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SPRING 2014

Trail Towns of the Huron

Part 2 in a series: the City Of Flat Rock

A river renaissance is taking place in the cities and towns along the Huron River. Through RiverUp! (riveruphuron.org), river corridor revitalization is underway, with the goal of making the Huron River the new "Main Street" where residents and tourists recreate, live, gather, commute, and do business. HRWC is leading public and private partners in river communities to incorporate river-based recreation and economies in their visions and plans, downtown development authorities, municipal budgets, and otherwise to maximize the river for community development while balancing its ecological and aesthetic values.

Trail Towns

The Huron River Water Trail (huronriverwatertrail.org) is a 104-mile inland paddling trail connecting people to the river's natural environment, its history, and the communities it touches. The City of Flat Rock is one of five Trail Towns where trail users can venture off the trail to enjoy the scenery, services, heritage, and character of the community. The Village of Milford, the Village of Dexter (profiled in the Huron River Report, Winter 2013), the City of Ann Arbor, and the City of Ypsilanti complete the list of Trail Towns.

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All ages participated in the first walk across the new section of trail in Flat Rock this past fall.

Bird Migration • Finding feathered friends in the watershed

One of the many harbingers of spring to the Huron River watershed is bird migration. Spring is an excellent time for bird watching, especially early spring, since the leaves are not yet on the trees and the birds are calling. Some of the earliest migrants to southeast Michigan are waterfowl, including ducks, geese, and swans. Next to pass through are birds of prey, many native sparrows, and shorebirds. Songbirds follow soon after and are, for many, the final confirmation that spring has arrived.

Bird Identification

Identifying the hundreds of species of birds found in the watershed can be difficult for a novice bird watcher (aka a "birder") but, with a few key pointers, identifying birds can be easy.

 First, evaluate the size and shape of the bird. It is also helpful to learn the shape of the bird in flight and any distinctive flight behaviors – such as the "swooping" flight pattern of a goldfinch.

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INSIDE: UPCOMING EVENTS AND WORKSHOPS Climate Change in the Watershed Creek Walking | How Green Infrastructure Works on Many Levels to Keep Our Water Clean HRWC status

his spring brings a variety of activities and updates concerning the Huron River watershed.

Michigan's Wetland Permitting Program

Thank you for your interest and activism on the State of Michigan's new wetland law that I wrote about in the previous Huron River Report. Many of you notified me that you submitted comments and/or wanted stronger protections. HRWC has submitted comments to the EPA requesting that it require the Michigan Department of Environmental Quality (DEQ) to close the many loopholes in the new law, that it require the state to make the new law consistent with the Clean Water Act, or that the EPA take jurisdiction of wetland protection regulations back from the state. Now we await the EPA's decision.

Dioxane

In local news, the DEQ stated that this year they will make clean-up standards stricter for dioxane pollution. Dioxane is the chemical that the Pall-Gelman company released into the groundwater on the west side of Ann Arbor in the 1980s. The plume is spreading and may eventually reach the Huron River. New EPA studies show that we need a tighter clean-up standard, and HRVVC is very supportive of a stricter limit and also wants to see more aggressive clean-up activities, since current efforts have not successfully halted movement of the plume.

Fracking

In October, the State of Michigan proposed new rules to regulate hydraulic fracturing (fracking). In order to respond to new fracking technologies for oil and gas, the state decided to update the rules regulating the industry. The newer deep-well fracking requires considerably more water and harsher chemicals than previous methods. The new rules will require drilling companies to use the state's Water Withdrawal Assessment Tool to evaluate adverse impacts to nearby lakes and streams, conduct water quality testing of nearby wells, provide at least 48 hours advance notice before drilling operations begin, and disclose the list of chemicals used in the fracking process.

I am happy to see the state respond to the growing concerns about fracking and its impact on Michigan's water resources. This is a good first step. I would also like to see increased communication between oil and gas developers and local governments, increased transparency about chemicals used and water withdrawals, and an earlier public disclosure date for the chemicals used.

State of the Huron Conference

We will be hosting the State of the Huron Conference on Thursday, April 24th at Washtenaw Community College. The conference is an opportunity for the community to come together to learn, share stories and research about the river, and to find inspiration.

Laura's Stream of Consciousness

The daylong event will feature keynote speakers



Laura Rubin, Executive Director

Amy and Dave Freeman, adventure educators, a morning presentation with John Austin on the Blue Economy, and breakout sessions throughout the day.

