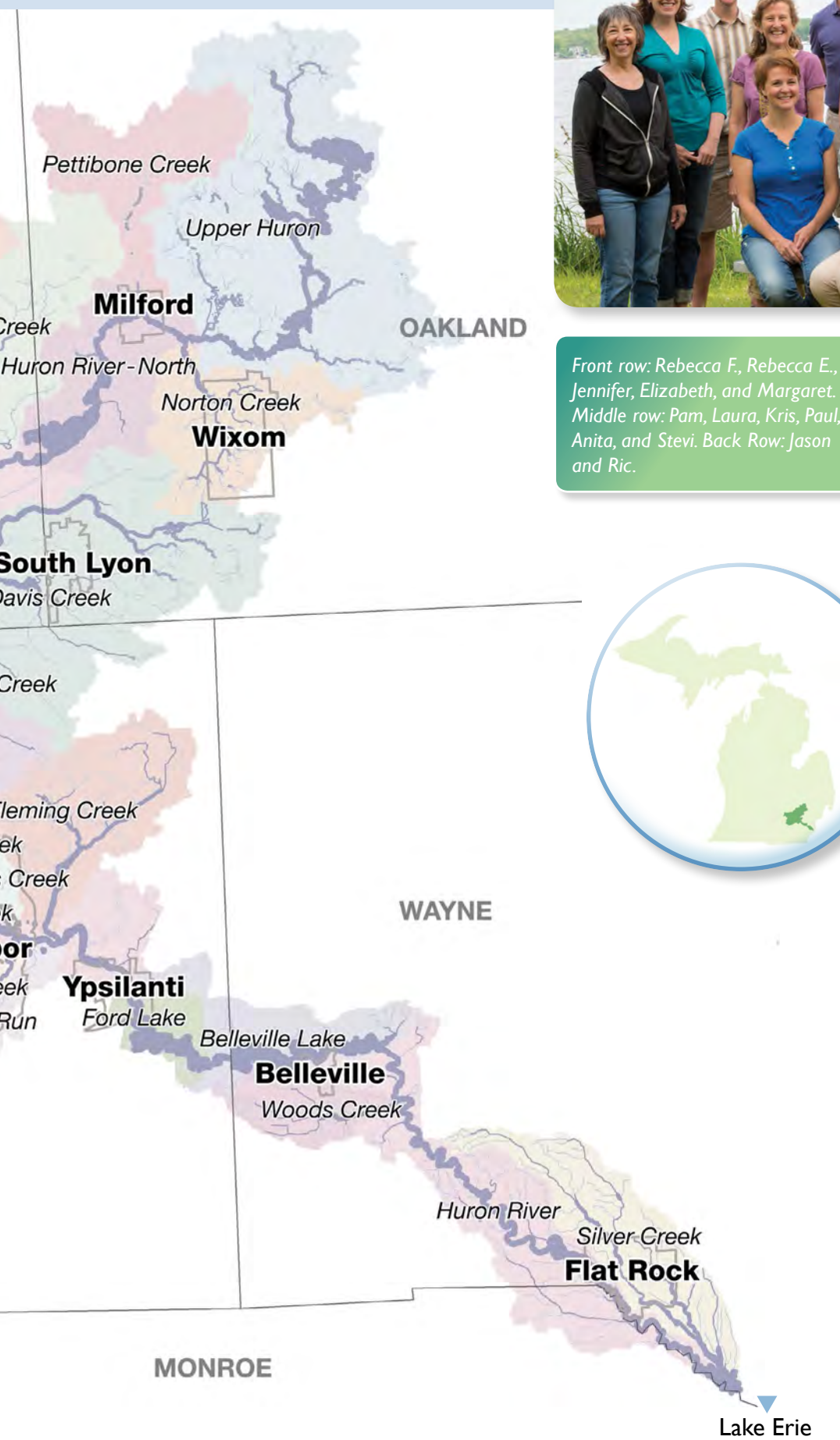
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J. Wolf, Laughing Goat Arts © 2015

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# The Huron River Watershed







Anne Savage Photography

Front row: Rebecca F., Rebecca E., Jennifer, Elizabeth, and Margaret. Middle row: Pam, Laura, Kris, Paul, Anita, and Stevi. Back Row: Jason and Ric.

