



# Huron River Report

Published quarterly by the Huron River Watershed Council

FALL 2016



feature  
story

## Creek Countdown

### *How healthy is the creek near you?*

HRWC volunteers regularly visit rivers and creeks throughout the Huron River watershed to monitor habitat and macroinvertebrate (insect and crustacean) populations. Volunteer-collected data directly contributes to HRWC's knowledge of the watershed's conditions and is a key component in directing management and restoration activities.

HRWC has ranked sections of the Huron River and all of its tributaries from the worst to the best. Read on to learn how your local creek stacks up.

#### **POOR**

*Areas rated as POOR demonstrate disturbed habitat and very little aquatic life.*

#### **27. Millers Creek (Ann Arbor) •**

After storms, the water in Millers Creek picks up sand and gravel, tumbles boulders, and brings down trees along the creek (a stream condition known as "flashiness"). Rapid, power-

ful flows have created tall, vertical, eroding stream banks. The insect community reflects the overall poor water quality, lack of habitat, and unstable stream flow. The only creatures found here are those that have the tenacity to endure the harshest conditions seen in the watershed, such as midges and segmented worms.

**26. Swift Run (Ann Arbor) •** Swift Run has similar water flow patterns to Millers. When the creek isn't running high, it tends to run dry or stagnant. The insect community is extremely low in diversity, with only the most common and tolerant families found here. In the fall of 2015, volunteers found a total of three creatures—all damselfly nymphs—at the HRWC study site, which is the worst sample collected anywhere since HRWC monitoring began in 1992.

*continued on page 4*

*Millers Creek (#27) is rip-roaring after storms, and then it quickly goes dry. It has the worst habitat and aquatic life in the Huron River watershed. credit: HRWC*



## Surprises in Norton Creek

### *A mix of restoration efforts recommended*

Even after fifty years, HRWC staff and volunteers can still be surprised by things found in a creek. Intrepid surveyors (aka "creek-walkers") find all manner of discarded treasures and effluvia with each survey—but in Norton Creek, the surprise is in the numbers. Over the last year

and a half, HRWC has collected an unprecedented amount of data and information about Norton Creek and its surrounding watershed. The conclusions from the data thus far have gone in an unexpected direction from what staff, volunteers, and officials originally expected. Historical stream

channel alteration has caused as much as or more of the problems than poorly planned development.

#### **Problems with the Creek**

Norton Creek is a cool- to warm-water tributary of the Huron River in

*continued on page 7*

**INSIDE: UPCOMING EVENTS AND WORKSHOPS** *Five-year goals | Pointe Mouillée birding | Huron River Appreciation Day fun and photos | Summer interns get the jobs done!*





# Laura's Stream of Consciousness

**T**his past year, HRWC's 50<sup>th</sup>, our staff and board spent time looking back and talking about the future of HRWC. We talked a lot about the organization's role, history, and future direction. Last year, I shared our new mission, vision, and core values. Stemming from these discussions, we have identified five strategic goals for the next five years.

From our mission to protect and restore the river for healthy and vibrant communities, and our vision 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—we have defined our goals for 2016-2021 as follows:

## A. Engagement and Relationships

*Engage a diverse and inclusive group of partners and establish relationships to advance programs and policies*

## B. Science

*Collect and use scientific information to gauge the health of the watershed, direct programmatic priorities, and advance protection and restoration efforts*

## C. Advocacy and Implementation

*Set our watershed agenda and advance policies and projects at all levels of government and with a range of partners*

## D. Communications

*Raise awareness of the river and watershed while advancing our program goals*

## E. Fundraising and Organizational Foundation

*Develop strong relationships and systems to secure resources that accomplish HRWC's core mission*

To meet these goals, we have established objectives and strategies for implementation through an annual planning and evaluation process called OGSP (Objectives-Goals-Strategies-Plans). The process guides our quarterly, semi-annual, and annual planning and informs individual work plans. It increases HRWC's ability to deliver high quality, impactful programs by evaluating and aligning programs and staffing to attain the organizational mission. Staff articulates and implements clear

objectives over a three-year period, activities to be delivered, desired outcomes, staffing and resource requirements, implementation timetables, and a process for monitoring progress. HRWC strives to attain at least 75 percent of the measurable outcomes for each program.

For the entire strategic plan, please visit our website.

So, we have an inspiring and lofty plan for the next five years. And we have fleshed out objectives and strategies for meeting goals. We are already working on it, as you'll see from the articles in this newsletter. I look forward to working with our staff, Board of Directors, volunteers, and partners as we continue a 50-year tradition of science-based work on actionable solutions for the watershed.

— Laura Rubin  
HRWC Executive Director



H. Buffman



## CORRECTION

An image featured in "Shared Resource. Shared Responsibility." in the *Huron River Report*, Summer 2016, page 5, was incorrect. The image should have been of the inside of the Northern United Brewing Company brewery in Dexter as pictured at left. We apologize for any confusion and to our friends at NUBCO for the mix up.







# Pointe Mouillée or “Wet Point”

## Bird migration through the mouth of the Huron River

During autumn, the skies over Southeast Michigan are alive with tens of thousands of hawks, eagles, falcons, and other birds of prey as they migrate south. Southeastern Michigan is one of the biggest hawk migration corridors in the western hemisphere. One of the most popular birding areas in Michigan is at the mouth of the watershed at Point Mouillée State Game Area on the shores of Lake Erie. As early as 1749, the delta and wetlands at the mouth of the Huron and Detroit Rivers have been known as Pointe Mouillée, a French term meaning “wet point.”

### Why here?

Spanning hundreds of miles along the Canadian border, the Great Lakes represent a barrier for migrating hawks, most of which avoid traveling over open water when possible. Bottlenecks form where the raptors go around or between the lakes. One such point is in far southern Ontario, where raptors move along Lake Erie’s north shore heading west until they cross the border into Michigan and turn southward again. The Hawk Migration Association of North America has identified two premier Hawk Watch locations near the mouth of the Detroit River. A few miles apart on either side

of the international border, they provide different lookouts for seeing the migrating raptors. One is the Holiday Beach Conservation Area, strategically located at the extreme southwestern tip of southern Ontario. The other is at the confluence of the Huron River, the Detroit River, and Lake Erie. Two sites here are used by the Detroit River Hawk Watch—the boat launch at Lake Erie Metropark and the observation tower at the headquarters of the Pointe Mouillée State Game Area.

### More than hawks

Point Mouillée is also rich in year-round bird watching opportunities. Consisting of 4,040 acres, it is one of the largest freshwater marsh restoration projects in the world. Through a series of dikes and pumps that allow for managing water levels, it recreates a version of what once was the coastal wetland of the Huron River delta. The delta had eroded and disappeared due to a combination of dam construction on the Huron River and high water in Lake Erie. In 1981, the US Army Corps of Engineers completed construction of a 700-acre crescent-shaped dike and five compartments for contaminated material dredged from the shipping channels of the Detroit and Rouge Rivers. A controversial project, the “Banana Dike” of fill flanks the Lake Erie side of Pointe Mouillée and acts as a protective barrier to prevent erosion of the marsh. By 1984 the Corps of Engineers and the Michigan Department of Natural Resources began work to restore the Pointe Mouillée marsh.