Amy and Dave Freeman are adventurers and educators who completed a three-year, 11,647-mile journey across North America by kayak, canoe, dogsled and foot, connecting with students and teachers along the way. Amy and Dave are nominees for the National Geographic Society's Adventurers of the Year 2014, and the only kayakers nominated. Their presentation will be a travelogue of their 3-year North American Odyssey, with messages interwoven about the importance of open/natural spaces close to home and the values they bring to communities, love of paddling and rivers, and water trails. Dave spent part of his childhood in Ann Arbor and his earliest memories of paddling are on the Huron River. I hope to see you there.

Enjoy the spring and getting outdoors! — Laura Rubin





When It Rains, It Pours · Rainfall in a changing climate

Patterns in rainfall define the natural world. Over hundreds of thousands of years, those patterns have shaped the environment from what trees make up a forest to how much water a river can hold. In recent history, rain has played a role in determining the built environment too – from what crops can grow where to what infrastructure is necessary in cities to keep water out of homes and off roads.

Within the historical weather record we have had typical years and anomalous years. We have had ordinary storms and extraordinary storms. But even the extremes fell within an envelope of normal. Due to global climate change, we are currently pushing that envelope.

What does that look like in the Huron River watershed? We can look at precipitation changes in two ways. We can look at what climate models predict for the future, and we can look at the historical records to track changes already occurring. This article focuses on trends in rainfall seen in the historical record¹.

More Rain

Total annual precipitation has increased in Ann Arbor and southeastern Michigan. Comparing the 1951-1980 period to the 1981-2010 period, annual precipitation increased by 11% in southeastern Michigan. Ann Arbor saw a more dramatic increase of 25% over the same time period. These increases have been more significant in autumn and winter. Spring has shown slight increases in rainfall. Summer, on the other hand, is becoming more vulnerable to drought. The rains are also tending to cluster. A series of small rainfall events in a short period of time can lead to saturated soils and increased runoff.

Stronger Storms

Historical records also show that the frequency and intensity of extreme storm events have been increasing in this region. The intensity of the strongest storms (the heaviest 1%) has increased by 31% in the Midwest from 1958 to 2007. In fact, this trend has prompted NOAA to revise the very definition of the heaviest storms for this region. Storm definitions assign a probability for a given amount of rain falling (inches) over a certain period of time (hours).

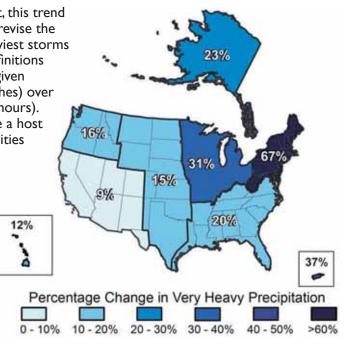
These definitions guide a host of decisions that communities must make to manage stormwater and polluted runoff, including the sizing of stormwater and sewer pipes, the drawing of flood boundaries, and the design of water treatment plants. Prior to the revision, Southeast Michigan had a 1% chance (in a given year) that 4.4 inches of rain would fall within a 24-hour period of time, a result computed by data through the

1970s. By incorporating the most recent 30 years of precipitation data, the annual 1% chance storm is now 5.1 inches; a 17.2% increase. Are local communities prepared for these larger storms?

Managing for More Water

To give a sense of what this could mean for the communities of the Huron, the City of Ann Arbor is developing a model to determine how a storm of this magnitude would impact its neighborhoods by looking at the potential "peak flow" of tributaries within the city. Peak flow is the highest point a waterway will reach during a flood. The model based on the new 5.1" storm figure showed that peak flow could increase by as much as 25%. This means many more streets and yards will see flooding than in the past. This has implications for flood insurance, emergency management and evacuation plans, and building permits and design specifications.

In light of these changes, many communities and planners are implementing strategies that build



The intensity of the heaviest 1% of precipitation events increased by 31% in the Midwest from 1958 to 2007. Global Climate Change Impacts in the United States, Thomas R. Karl, et al., (eds.).

resiliency to wet weather. As part of HRWC's Creating Climate Resilient Communities project (www.hrwc. org/climate-resilient-communities), watershed communities are adopting innovative approaches to stormwater management. Strategies are designed to tackle the issue from many angles. Green Infrastructure uses nature's capacity to absorb water where it falls instead of conveying it via pavement or pipe to local waterways. Asset management helps municipalities plan, prioritize and fund improvements to stormwater infrastructure. A network of dam operators can support coordinated emergency response to protect people and structures from severe flooding. While it is impossible to know exactly when and how wet weather will hit. communities can be prepared for what may come.

— Rebecca Esselman

¹Analysis of historical weather data for the watershed was conducted by Great Lakes Integrated Sciences and Assessments (www.glisa.umich.edu).