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# HRWC Events and Workshops

DECEMBER • JANUARY • FEBRUARY • 2015/16

## Annual Presentation of Field Season Results

Tuesday, January 12, 6:00 to 8:00 pm, NEW Center, Ann Arbor

*Join us to review the data collected and lessons learned from HRWC's 2015 field season. Which creeks are improving from our work and which are losing ground? Which are degrading and why? Presentations by HRWC staff. Hope to see you there!!*

Details and registration: [jfrenzel@hrwc.org](mailto:jfrenzel@hrwc.org)

## Board Meeting

Thursday, January 21, 5:30 pm, NEW Center, Ann Arbor

Details: [lrubin@hrwc.org](mailto:lrubin@hrwc.org)

## Winter Stonefly Search

Saturday, January 23, 10:30 am or Noon start times, NEW Center, Ann Arbor

*Winter Stoneflies are elusive! These underwater creatures avoid predators by growing during the winter months when most fish are sluggish. They live only in high quality streams so searching for them reveals problems in the river and its streams. Children are welcome, with their own adult. Start at the NEW Center and then go to two stream sites in Livingston, Oakland, and Washtenaw counties. Time commitment is four to five hours, with part of that outdoors.*

Details and registration (required): [www.hrwc.org/stonefly](http://www.hrwc.org/stonefly)

## SAVE THE DATE!

Find event details in the next issue of the Huron River Report.

## Quiet Water Symposium

Saturday, March 5, MSU

## Native Plants and Rain Gardens

Friday-Sunday, March 18-20  
Home, Garden, and Lifestyle Show at the Washtenaw Farm Council Grounds

## Water Quality Monitoring Training

Saturday, March 19  
NEW Center, Ann Arbor

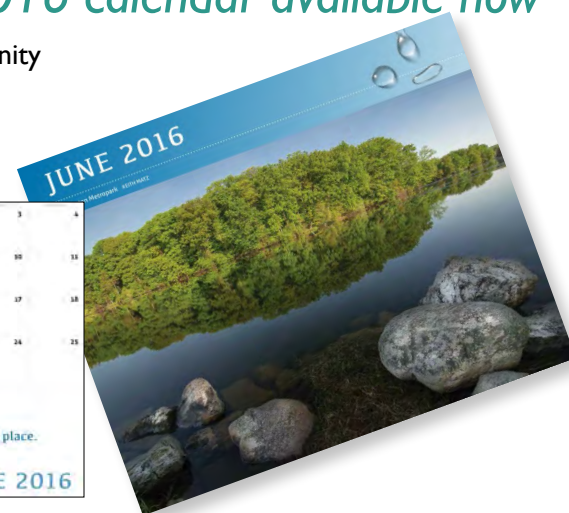
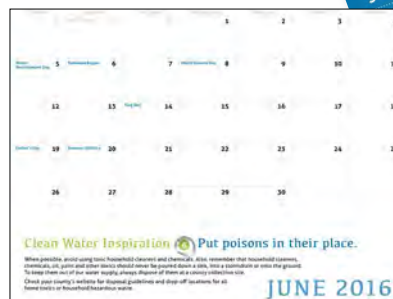


## Find Your Clean Water Inspiration! 2016 calendar available now



The 2016 Huron River Watershed Community Calendar features beautiful natural scenes by local photographers and helpful tips, all for FREE from HRWC and participating communities.

Go to [www.hrwc.org](http://www.hrwc.org) for more information, or call Pam at 734-769-5123 x 602.