Point Mouillée is open for birdwatching year round. Miles of gravel causeways run atop the dikes to separate fields from marshes and waterways, and public access is available at four parking lots and the State Game Area Headquarters.

*Once rarely sighted, American white pelicans are now regulars at Pointe Mouillée, spring through fall.*

credit: B. VanderMolen



Cars are not allowed on the causeways, so be prepared to head in on foot or bicycle. With two pullovers for boats along the North and Middle causeways, paddling is an option, although be warned of weather and changing water levels.

Public access to the Wildlife Refuge and designated State Game Area sections is restricted during the waterfowl hunting season (September 1 through December 15).

— Pam Labadie and Laura Rubin



*American lotus (*Nelumbo lutea*) is found in marshes, quiet backwaters, and large rivers near the Great Lakes, and occurs in only seven Michigan counties. credit: HRWC*

### Pointe Mouillée Events

#### 27th Annual Hawkfest Weekend

September 17 and 18

Lake Erie Metropark

*Held at the park’s Marshlands Museum and Nature Center, Hawkfest is a two-day celebration of the fall migration of the over 200,000 birds of prey—hawks, eagles, falcons, and vultures—that make their way over the Metropark.*

#### 69th Annual Waterfowl Festival

September 17 and 18, 8am-5pm

State Game Area Headquarters

*Pointe Mouillée is a big draw for waterfowl hunters. This event kicks off the waterfowl hunting season, which runs September 1 through December 15.*



### **25. Norton Creek (Wixom) •**

Norton Creek is a shallow and over-wide stream because of past channel alteration, and the streambed is made of fine sediment (silt, muck, and clay). The creek also lacks bends, riffles, and pools. These factors—along with a low gradient—mean the creek often lacks enough dissolved oxygen for aquatic life to thrive. Therefore, Norton Creek has a very poor insect population.

### **24. Malletts Creek (Ann Arbor) •**

Malletts Creek remains very flashy and has a poor insect community. On the positive side, much of Malletts is surrounded by a narrow riparian zone dominated by trees, and the stream bed is very rocky—both of which are good habitat indicators. While only the most common insects are found here, recent samples indicate that there has been significant improvement over time and there is optimism that this trend will continue.

### **23. Lower Huron Tributaries (near Ypsilanti and Flat Rock) •**

In the lower section of the watershed, the wide river dominates over small tributaries. Woods Creek, the largest of these tributaries, is a good quality stream and has its own listing (#8). Port Creek, Willow Run, and Bancroft-Noles Drain are very flat and naturally mucky. Bank erosion on these creeks also fills them with fine sediment. Macroinvertebrate populations are very poor at these locations.

### **22. Traver Creek (Ann Arbor) •**

Traver Creek has a good stream bed with boulders, rocks, sand, and very little muck or clay, which should provide good habitat for macroinvertebrates. However, eroding banks throughout the creek's lower section indicate that flashy flow conditions are a serious issue. A paucity of instream woody debris and depth variation provides little cover or refuge from scouring flows. As a result, only the most common macroinvertebrates are found here. Habitat in the upper portions of the creek fares better, yet falls short compared to other tributaries more removed from urban centers.

### **21. Horseshoe Creek (Whitmore Lake) •**

Upstream portions of Horseshoe Creek are heavily affected by agriculture. The creek has been straightened in this section and through the town of Whitmore Lake, causing fast water velocities and eroding banks. Insect population is poor throughout this section. Downstream of Whitmore Lake, the creek flows through a wide forested and wetland riparian zone. Instream aquatic plants and woody debris provide good cover and food, and the insect population is moderately diverse here.

### **FAIR**

*Areas rated as FAIR demonstrate little to moderate aquatic life, often with a diversity of conditions present.*

### **20. Honey Creek (west Ann Arbor) •**

The upper to middle sections of Honey Creek have unstable and eroding stream banks, the stream bed is full of sand and muck, and the insect population is poor. As the creek nears the Huron River, stream habitat is good quality with an abundance of large rocks, riffles, and pools. Despite the hospitable rocky habitat, the insect population in lower Honey Creek is declining and beginning to look more like the upper portions.

### **19. Huron River (Ann Arbor and downstream) •**

Starting at Barton Pond, the river faces more intense development pressure than in all of its upstream wanderings. Stormwater inputs from storm sewers increase in frequency and volume. The river is dammed multiple times, which increases water temperature and reduces dissolved oxygen. From Ann Arbor to the mouth of the Huron River, HRWC monitors three locations: Island Park in Ann Arbor; Riverside Park in Ypsilanti; and Huroc Park in Flat Rock. The insect population changes from moderately diverse to poor along this path.

### **18. Chilson Creek (west of Brighton) •**

Chilson Creek flows through a mix of residential and forested land and eventually into Zukey Lake. Sections of Chilson Creek have a gravelly and sandy substrate, wide forest riparian zones, plentiful

instream habitat, and a diverse insect population. Other places have mucky substrate with poor insect populations.

**17. South Ore (Brighton) •** South Ore Creek is similar to Chilson Creek in that the quality of habitat varies greatly along the tributary. At two sample locations, undercut banks, pools, and riffles all provide places for different types of organisms to live. Yet the sample site below Brighton Lake is a uniform shallow riffle lacking a diversity of habitat types. The creek here has an insect community as sparse as some of the poorest Ann Arbor urban streams.

### **16. Huron River (Commerce Township to US-23) •**

This long section of the river is difficult to classify into a single category. The stretch is dominated by dams that create or deepen lakes such as North and South Commerce, Proud, Kent, and Hubbell Pond. These large water bodies warm the river and reduce dissolved oxygen, creating habitat problems downstream. Much of the river is surrounded by natural lands, although the river does flow through residential and commercial hubs like Milford. HRWC samples macroinvertebrates at three sites on this section of the Huron. Each site possesses approximately the same macroinvertebrate community with a moderate diversity of insects that are common in the Huron.

### **15. Davis Creek (South Lyon) •**

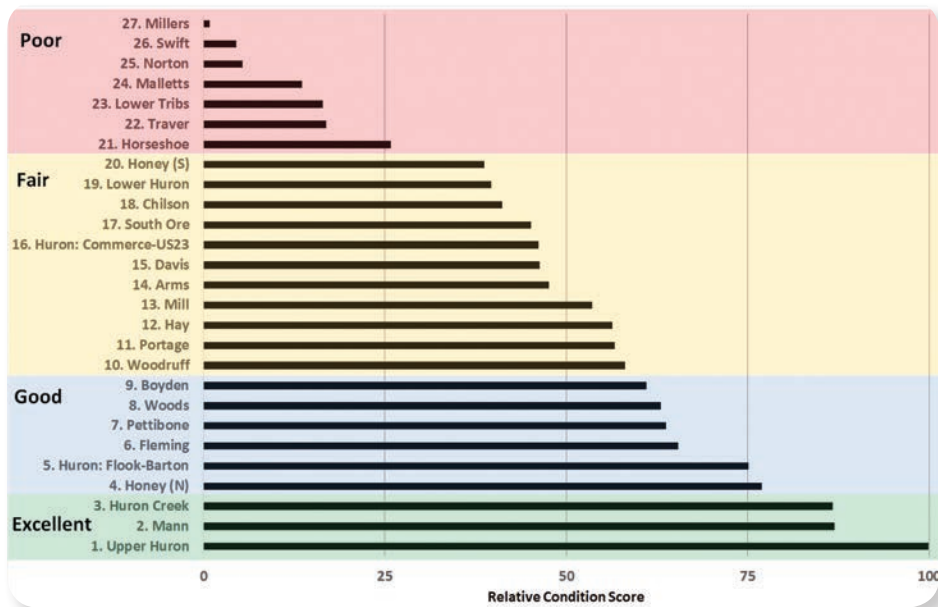
This large, branching creek has a range of habitat conditions. The main branch downstream of Pontiac Trail is in excellent shape. However, the upper portions of the tributary are dominated by fine sediment choking out the living spaces of aquatic creatures. These upper portions include many channelized creeks draining from farm fields, golf courses, and subdivisions. The insect population varies across the tributary and correlates strongly with the habitat conditions.