Trail Towns: Flat Rock continued from cover

At River Mile 9

The Huron River is the muse for the City of Flat Rock. The flowing waters at the city's front door have defined the community's shape, history, and name. Its location next to an outcropping of limestone on the south side of the river has long attracted people since the Wyandot first settled here hundreds of years ago. Today, this spot on the river, just a few miles up from Lake Erie, is home to the most downriver of the Trail Towns, Flat Rock.

This Trail Town is situated at a fortuitous junction of land and water trails - the Downriver Linked Greenways and the Huron River Water Trail. A trail connector at Flat Rock links the Flat Rock-to-Gibraltar multi-use trail for biking and pedestrians to the Huron River system, creating an uninterrupted paved path of over 30 miles, including the greenways within Lower Huron, Oakwoods, Willow, and Lake Erie Metroparks. On the water side, a nine-mile paddle down the Huron River Water Trail connects to the Detroit River Water Trail, open water paddling on Lake Erie, and the Detroit River International Wildlife Refuge. The unique natural landscape of this part of the Water Trail and the rich cultural history, including the War of 1812 corduroy road – a River Raisin

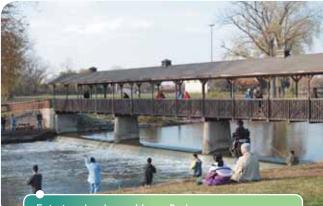
Battlefield National Park site add to the attraction. No wonder that Flat Rock is considered an outdoor recreation hub.

Flat Rock has implemented many Trail Town features for the benefit of residents, tourists, and local businesses:

- Huroc Park provides a gateway into the downtown business district and the Water Trail:
- Interpretive signage in public spaces about the history of Flat Rock and the river's importance to commerce and industry creates a sense of place;
- Riverside amenities such as picnic tables, bathrooms, drinking fountains, and information kiosks provide a welcoming atmosphere for users of the Greenways and the Water Trail;
- The right mix of services for trail users - such as non-motorized boat launches, public green spaces, fishing docks, restaurants, shopping, groceries, and banks - provide ease of use: and
- Trail-oriented events offer recreational opportunities – such as HRWC's guided paddle trips; Paddle and Pedal on

June 7, 2014 with Friends of Oakwood Metropark and HRWC: an outdoor endurance event in late July; and Riverfest - the major late summer event for the Downriver region.

Fall on the Huron at Flat Rock.



Enjoying the day at Huroc Park. photo: J. M. Layn

Programming for the Water Trail is expanding in Flat Rock this year with local outfitter Riverside Kayak Connection growing its presence through kayak rentals, instruction, and guided trips. They may add a location downtown, as well, in the not-too-distant future.

Opportunities for Flat Rock to build its reputation as an outdoor recreation hub and Trail Town include adding lodging and camping near the river, installing lockers for paddlers needing a place to store their boats and belongings while they visit downtown or the greenways, and improving the portage of the Flat Rock Dam by eliminating the fenced gate at Flat Rock Metals.

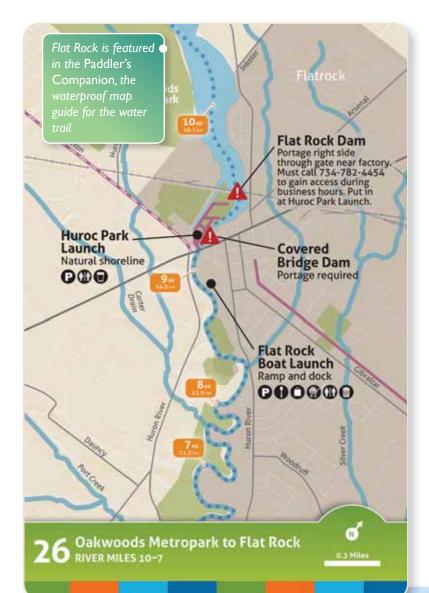
Flat Rock's Sense of Place

Promoting leisure takes vision, effort, and leadership. Anita Twardesky, Flat Rock resident, Downtown Development Authority (DDA) member, and now Trail Towns Coordinator for RiverUp!, traces the city's path to this selfidentity:

In the past 10 years, Flat Rock has been a leader in greenways development. The city recognized the potential impact of water trails and the need to incorporate them into its big picture. Both humble dollars and more significant longterm investment by Flat Rock are moving these efforts forward.