## Welcome, Jenn!

Jennifer Kangas is HRWC's new Finance Manager. Jenn manages HRWC financial affairs and has more than 18 years' experience as a commercial lender. She also formed and spent seven years operating an organic vegetable farm. She has served on various boards in various capacities including Treasurer. Jenn earned a Bachelor of Business Administration at Iowa State University.

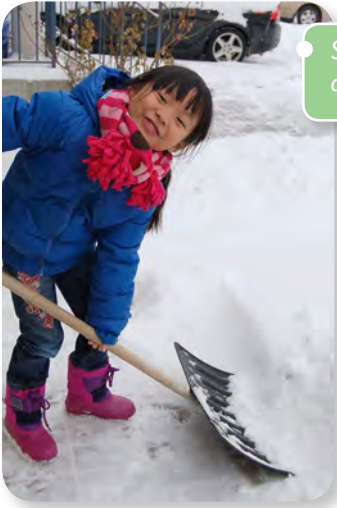
credit: Anne Savage Photography





# Use Less Salt This Winter

*At home, frequent shoveling is best!*



Shovel early and often! Apply de-icers sparingly, and be efficient!

is the best way to minimize the environmental impacts of de-icers if they must be used. Shop early in the season for the best choices, carefully follow the package directions on timing (some work best applied immediately before snowfall) and use the least amount needed to get the job done.

For several years, HRWC's Water Quality Monitoring Program has taken conductivity readings at various

sites throughout the watershed. Conductivity is the measurement of water's ability to pass an electrical current. Because of the correlation between conductivity and the presence of inorganic dissolved solids such as chloride, in 2014 program volunteers began collecting metered chloride readings and water samples for lab analysis. The study's goal is to use this correlation to model trends of chloride levels in the Huron River over time. Results will provide HRWC and watershed communities critical information to best manage winter road maintenance.

—Pam Labadie

Chloride can be toxic to plants and aquatic organisms in lakes and streams. The most commonly used road salt is sodium chloride. Other alternatives labeled as “environmentally friendly” include magnesium chloride and calcium chloride.

Even newer experimental de-icing mixtures made with beet juice, cheese brine, molasses, and vodka distillery leftovers—all substances that can help salt stick to paved surfaces—still rely on some amount of chloride.

Any of these de-icers, when applied to pavement, have a quick and easy path to our waterways as melting snow and ice carry them into the storm drains or into shallow groundwater systems that feed our streams.

Home and business owners must balance needs for safe walks and driveways, potential environmental impacts, costs, and convenience when choosing the best snow removal option. HRWC recommends shoveling snow early and often. Efficiency

For more on salt in the Huron, including study results, tips, news articles and technical resources, go to [hrwc.org](http://hrwc.org) and click on the “Use Less Salt” widget.

## HURON RIVER



### Protect The River For Future Generations.

The Huron River didn't become the cleanest urban river in Michigan by accident. It happened because of generous and forward-thinking people (like you!) who know that when we preserve today's natural resources, we protect the river for future generations to enjoy.

#### It's easier than you think.

- Make a tribute gift through your will
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Photos by John Lloyd



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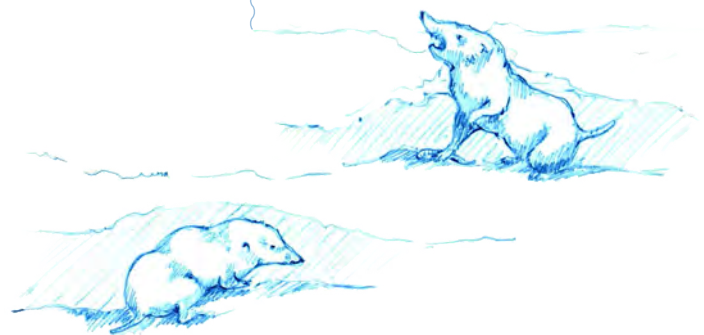
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*Northern short-tailed shrews stay active all winter long, hunting for invertebrates and other foods above and within the subnivean layer.*  
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