### **14. Arms Creek (Webster Township) •**

Portions of Arms Creek flow through forested riparian areas,

*continued on next page*





*This graph indicates the relative condition of the habitat and aquatic life of the Huron River and its tributaries. It is scaled so the best creek is given a score of 100. As an example of how to read it, South Ore Creek has a score of 45 and is therefore is about half the quality of Mann Creek which has a score of 87. The scores are derived from a model based on habitat and macroinvertebrate monitoring, land use, water temperature, and stream size. credit: HRWC*

providing dense shade and valuable woody debris habitat. However, nearly half of Arms creekshed is agricultural land, and agricultural practices have covered the bottom of Arms Creek with a fine silt. The creek does not flow fast enough to wash this silt downstream. As a result, the insect population in Arms Creek is moderate, at best.

**13. Mill Creek (Dexter and Chelsea) •** The Mill creekshed is the largest in the watershed, and it runs the gamut from low to high quality. The imprint from agriculture is evident in Mill Creek, including many channelized creeks. However, some areas have high groundwater flow that keeps the creek hydrologically stable and cool, and many wooded areas surround the creek. In 2008, Dexter removed the dam that ran under its Main Street, which has allowed creek flows to wash sediment downstream. This flushing is very beneficial to the insect community. Now, thriving insect communities are

found at sample sites nearest to the former dam site.

**12. Hay Creek (east of Pinckney) •** Hay Creek flows through beautiful wetlands with extensive riparian zones following the length of its run. However, the macroinvertebrate population in Hay Creek is only moderately diverse when it should be very diverse given the creek's natural setting. Hay Creek has a very mucky substrate and fine sediments, impeding insect life by clogging and obstructing the hiding places where insects live. Unlike the other creeks mentioned above, this muck is likely a natural occurrence.

**11. Portage Creek (north of Dexter) •** Some areas of Portage Creek are very healthy. The downstream half of the creek flows through the Pinckney Recreation Area, which contains some of the watershed's largest intact natural areas. Macroinvertebrate sampling at a site near the mouth of the creek

is one of the best. However, the upper half of the creek contains a significant amount of agriculture, plus many straightened ditches with little habitat. The insect population is poor to moderately diverse.

**10. Woodruff Creek (Brighton) •** Woodruff Creek is a forested and residential creek that flows through the northeast suburbs of Brighton. The stream bed is an approximately even mix of small rocks, gravel, sand, silt, and clay. Although a wooded and wetland riparian zone follows the creek, the creek is never far away from a subdivision or a road-crossing. The insect community is moderately diverse.

## GOOD

*Areas rated as GOOD demonstrate above average habitat conditions and macroinvertebrate populations.*

**9. Boyden Creek (west of Ann Arbor) •** Boyden Creek flows through a former golf course and the neighborhood of Loch Alpine, where erosion and lack of a riparian zone diminish the available habitat and water quality. The longer upstream portion of Boyden Creek runs through a rural landscape of forests and agricultural fields. Macroinvertebrate samples in this upper section are quite diverse and abundant. Boyden Creek regularly contains some of the best diversity in caddisflies seen throughout the entire watershed.

**8. Woods Creek (Belleville) •** Today, Woods Creek flows through farms, wetlands, and grassy yards. Ten thousand years ago, it formed the bed of ancient Lake Erie. As the lake receded, it left behind a flat lake plain made up of clay and silt, with some sand and gravel areas downstream. Given that clay and silt are a poor substrate for aquatic life, the macroinvertebrate population in Woods Creek is surprisingly good.

**7. Pettibone Creek (Milford) •** The lower section of Pettibone Creek flows through an urban area and is slightly degraded with eroding banks and uneven stream flow, while the larger upstream section flows

*continued on page 6*



through a more natural landscape. Macroinvertebrate populations in the urbanized downstream section in Milford are moderately diverse, while the populations in the upper section of the stream are only slightly better. Given the near pristine forests and wetlands around upper Pettibone, it is puzzling why the macroinvertebrate population there is not significantly better.

### 6. Fleming Creek (Ann Arbor) •

Fleming Creek flows to the east of Ann Arbor, through a mix of residential, agricultural, commercial, and forested landscapes. The variety in the creek's habitat and macroinvertebrate populations matches the diversity of the landscape. The creek's east branch has many straightened sections and the lowest macroinvertebrate population of the Fleming system, while the forested west branch is one of the best sites in the Huron River watershed. The two branches come together and flow through the UM Matthaei Botanical Gardens and Parker Mill County Park, where the macroinvertebrate population reflects a blending of the two upstream sites.

**5. Huron River (Flook Dam to Barton Pond) •** This section of the river is arguably the most prized to anglers and paddlers. It averages 100 feet in width throughout, with depths varying from inches to several feet. The substrate is a mix of large cobbles, rocks, gravel, and sand. The

water is cool, clear, and clean. Much of its length is bordered by Metroparks with a riparian zone benefiting from stands of large trees shading the edges of the river. Macroinvertebrate populations are quite diverse and include several insect families that are only found in cleaner waters.

**4. Honey Creek (Pinckney) •** Honey Creek flows through Livingston County, including the Village of Pinckney, and eventually enters Portage Lake on the Huron River. The creek's riffles, pools, bends, and runs are characteristic of a stream with low human impact. The stream bed is made of an even mix of sand, gravel, cobble, and muck. Plentiful woody debris provides cover and shade for the biological community. However, some areas, particularly upstream, are negatively affected by agricultural practices.

### EXCELLENT

*Areas rated as EXCELLENT demonstrate incredible aquatic life and habitat.*

**3. Huron Creek (Dexter) •** This little creek starts in wetlands and forests northwest of Dexter, crosses under Dexter-Pinckney Road, enters the west side of Hudson-Mills Metropark, and flows into the Huron River. At HRWC sample sites, Huron Creek meanders through the woods with a stream bed filled with woody debris, big rocks, gravel, and diverse aquatic life.