Trail Towns: Flat Rock continued from previous page



He shares, "We are proud that the Huron River is at the center of Flat Rock being the recreational hub of the downriver region." The Mayor notes Flat Rock's considerable investment in the river "from renowned fishing to the recently completed final link in the Downriver Linked Greenway, to coming improvements in the dam portage to support kayaking and canoeing. This investment," continues Dropiewski, "both increases recreational options for our residents and is a key component of our economic development strategy."

Recently, Flat Rock pursued designation through the Main Street Program as a means to actively plan the revitalization of the downtown corridor. The Program has recognized the city as a member, jump-starting a committee with representatives from the historical society, DDA, business owners, Michigan Sea Grant, and the Mayor of Flat Rock. The committee is tasked with implementing the fourpoint approach of the Main Street program. Asset mapping and completing a building and recreation inventory are the next steps. The committee is interested in calculating the dollar value of the river to local businesses and then marketing that value to increase local investment.

The Huron River plays an important part of the past, present, and future of the City of Flat Rock. Through RiverUp!, HRWC is committed to helping the city promote and revitalize one of its greatest and most unique assets.

Go to HRWT trip planner to plan a water trail visit to Flat Rock: www.huronriverwatertrail.org.

— Elizabeth Riggs

Twardesky cites leadership from Mayor Jonathan Dropiewski, DDA Chair loe Pagano, and several others as key to expanding Flat Rock's appeal beyond the Ford Mustang and the Flat Rock Assembly Plant. Mr. Pagano is a long-time champion of tying Flat Rock's future more closely with the river, and he advocated for small projects such as picnic tables in Huroc Park. The investments seem to be paying off as restaurants, coffee shops, the Do-It Center, gas stations, and other local stores report benefitting from the influx of visitors who recreate and spend money during their visits.

Mayor Dropiewski clearly sees the benefits to the community of leveraging its unique natural assets.



War of 1812 re-enactors join Congressman John Dingell (2nd from right) at the dedication of Hulls Trace, now listed on the National Register of Historic Places with the National Parks Service.

The water trail is increasingly popular with paddlers.

Bird Migration continued from cover

- Next, determine the habitat. Is the bird located in a forest, shrubland, grassland, river or swamp?
- A third identifier is color pattern. It is much easier to identify birds on a sunny day when colors are vibrant than on cloudy days when birds can blend into surroundings. In many species, such as the red-winged blackbird, male and female birds look very different. And depending on the time of year, color patterns will change.
- Look for field marks. These distinctive characteristics – such as bill shape, wing bars, stripes, or breast color – can help distinguish a bird from others that are similar.
- Finally, songs and calls are audio clues as to a bird's identity.

A field guide is an essential tool when bird watching, and popular options include the "Peterson Field Guide to Eastern Birds" and "The Sibley Guide to Birds". A good pair of binoculars is another worthwhile investment for any birder. Finally, novice birders will benefit from the company of more experienced birders; the box at right suggests ways to connect with local birding groups.

Where to Look for Birds

Excellent birding locations can be found throughout the watershed. The rare Henslow's Sparrow can be spotted at Indian Springs Metropark, along with Pileated Woodpeckers. Ospreys can be found nesting at Kensington Metro Park. Many songbirds such as Scarlet Tanagers, Indigo Buntings, and warblers can be seen at the University of Michigan's Nichols Arboretum. Lake Erie Metropark is one of the premier locations for viewing hawks and an occasional bald eagle, and Point Mouillee State Game Area, located near the mouth of the Huron River. is a prime spot for waterfowl and shorebirds. Trinkle Marsh. at Easton Farms Preserve in eastern Washtenaw County, is a prime spot for viewing shorebirds and waterfowl, including

American Bitterns and Green Herons.

There are world class birding sites a bit further afield, including Pointe Pelee National Park, located near Leamington, Ontario, about 40 miles from Detroit.Visitors come from across the country and even the world to this hotspot of bird activity, known as the best location in inland North America to observe the northward migration of songbirds. During the height of migration, over 100 different species can be identified in a single day, including over 30 different warblers such as the rare Hooded Warbler. Point Pelee is a prime feeding stopover for birds after their return from the tropics and the long trek across Lake Erie. Haehnle Sanctuary in Jackson County is an excellent location for viewing hundreds and sometimes thousands of Sandhill Cranes and, in the last few years, a Whooping Crane has been sighted during migration.

Help Make Migration Easier

Destruction of habitat, including forest fragmentation, has had a negative impact on bird populations, with a drastic decline in migratory bird species. Beyond putting up a bird feeder, consider additional ways to help ease the stresses of migration. Native plants benefit the watershed by being drought resistant, not needing fertilizers or pesticides, and filtering stormwater, Native plants also benefit birds by providing habitat and a food source. Native species that are especially beneficial to birds include: conifers such as spruces, pines, and junipers; and wildflowers such as prairie dock, coreopsis, and wild columbine.