### 2. Mann Creek (Brighton) •

Mann Creek is a small groundwater-fed stream to the northeast of Brighton. It flows through the General Motors Proving Grounds and a suburban neighborhood. This creek boasts a wide wooded and wetland riparian zone. The creek meanders through its floodplain and creates extensive riffle-pool-run habitat sequences. Stonefly Search volunteers regularly find four different stonefly families (all other high

quality places in the Huron only have one or two families) making it the best creek monitored in January.

### 1. Huron River (Springfield and White Lake Townships) •

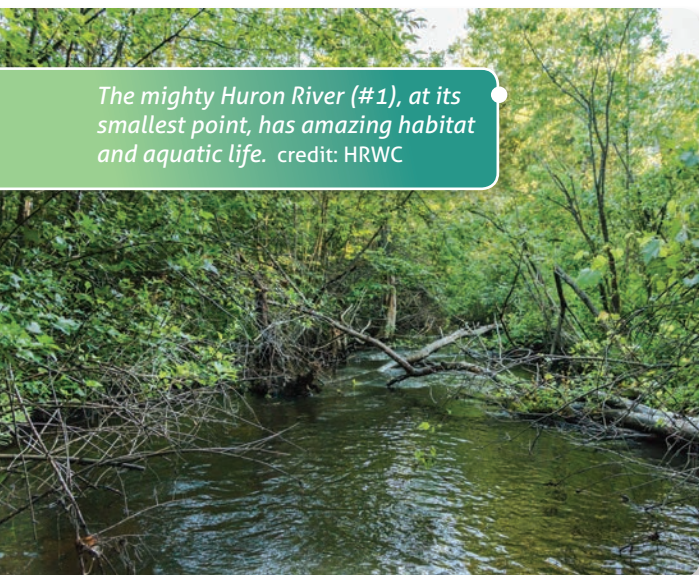
The upper headwaters of the Huron River stretch from its origination point at Big Lake to Pontiac Lake. This section of the river is shallow and narrow, with a high amount of instream habitat and plentiful riffles, pools, and bends. Nearly the entire length lies in deep forests. The macroinvertebrate sampling site located near Indian Springs Metropark on White Lake Road is, hands down, the most diverse site that HRWC regularly visits. It even contains a rare caddisfly, the *Odontoceridae*—the "strong case-maker" caddis. The *Odontoceridae* has a tolerance value of 0 on a scale of 0-10, making it one of the most sensitive aquatic insects because it cannot abide any pollution or disturbance.

### Conclusions

While many variables affect the quality of a creek's habitat and the diversity of its insect community, a few patterns emerge. Urban and suburban lands increase impervious (nonporous) surface and stormwater runoff, altering natural water flow patterns, increasing water temperatures, adding pollutants, and obstructing habitat and clogging stream beds with silt and clay. Agricultural practices also have negative impacts through straightening of streams and increased bank erosion. The best prescription for a healthy, diverse stream is large areas of natural lands. In areas that have existing development or agriculture, preserving deep-set riparian areas, implementing stormwater controls, and environmentally-friendly agricultural practices go a long way toward maintaining good habitat that supports an ecosystem full of life.

— Paul Steen

*The mighty Huron River (#1), at its smallest point, has amazing habitat and aquatic life. credit: HRWC*







## Surprises in Norton Creek *continued from cover*

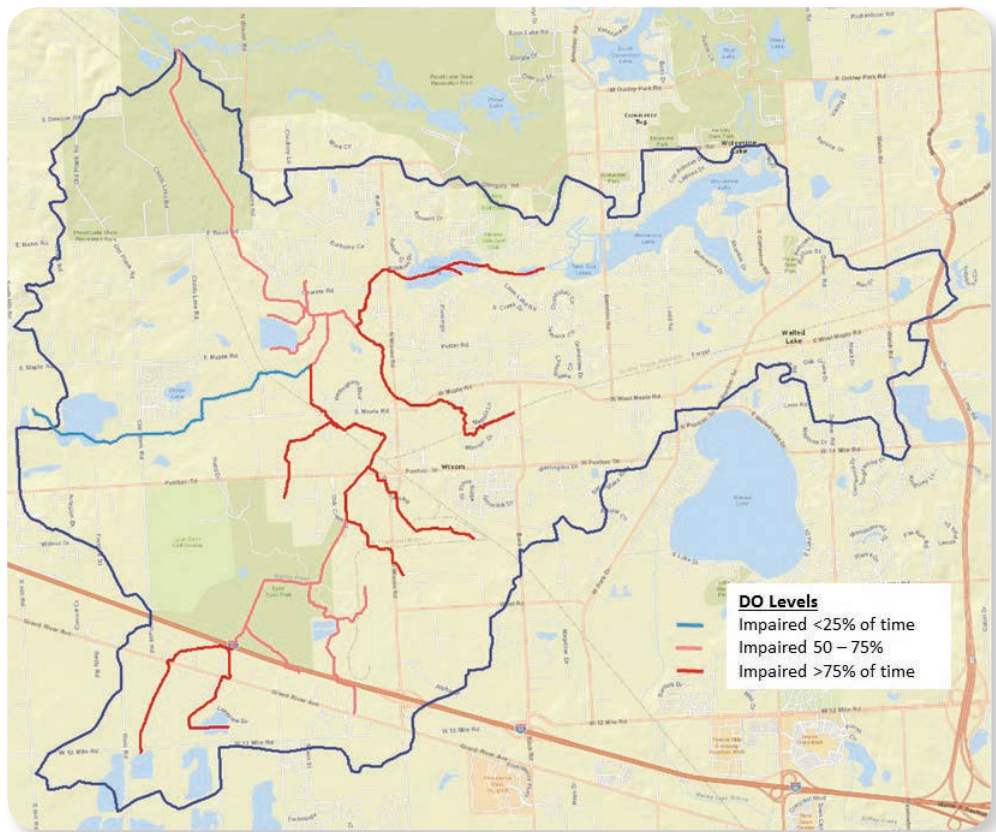
southwestern Oakland County. The creek has 110 miles of branching stream channels, draining 24-square miles of land and contributing a significant amount of flow to the headwaters of the Huron. The creeksheds features a very gentle slope and contains many lakes, ponds, and wetlands. Norton Creek once traversed a rural community with lake side vacation homes. Today, the area is a growing Detroit-area commercial center.

Along with this development came changes to the watershed and creek. In 2009, after several investigative studies, the Michigan Department of Environmental Quality (DEQ) determined that one segment of Norton Creek suffered from consistently low dissolved oxygen (DO). The water in this lower stretch was so deprived of oxygen that little, if any, aquatic wildlife could survive. DEQ also noted excessive siltation and sedimentation of the creek bottom and determined that the bacterial activity in these deep sediments was robbing the water of oxygen.

### What was expected

When HRWC obtained a grant from DEQ to develop a watershed management plan for Norton Creek, staff expected to find what is typical in high sediment, low DO streams. In developed or developing areas, the added impervious surfaces lead to greater amounts of runoff with higher velocities. In turn, high velocities lead to erosion of stream banks and bottoms, and sediments are deposited in slower moving areas like lakes, ponds, and pools. The eroded sediment and runoff from developed areas also carry nutrients and pollutants. The settled areas lose oxygen and cannot support aquatic life.