Climate change affects migratory patterns, including earlier migration. More species, such as robins and bluebirds, are overwintering in the north. Planting native species provides winter and early spring food sources. Sumac, winterberry, serviceberry and dogwood can allow these birds to survive.

Secure roosting sites and water sources are critical for migrating birds. Nesting and roosting habitat,

BIRDING RESOURCE

There are many active birding groups located throughout the watershed. Some of these groups lead walks, hikes and field trips during the spring, so take advantage and see what birds are in your neighborhood.

Washtenaw Audubon Society: www.washtenawaudubon.org

Oakland Audubon Society: www.oaklandaudubon.org

Michigan Audubon Society: www.michiganaudubon.org

If you find an injured bird, contact the following:

Bird Center of Washtenaw: www.birdcenterwashtenaw.org

Howell Conference and Nature Center: howellnaturecenter.org graphic: Scarlet Tanager by J. Wolf

such as a wren house or bluebird box, assists bird populations. A clean, open source of water for drinking and bathing is important to bird survival. Consider installing a bird bath or rain garden.

Birding is an exciting and rewarding hobby. Very little is required to get started, beyond an enthusiasm for learning. Keeping a journal, a "lifetime list" of birds sighted, a field sketch book, and a list of calls makes it even more fun to spot and enjoy birds. Remember to record the dates and locations of birds you have seen, and be sure to check back in a year to see if the same birds are migrating through again. If you are already an experienced birder, consider sharing your talents with a novice birder. Nothing beats the thrill of looking high in an oak tree to see a scarlet tanager soaking up the last rays of sunshine as evening approaches. Happy Birding!

— Jennifer Fike



Up a Creek · No Need for a Paddle!

Volunteers walk ten creeks in the summer of 2013

Brave volunteers participated in a new venture this past summer, our Adopta-Stream Creekwalking program. Teams of volunteers walked sections of streams and creeks, picked up trash, took pictures, made observations on the stream's physical conditions, and tested water temperature and conductivity. The groups returned to the same creek numerous times over the course of the summer but explored different places on the creek each time. These intrepid explorers got away from road intersections, where there are plenty of eyes on the creek, and walked in places that are typically not seen by people.

The twenty-eight creekwalkers explored parts of Arms, Fleming, Honey, Horseshoe, Malletts, Mill, Millers, Portage, Traver, and Woods creeks. One of the major accomplishments of these groups was locating areas of excessive bank erosion and places where the landowner mowed the lawn right to the streambank. One group noted a chicken coop immediately adjacent to a creek that was likely contributing *E.coli* to the waterway.

Another group took pictures and GPS coordinates of huge log jams



Mark Schaller tests the water conductivity on his walk up Woods Creek, photo: E. Spanier



Kyle Fetters examines a logjam, which is great for habitat, but bad for paddling and creekwalking! photo: N. Gainer

that could be dangerous to paddlers. Each of these observations provided important information for HRWC's communications with landowners and local governments.Volunteers also solved immediate problems by removing trash that had no business being near a stream, including full paint cans and an oil pan full of discarded oil.

The Creekwalking program started in 2012 as a way to increase the breadth of HRWC's knowledge on the features and problems of the Huron River's tributaries. Creekwalkers record data at a site-specific scale, which complements HRWC's broader-scale water monitoring programs. The macroinvertebrates collected in the River Roundup indicate the water quality of the entire upstream area, as does HRWC's water quality monitoring program. These watershed-scale measurements are extremely important in tracking overall water quality benchmarks.At the same time, site-specific data is useful for finding localized problems, like improperly discarded car oil, illicit septic, dishwater, or laundry machine connections to the stream, or eroding banks, which would go unnoticed without someone seeing the problem with their own eyes. Both site-scale and watershed-scale observations provide a good understanding of the overall health of the Huron River and establish an inventory of specific problems to fix.

Creekwalking is a great activity for a family or group of friends, and just like HRWC's other fieldwork opportunities, is a novel opportunity that most people will never experience. The Battersby family was one of the teams that joined the Creekwalking program this past summer. Graham Battersby described their experience:

"My wife, two teenage daughters, and I walked Honey Creek. We had a great time. It was an adventure, since we did not know what we were getting ourselves into. We had never walked a creek before. We had a lot of laughs as a family when we all became very wet, very muddy and developed an earthy odor! The loudest noise we heard on the walk was from my eldest daughter when a dead skunk floated down the creek and brushed up against her leg. Most of the creek that we walked was beautiful, and we now have a newfound respect for how lucky we are to live in Ann Arbor. We had all this fun and collected a lot of data for HRWC. It cannot get any better."



The Battersby family prepares for their walk up Honey Creek. photo: Battersby

HRWC will again train and send out teams of creekwalkers this summer. Contact Paul if you are interested in becoming a creekwalker at psteen@ hrwc.org. Options include forming a small group (<6 people) with family or friends, or joining as an individual and getting matched with a group. Let your creekwalking adventure begin!

- Paul Steen

Founded in 1965, the Huron River Watershed Council (HRWC) is southeast Michigan's oldest environmental organization dedicated to river protection. HRWC works to inspire attitudes, behaviors, and economies to protect, rehabilitate, and sustain the Huron River system.

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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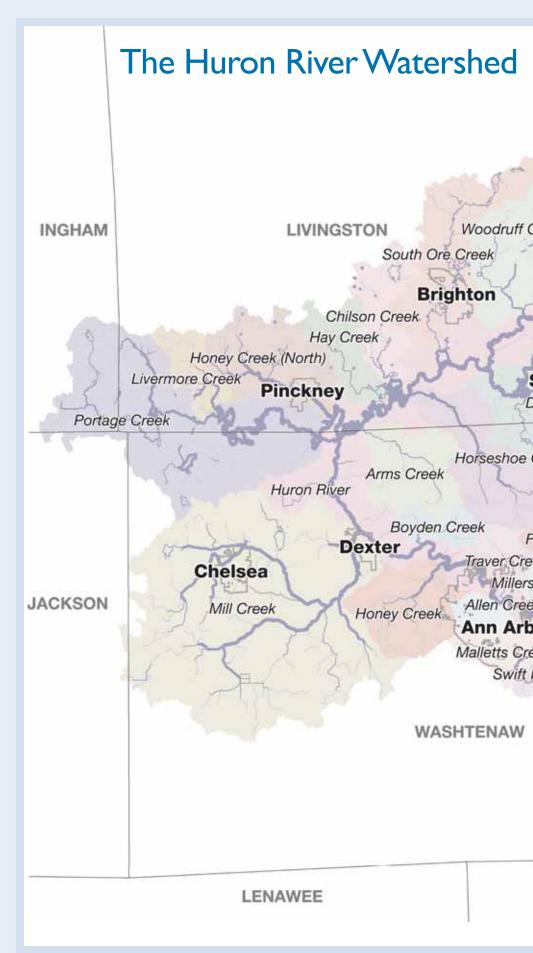


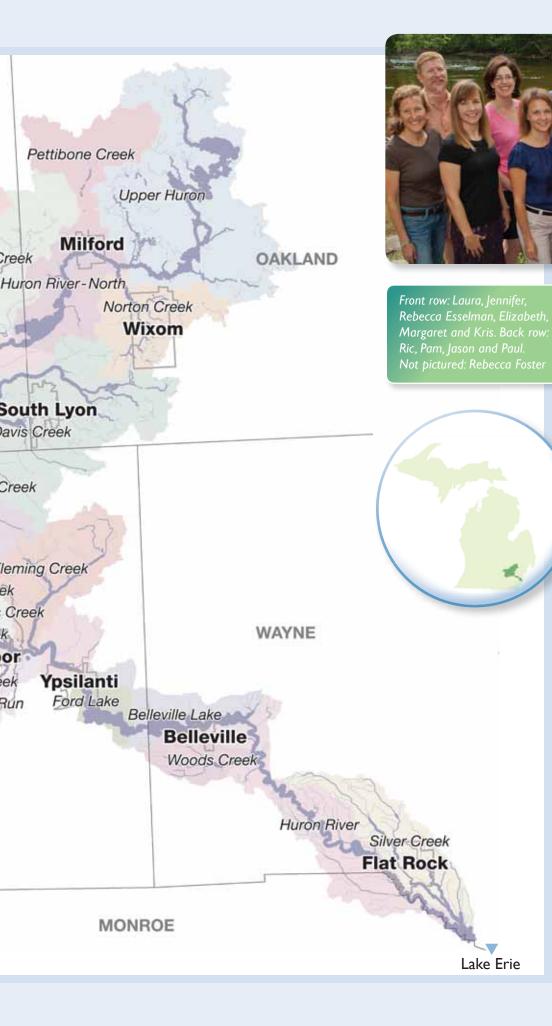
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HRWC Events and Workshops

MARCH • APRIL • MAY • 2014

Water Quality Monitoring and Training

Saturday, March 22 • 1:00 pm - Classroom Training Session • NEW Center

Help measure the quality of local rivers and streams this spring and summer! Collect water samples and learn to measure stream flow and sample runoff from rain storms. Sampling sites include one or more stream sites in Washtenaw or Wayne Counties. Sampling commitment is two or more hours per month, April through September, depending on availability and interest. There is a considerable need for volunteers willing to work in downriver streams and at sites west of Ann Arbor. Additional hands-on training will occur in the field during the first week of sampling.