The typical remediation strategy for this type of stormwater management problem is to add infiltration or at least detention of runoff, and to slow runoff to prevent additional erosion. Smart managers add infiltration using a variety of techniques referred to as Stormwater Green Infrastructure (SGI). These practices use different types of



*Map of Norton Creek watershed showing impairment of dissolved oxygen levels by time frequency in different stream segments. credit: HRWC*

depressions filled with "thirsty" plants; examples include rain gardens, bioswales, and constructed wetlands.

### What was actually found

HRWC staff and volunteers discovered low DO levels across much of the watershed (see map), indicating that the oxygen problem is much broader than was originally identified by DEQ. Streams coming out of protected areas were as low in DO as those from developed areas. Thus, the focus for remediation and restoration cannot be on a single area.

In another twist, given the amount of development in the central part of the watershed, the team expected to find significantly altered hydrology there. Typically, urban and suburban watersheds rapidly increase flow during storms and just as rapidly drop to low flow when the storm is over, a pattern referred to as "flashy."

Thus far, Norton Creek does not appear to be much flashier than other watersheds of comparable size. Analysis of monitoring conducted through the summer of 2016 will help solidify this conclusion.

Following expectations, nutrients (phosphorus in particular) occurred in high concentrations coming from the more developed drainage areas. One stretch was three times the target level of 0.05 mg/l for phosphorus. Phosphorus levels remain high downstream, indicating that Norton Creek is exporting a significant load downstream to the Huron River and Kent Lake. Bacteria levels were also high, with downstream stretches regularly exceeding the human health standard for body contact. Both results are fairly typical for developed watersheds, and indicate that work is needed to remediate a number of

*continued on page 11*

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.



1100 North Main Street, Suite 210  
Ann Arbor, Michigan 48104  
(734) 769-5123 • [www.hrwc.org](http://www.hrwc.org)



[facebook.com/huronriver](https://facebook.com/huronriver)



[twitter.com/hrwc](https://twitter.com/hrwc)



[youtube.com/huronriverwc](https://youtube.com/huronriverwc)



[instagram.com/huronriver](https://instagram.com/huronriver)

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

Layout: S&J Design Studio

Illustrations and quarterly design:  
J. Wolf, Laughing Goat Arts © 2016

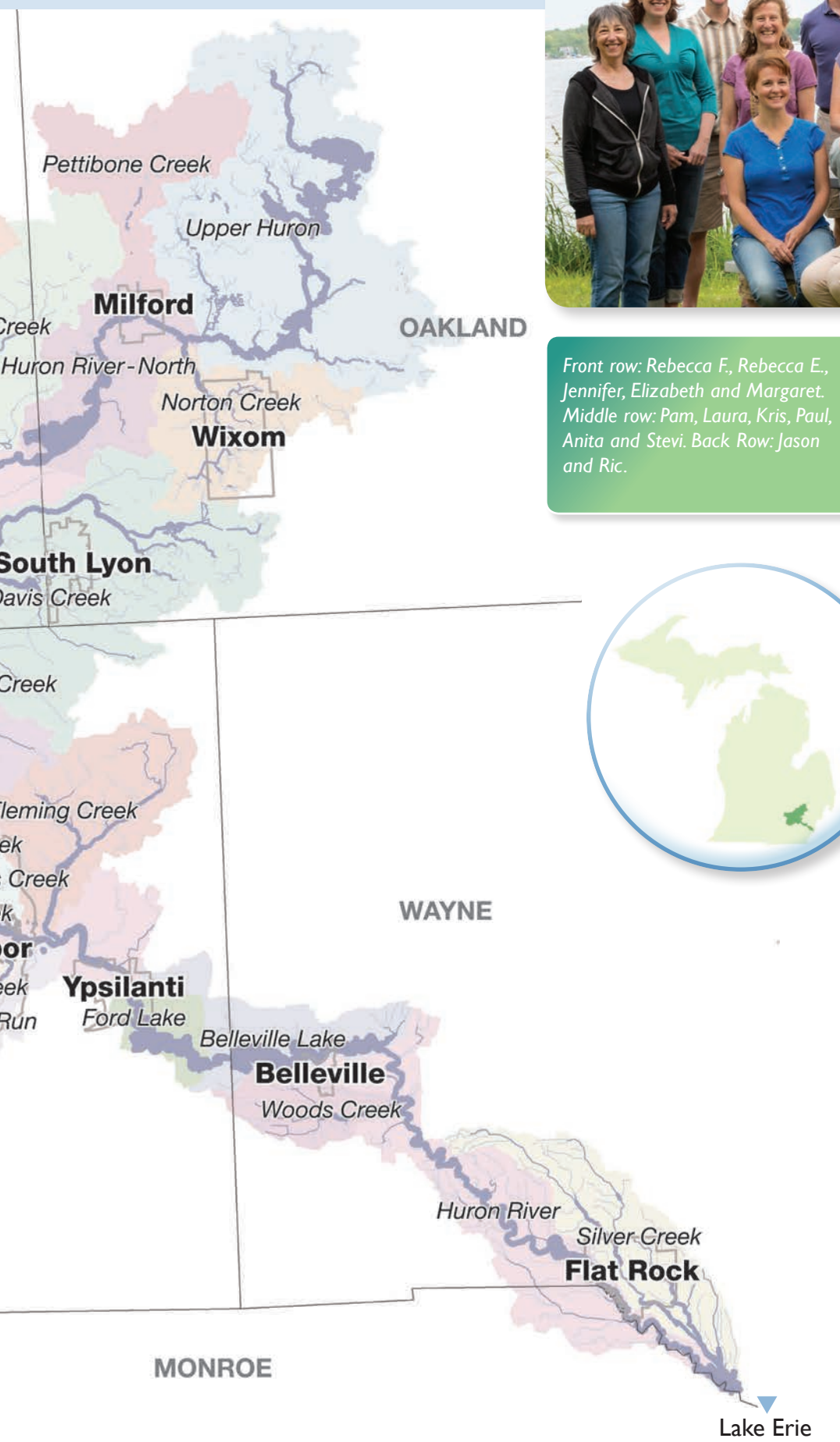
Huron River Report © 2016

# The Huron River Watershed



For additional, detailed maps please go to: [www.hrwc.org/the-watershed/maps](http://www.hrwc.org/the-watershed/maps)





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.