More info: www.hrwc.org/water-quality-monitoring • Register at: www.hrwc.org/volunteer/water-sampling

State of the Huron Conference & Annual Meeting

Thursday, April 24 • Washtenaw Community College • More info: Irubin@hrwc.org • Register at: www.hrwc.org



River Roundup

Saturday, April 24, 9 am or 10:30 am, lasts about 5 hours •NEW Center and throughout the watershed

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

Register at: www.hrwc.org/volunteer/roundup.

Bug ID Day

Sunday, May 4, 9:00 am or 11:00 am, lasts 2 hours • NEW Center

Discover what kinds of bugs volunteers found at the recent Roundup. Separate them into look-alike groups, and then an expert will identify them with you. You record the data and compare the results to past years. Register at www.hrwc.org/volunteer/id-day

River Cleanup

Saturday, May 17, 10:00 am Cleanups will occur near Ypsilanti this spring. Some boats will be provided. Bringing your own equipment is also welcome! Please RSVP to Jason at jfrenzel@hrwc.org • More info: www.hrwc.org/our-work/programs/huron-river-clean-up



HRWC's fabulous recreation events will be back this summer. Keep an eye on your mailbox for a flyer about our fly fishing, paddling, and birding events.

And maybe a surprise or two!

Estate Planning is for Everyone

Fulfilling your charitable goal for the Huron River

Estate planning applies to all of us, and a smaller estate requires even more care to retain the maximum amounts for fulfilling your personal, financial, and philanthropic goals. Here are some reasons why you should establish an estate plan:

I. Take care of yourself: A health care proxy, power of attorney, and a living will as part of your estate planning will define how you wish to be cared for should you ever experience a period of incapacity.

2. Create financial security: Your will determines how you want your money distributed and to whom, regardless of the amount. Otherwise state laws will determine who receives your assets and at what amounts.

3. Naming guardians: If you have children or family members, it's important to make written arrangements for their care. A will is the only legally recognized way to name a person you would like to entrust with the care of your children or family members.

4. Naming beneficiaries: Your estate plan includes making a will as well as filling out beneficiary forms for assets like insurance policies and retirement accounts. As you decide how you would eventually like your assets to be distributed among loved ones and charitable organizations, please consider including the Huron River Watershed Council as a beneficiary of your estate.

The Huron River Watershed Council encourages you to consider various planned giving options that allow you to make a meaningful gift to support river conservation and restoration during or after your lifetime. In making these important decisions and by putting them in writing, you can relax with the peace of mind of having fulfilled both family and charitable goals.

We suggest you consider the four steps outlined above. The best course of action is to have your financial advisor and attorney review the specifics with you and help craft your estate plan. You may also request a confidential meeting with one of our planned giving experts by calling HRWC's Development Director, Margaret Smith at 734-769-5123 ext. 605.





\$20,000 and counting. That's how much we've raised with your donations! Books By Chance donates the proceeds from their

internet sales of old and unwanted books, CDs and DVDs to HRWC.We like the slightly esoteric , academic, scholarly and especially university presses. To put your "treasures" to work for HRWC bring your donation to the HRWC office, 9am-5pm weekdays. We will handle the rest.

QUESTIONS: Rebecca Foster (734) 769-5123 x 610 or rfoster@hrwc.org.



Green and Clean · Understanding "Green Infrastructure"

Huron River watershed residents enjoy taking in the watershed's beautiful green scenery, from views of forested hills and across marshes to enjoying native plantings along roads and in rain gardens, as well as wildflower plantings in our cities. All of these elements are part of our **green infrastructure** – natural areas and features that provide a host of ecological services, from filtering stormwater runoff to providing habitat for migratory birds.

The Conservation Fund, a national organization that promotes preservation of natural areas, first coined the term to mean an "interconnected network of green space and other environmental assets that conserves the functions of the natural ecosystem and provides associated benefits to people." The idea was to remind people that natural areas provide services to people just as human-made ("gray") infrastructure, like sewers, road, and electrical lines, does.

Building on the idea of valuing natural systems that treat polluted runoff, the EPA adopted the term to include "any practice that uses vegetation, soils, and natural processes to manage water and create healthier urban environments. At the scale of a city or county, green infrastructure refers to the patchwork of natural areas that provides habitat, flood protection, cleaner air, and cleaner water. At the scale of a neighborhood or site, green infrastructure refers to stormwater management systems that mimic nature by soaking up and storing water." This version of green infrastructure is actively managed by stormwater professionals to serve as part of a stormwater system, thereby reducing the need for expensive gray infrastructure or helping a community to adapt to changing climate patterns.

HRWC encourages green infrastructure across this spectrum, from landscape to site-scale and is working with municipalities to plan for Green Infrastructure across their

> jurisdictions that can then be implemented on a neighborhood or smaller scale.

The Big Picture HRWC's

Bioreserve Project has mapped and works to protect the watershed's remaining natural areas. The Bioreserve Map includes about 247,000 acres of forest, wetlands, and grasslands, including publicly owned state, county and metro parks as well as private lands – woodlots and wetlands farmers had not drained or plowed; vacant land not yet developed. **HRWC** works with conservancies. property owners, and government

preservation programs (like Washtenaw County's Natural Areas Preserve Program) to direct their limited funds towards purchasing or permanently protecting the most ecologically important natural lands

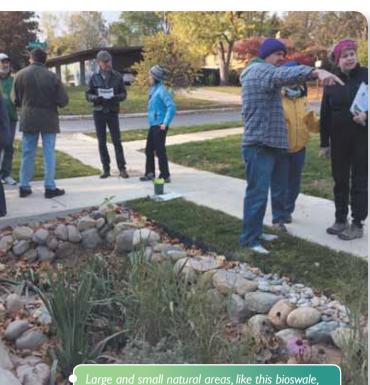
HRWC's Portage Creek Project, with funding from the Michigan Department of Environmental Quality (DEQ), is taking information from the Bioreserve Project a step further. Inspired by Oakland County's Green Infrastructure Program, HRWC is working with communities in that watershed to create Green Infrastructure Plans. Dexter, Unadilla, and Lyndon townships have created such documents, which provide a map of their natural areas woodlands, wetlands, grasslands, and waterways - and connections and pathways connecting them. At HRWC workshops, residents and township officials study maps of the township's natural areas, master plan designations, land use, and other natural assets, and add natural area hubs, links connecting them, and special natural features such has Heron rookeries or rare plant communities. HRWC uses the sketching to create the Green Infrastructure map and plan.

The townships will incorporate the plan into their land use plans and policies, directing future development in a way that is in concert with their natural infrastructure.

Green Infrastructure for Stormwater

Thanks to funding from the DEQ, HRWC has worked with municipalities in Washtenaw County to better understand how to use and plan for Green Infrastructure to capture and treat stormwater. HRWC conducted interviews and workshops to gather information about how local communities were using Green Infrastructure. The project has produced the products below to help municipalities utilize Green Infrastructure practices to reduce stormwater costs and improve the quality and volume of stormwater

continued on next page



Large and small natural areas, like this bioswale, can provide the green to do the work to keep our creeks running cool and clean.

Green and Clean continued from previous page

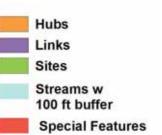
discharge to our natural water resources:

- "Barriers to Green Infrastructure" report – details key barriers that are limiting the use of Green Infrastructure and ways to overcome them;
- Green Infrastructure Project Inventory – a map of projects by type across the county;
- Green Infrastructure Opportunities Map – assesses available geographic information to highlight the most effective locations to use Green Infrastructure for stormwater treatment;
- Comparative Project Designs

 illustrates the use of conventional and Green Infrastructure designs for a road project along with projected costs and benefits; and
- Web Resources organized by topics such as economics and funding, and operations and maintenance.

All these products and resources are at www.hrwc.org/greeninfrastructure. HRWC will also be presenting at the DEQ's Green





Lyndon Township's GI map, which shows large, intact natural areas, smaller natural sites, and links connecting them. credit: HRWC

Infrastructure Conference on May 8 and 9 (www.michigan.gov/deq. Search "green infrastructure"). Join us!

HRWC also participated in the Southeast Michigan Council of Government's (SEMCOG) green infrastructure planning process, which brought together information and programs for its entire 7-county area, including HRWC's communities. The resulting plan will help coordinate green infrastructure efforts throughout the region.

Together, these GI efforts will ensure the watershed retains its natural areas, as well as staying resilient to land use activities and changes.

— Kris Olsson and Ric Lawson

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