## Huron River Watershed Council Staff

(734) 769-5123

**Anita Daley** x 603

Marketing Specialist

adaley@hrwc.org

**Rebecca Esselman** x 611

Watershed Planner

resselman@hrwc.org

**Rebecca Foster** x 610

Development Associate

rfoster@hrwc.org

**Jason Frenzel** x 600

Stewardship Coordinator

jfrenzel@hrwc.org

**Jennifer Kangas** x 604

Finance Manager

jkangas@hrwc.org

**Stevi Kosloskey** x 613

Watershed Planning Assistant

skosloskey@hrwc.org

**Pam Labadie** x 602

Marketing Director

plabadie@hrwc.org

**Ric Lawson** x 609

Watershed Planner

rlawson@hrwc.org

**Kris Olsson** x 607

Watershed Ecologist

kolsson@hrwc.org

**Elizabeth Riggs** x 608

Deputy Director

eriggs@hrwc.org

**Laura Rubin** x 606

Executive Director

lrubin@hrwc.org

**Margaret M. Smith** x 605

Director of Development

msmith@hrwc.org

**Paul Steen** x 601

Watershed Ecologist

psteen@hrwc.org



calendar  
of events

# HRWC Events and Workshops

SEPTEMBER • OCTOBER • NOVEMBER • 2016

## SUDS on the RIVER!

Thursday, September 8, 6-9pm

*Kick off your fall with this terrific event. Enjoy specialty beers, delicious food, and great company as you celebrate the Huron River.*

**Details and tickets:** Rebecca Foster (734) 769-5123 x 610 or [rfoster@hrwc.org](mailto:rfoster@hrwc.org)

## River Roundup

Saturday, October 8, 9am or 10:30am, lasts 3-4 hours

Teams meet at NEW Center and travel throughout the watershed

*Join a small team with your friends and family for this popular event. Collect a sample of the bugs (benthic macroinvertebrates) that live in our streams. Like canaries in a coal mine, these creatures tell us the health of the river.*

**Registration (required):** [www.hrwc.org/roundup](http://www.hrwc.org/roundup)

## Ypsilanti Fall River Day

Sunday, October 9, 11am-3pm, Riverside Park (north end), Ypsilanti

*Educational talks, family-friendly activities and exhibits, canoe trips, fly fishing lessons, and more. Hosted by the Ypsilanti Parks & Recreation Commission and featuring HRWC and the Huron River Water Trail, Schultz Outfitters, Leslie Science & Nature Center, City of Ann Arbor Canoe Liveries, and Washtenaw County Parks & Recreation Commission.*

**Information:** [www.ypsiparks.org](http://www.ypsiparks.org)

## Michigan Aquatic Restoration Conference

Friday, October 14, Hagerty Conference Center, Northwestern Michigan College, Traverse City

*A one-day seminar for aquatic restoration professionals and those interested in the field. Morning topics feature restoration strategies and afternoon topics include funding and policy strategies. There will be a pre-workshop float on the Boardman River followed by an evening reception. HRWC is one of the organizers.*

**Details and registration:** [www.michiganstreams.org](http://www.michiganstreams.org)

## ID Day

Sunday, October 16, noon or 2pm start, lasts 2 hours, NEW Center

*Discover what kinds of bugs were found at the River Roundup, separate them into look-alike groups and then an expert will identify them with you. Record the data and compare the results to last year.*

**Registration:** [www.hrwc.org/id-day](http://www.hrwc.org/id-day)

## Huron River Water Trail Partners Meeting

Wednesday, October 19, 10am-noon, NEW Center

**Contact:** [eriggs@hrwc.org](mailto:eriggs@hrwc.org)

## Board Meeting

Thursday, October 20, 5:30pm, NEW Center

**Contact:** [lrubin@hrwc.org](mailto:lrubin@hrwc.org)

**Clear space on your bookshelves and support HRWC through  
Books by Chance – it's easy!**

Contact Rebecca Foster at (734) 769-5123 x 610 or [rfoster@hrwc.org](mailto:rfoster@hrwc.org) to learn more.





*Studying the surprising ways of Norton Creek. credit: HRWC*

pollution issues, not just dissolved oxygen.

### Stream channel investigation

In contrast to phosphorus, suspended solids—a measure of sediments in the creek—were not found in high concentrations. Sediment concentrations throughout the tributary were well below standards, which is surprising given the amount of silt and sediment found deposited in downstream locations. If altered hydrology and erosion were the sources of the sedimentation and

resulting oxygen consumption, higher suspended solids concentrations would be expected.

To investigate further, the study team documented conditions at places where roads crossed the streams. Culverts are commonly areas where altered hydrology leads to erosion. However, almost no evidence of erosion at these areas was observed. In addition, teams walked the creeks, taking dozens of measurements of physical shape and size, and making observations. This effort led to a key discovery: many of the creek channels were incredibly straight, wide, and shallow. Staff compared these dimensional measures to those of reference streams in southern Michigan. These comparisons revealed that many segments of Norton Creek are three to nine times wider than expected, and far straighter. While these results are being confirmed by staff this year, the discovery suggests that much of the problem may be caused by historical stream channel alteration and continued maintenance. The straightened, widened, and cleared channels lose the energy needed to mix stream water to aerate it, leading to collapses in dissolved oxygen levels.

### What to do?

HRWC concludes that a mix of remediation and restoration activities are needed to return Norton Creek to a more ecologically functional state. First, the SGI techniques are needed in the developed areas to capture and filter out nutrients and pollutants, and improve the base flow in upstream channels. The second set of recommended practices involves restoring sections of the stream channels to a more natural state. A narrower stream channel needs to be constructed to carry fine sediments away and uncover habitable substrate. That new channel should have a diversity of shape to allow stream flow to better mix with the air to add oxygen. A mix of rapids, runs, riffles, and pools will also provide a diversity of habitat. These restoration areas provide ample floodplain area to connect to and allow for flood inundation during larger storm events. Sediment deposition in those areas will improve the riparian habitat for a variety of plants and animals. This combination of techniques, if implemented with proper planning, could restore Norton Creek and the headwaters of the Huron River.

— Ric Lawson

## 2016 Summer Interns • *Here they came to save the day!*

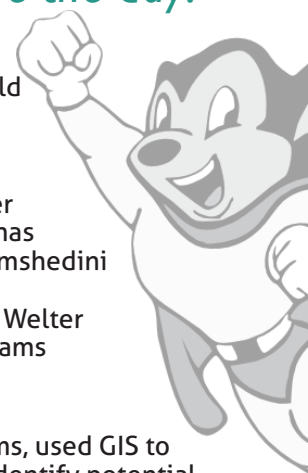


*Olivia DeCroix conducting field research. credit: HRWC*

HRWC has been able to get an extraordinary amount of field work done this summer, thanks to these fantastic interns:

Yonas Abebe	Olivia DeCroix	Max Lubell
Izzy Bausch	Dan Engel	Alison Muller
Jesus Bautista	Nicholas Ferro	Niklas Povlinas
Liz Berghoff	Marisa Huston	Simone Shemshedini
Sarah Bolton	Benjamin Jakes	Clint Sweet
Hannah Butterworth	Kori Johnson-Lane	Christopher Welter
George Cadenas	Ilé Karoly	Taimor Williams
Yihui Chen	Elliott Kurtz	

They helped run our Water Quality and Bioreserve programs, used GIS to analyze Norton Creek, walked untold miles of streams to identify potential problems, researched fertilizers and driveway sealants at local businesses, studied the substrate at 28 of our field sites, organized and worked at the Ann Arbor Mayor's Green Fair and Huron River Appreciation Day, and fixed small problems that came up in the office!





# Huron River Appreciation Day

*Activities celebrated recreation on and along the river*

Kayakers take to the water at Gallup Park in Ann Arbor.  
credit: HRWC



Riders along the B2B Trail in Dexter show off their new life jackets! credit: HRWC



***Our heartfelt thanks to***

**EVENT SPONSOR**

# TOYOTA

**EVENT CONTRIBUTORS**

Heavner's Canoe and Kayak Rental

Motor City Canoe Rental

Schultz Outfitters

H2E River Adventures

Blue Heron Trading Company

James Mann

Barry Lonik

River's Edge Brewing Company

City of Ann Arbor Parks & Recreation

Fiorelli's The Roc Restaurant and Wine Bar

American Canoe Association

Motion Watersports, Inc.

Cumulus Radio

Olson's Party Rental

Big City Small World Bakery

Trail Town Teams in Milford, Dexter, Ann Arbor, Ypsilanti, and Flat Rock

On July 10, HRWC fitted over 300 adults and children with their very own FREE Huron River Water Trail life jackets, thanks to event sponsor **TOYOTA**. Paddling tips were offered to help keep folks safe on the river for seasons to come.



Special thanks to University of Michigan School of Art students Jiin Suh and Yon Joo Kim, and their instructor Catherine VanVoorhis for the use of their Huron River illustrations.





# Thank you!



*Rentals were hopping at the Gallup Livery in Ann Arbor.*  
credit: HRWC

Staff and volunteers fanned out to the Water Trail's five Trail Towns—Milford, Dexter, Ann Arbor, Ypsilanti and Flat Rock—offering paddle trips, fly fishing lessons, a history talk, an art exhibit, and the annual river swim at Baseline Lake.

An appreciative shout out to our paddling safety instructors: Lisa Belanger (and Alexander), Mike George, Anita Lamour, Ron and Suzanne Smith, and Todd Taylor.



*Posters featuring the Huron on display at the Gallup Livery, created by students at the University of Michigan School of Art.*  
credit: HRWC

*Paddlers at the Flat Rock Boat Launch prepare for their trip to Labo Park.*  
credit: HRWC



*Anita Twardesky and Pam Fiorelli work the booth in Flat Rock*  
credit: HRWC



*HRWC would like to extend our gratitude to everyone who helped protect the Huron River by giving of their time, talent, in-kind contributions, and financial resources.*

## Thank you to our generous supporters • May, June, and July, 2016

Peter and Sally Allen  
Charles Allore  
Rae Ann Anderson Weymouth  
Anonymous  
L. David Arscott  
Bruce E. Artz and Martha Claus  
Mary and Bill Bajcz  
Gerri Barr and Tom Egel  
Graham and Alison Battersby  
Judith O. Becker  
Roderick and Julia Beer  
Alfred and Ruth Beeton  
Ronald Bender  
Mark R. Berg and Frances Lewy Berg  
Andrew H. Berry  
John Blase  
Janis Ann Bobrin and  
Michael Allemang  
Kim and Dan Bonenberger  
Duane J. and Ann C. Bonvallet  
Books By Chance  
George Brach and Kevin Sharp  
Audrey and Jerry Bricker  
Nancy Brucken  
Elaine Bryans  
Susan and Oliver Cameron  
Jennifer and Peter Casler  
Dan Chapman and Karen Clarey  
Sharon Fallot-Chapman  
Carol and W.P. Cherry  
Edward and Rebecca Chudacoff  
Nancy and Jim Clark  
Clearview Cottage  
Mark Clevey and Nancy Fenton  
Comerica Bank  
Aline Cotel  
Julie Craves  
Shannon Culver  
Eric S. and Kathryn A. Dahlberg  
Jennifer Delisle and William Casey  
Joyce and Michael Deren  
Jillian Downey  
Reynolds and Gail A. Farley  
Jennifer Fike and Jon Cioffi  
Joe and Beth Fitzsimmons  
Rebecca Foster and Bob  
Weisenberger

Fred A. and Barbara M. Erb  
Family Foundation  
Jason Freeman  
Tom A. and Catherine M. Freeman  
Joe Fremont  
Pat Frey and Larry Deck  
Belinda Friis  
Paul J Gambka  
Mary and Hugh Garton  
Kim and Diane Gasior  
Thomas Gebhardt and Betsy Foote  
Edward and Mona Goldman  
Jesse E. and Anitra Gordon  
Daniel and Norma Green  
Dunrie A. Greiling and David B.  
Higbie  
Sally L. Greve  
Agnes Hannahs  
James W. Hansen  
Joanne J. Hansen  
John Hansen  
Kristen C. Hansen  
Dave and Anne Harrell  
S. Brett Harris and Lynn Carson  
Harris  
Sally Hart Petersen  
Laura Lee Hayes and Robert C. Brill  
John R. and Martha K. Hicks  
Barbara Higman  
Dria S. Howlett  
Dohn and Sally Hoyle  
Ann D. Hungerman  
Ann and Tom Hunt  
Edith Hurst  
Owen C. and Jane R. Jansson  
Eric Johnson  
Larry R. Juchartz and Christy Rishoi  
Judy Judd  
Janet Kahan  
Deborah E. Kanter and Dan Freidus  
Rachel and Stephen Kaplan  
H. Peter and Carol A. Kappus  
Ray Kelley  
William and Mary Kinley  
Andrea Kline and Paul Evanoff  
Janet and David Knowlton  
Christopher Kochmanski

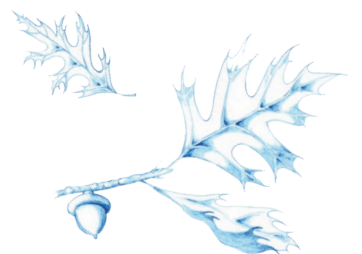
Carol Kuhnke  
Leonard and Gail La Butte  
Campbell and Frances Laird  
Alesia Lapinsky and Tony Collings  
Myra Larson  
Geoffrey Lewis  
Kathleen Longo  
Barry Lonik  
Bruce Loughry  
Marjory S. Luther  
David and Louise Lutton  
Patricia Lyndale  
James McBain  
Patricia Ann Mahony  
Maureen Martin and Mike Penskar  
Elizabeth Maynard  
Kevin McCann  
Lineve McKie  
Harvey Michaels and Gloria Helfand  
Daniel W. Minock  
Roger Moon  
Dorothy and John Moreno  
Thomas Morse  
Stephen and Sarah Hess Musko  
Jan and Haskell Newman  
Scott Niles  
Margaret and Robert Northrup  
Richard Norton and Patricia Koman  
NSF International  
Arthur Nusbaum  
Diane O'Connell and James R. Miller  
Elsie L. Orb  
Margarete Orlik-Walsh and Martin  
Walsh  
Ronald and Mary Jo Paler  
Joel Panozzo and Andy Sell  
Jessica Pantano  
D. Passow and E. Stoner  
April Pickrel  
Henry and Lana Pollack  
Ruth and Charles Pratt  
Judith A. and Michael F. Preville  
Dennis and Deborah Prunkard  
Virgil M. and Carolyn Ramey  
James and Ligia Reynolds  
Ruth M. and Thomas Reynolds  
Cedric and Mori Richner  
Raymond Rion  
Helena Robinovitz  
Donald V. and Karla E. Rottiers  
John and Mary Rowntree  
Esther Rubin  
Roberta Rubin  
Gail Rucker  
Christine Rueff  
David Saffer  
Anne and Chris Savage  
Tim and Nan Schafer  
Peter and Mindi Schappach

Charles Scheltema  
Susan Schooner  
Peter and Annette Schork  
Jeanie H. and Robert A. Schultz  
Richard A. Scott  
Martha Darling and Gil Omenn  
Virginia Seitz  
Erik H. and Carol M. Serr  
Harry and Mary Beth Sheehan  
Bonita and Jack Singal  
Jennifer Slajus  
Margaret M. Smith  
Donna and Stuart Snyder  
Erin Spanier  
Ken and Toni Spears  
Linda Sprankle  
Ann and David Staiger  
David Stead  
Susan Stevens  
Baird Straughan  
Claire Sylvain  
Thomas F. and Nancy E. Taylor  
Margaret W. Teall  
Jim and Mary Lynn Thomson  
Hilene Topper-Bricker  
TOYOTA  
Carrie Turner and Erin Trame  
Hermann and David Ufer  
Phyllis A. Valentine  
Suzanne Van Appledorn  
Joan K. Vangel  
Dietmar Wagner  
Washtenaw County Convention &  
Visitors Bureau  
Kathie K. Weinmann and Jim Schulz  
Hermann F. Weiss  
Robert F. and Marina V. N. Whitman  
David J. Wible  
Nancy P. Williams  
Beth and Tony Winkler  
Paul and Kathryn Winston  
Charlotte A. Wolfe  
Deborah L. and Klaus Wolter  
Roger Wykes  
Melissa and Donald Zaksek  
Diane Zatkovich  
Jason and Margaret Zawacki

### *You are important to us!*

*If your name is misspelled, incorrectly listed, or omitted, please accept our sincere apologies and bring the error to our attention so that we may correct our records.*

Contact Margaret Smith at [msmith@hrwc.org](mailto:msmith@hrwc.org) or (734) 769-5123 x 605.







*HRWC would like to extend our gratitude to everyone who helped protect the Huron River by giving of their time and talent. HRWC volunteers are making a difference every day!*

## Thank you to our generous volunteers • May, June, and July, 2016

Sandra Aquino  
Paul Arnold  
Jesus Bautista  
Joyce Beach  
Kevin Bell  
Liz Berghoff  
Luther Blackburn  
Rebecca Brewster  
Max Bromley  
David Brooks  
Elaine Bryan  
Lee Burton  
Pablo Cabera  
Edward Cable  
Danielle Calder  
Becca Campbell  
Audrey Carlstrom  
Jennifer Carman  
Patricia Charget  
Yihui Chen  
Rita Clinthorne  
Joe Colasanti  
Shannon Culver  
Jody DeMeyere  
Madeline Drake  
Carolyn Dulai  
Leah Dumouchel  
Lauren Eaton  
Janis Eckstein  
Ronald Fadoir  
Robert Finn  
Jackie Fleischer  
Danielle Foreman  
Dan Freidus  
Jacquelyn Ganfield  
John Gannon  
Wally Gauthier  
Robert Goodspeed  
Graham Grubb

George Guo  
Isabella Guo  
Kristine Hahn  
John Hansen  
Kathleen Heilman  
Samuel Heilman  
Joan Hellmann  
Magdalena Herkhof  
Kenneth Hovey  
Patricia Hueter  
Chris Jett  
Bruce Johnson  
Janet Kahan  
Davis Kasper  
Rachael Kasper  
Leslie Kellman  
Robyn Kimmey  
Jaclyn Klein  
Andrea Kline  
Christine Knight  
Matt Korody  
David Kraepel  
Karen Kraepel  
Allison Krueger  
Kori Lane  
William "Bill" Lee  
Graham Lewis  
Nat Lichten  
Mary Lofy  
Barry Lonik  
Max Lubell  
Sally Lusk  
Peter Margules  
Allie Marie  
Alisa Maul  
Amanda Mayer  
Ed McCarter  
Ann McHugh  
Kayla McRobb

Lindsey Messing  
Seth Meyers  
Chelsea Miller  
Ramin Moinipannah  
Shifrah Nenner  
Deb Nikolas  
Kyle Nowels  
Elsie Orb  
Megan Pawloski  
Kathleen Peabody  
Christina Pechette  
Russell Perigo  
Alexandria Peters  
Kaylan Petrie  
Eric Phelps  
Elizabeth Pollock  
Niklas Povilunas  
James Powers  
Dennis Prunkard  
Wendy Raymond  
Cedric Richner  
Elizabeth Riggs  
Pat Rodgers  
Grace Rodriguez  
Jacob Sable  
Nayeli Sanchez  
Carl Scarbro  
Larry Scheer  
Samantha Schiavi  
John Seeley  
Ron Sell  
KC Semrau

Simone Shemshedini  
Steven Smitka  
Haris Sohail  
Kenneth Spears  
Daniel Spiegel  
Suzanne Spellicy  
Peyton Spellicy  
Cara Spindler  
Lawrence Stackpoole  
Shannon Steel  
Andrew Stephens  
Kay Stremmer  
Clinton Sweet  
Anne Tavalire  
Travis Thomas  
Susan Thompson  
Patrick Traffas  
Michael Troup  
Anita Twardesky  
John Tyler  
Otho Ulrich  
Nikki Van Bloem  
Grace van Velden  
Katy Wallander  
Kathie Weinmann  
Amy Wells  
Christopher Welter  
Peg White  
Nani Wolf  
Cindy Yao  
Trevor Zalewski



## Huron River Watershed Council Board of Directors

### Executive Committee

Mary Bajcz  
Chris Benedict (Vice Chair)  
Janis Bobrin  
Paul Cousins  
Matthew LaFleur (Treasurer)  
Michelle LaRose  
Dick Norton (Chair)  
Diane O'Connell  
Evan Pratt

### Board of Directors

Norm Andresen  
Scott Barb  
Sue Bejin  
Eunice Burns  
Marlene Chockley  
Cheryl Darnton  
Bob Demyanovich  
Larry Dishaw  
Steve Francoeur (Alternate)  
Gene Farber  
Fred Hanert  
Mark Irish

Gerry Kangas  
Barry Lonik  
Sally Lusk  
Molly Maciejewski  
Cheryl Mackrell  
Scott Munzel  
Peter Schappach  
Barry White  
Dave Wilson  
Curt Wolf  
Lisa Wozniak  
Steven Wright  
Melissa Zaksek (Alternate)



*Protecting the river since 1965*

1100 North Main Street  
Ann Arbor, MI 48104

Non-Profit Org.  
US Postage  
**PAID**  
Ann Arbor, MI  
Permit #435

*The Huron River Watershed Council receives contributions via payroll deduction through Earth Share of Michigan.*



Printed on 30% minimum post-consumer  
recycled content paper.



## A Coal Tar Free Huron

HRWC advocates for policy changes and educates residents to protect the watershed from toxic coal tar. Learn more about coal tar threats and safer alternatives at [hrwc.org/coaltar](http://hrwc.org/coaltar)

**Donate on line at [www.hrwc.org](http://www.hrwc.org)**



***Yes, I want to help HRWC keep toxic pavement sealers out of our river and homes.***

☐ \$50      ☐ \$250      ☐ Other \$ \_\_\_\_\_  
☐ \$100      ☐ \$500

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Email \_\_\_\_\_

**Send your check to HRWC, 1100 N Main St,  
Ann Arbor, MI 48104**