



Huron River Report

The Newsletter of the Huron River Watershed Council

Winter 2004

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Streamside Hunters

Fishing spiders stalk, skate, and dive for prey

Perhaps you've noticed one lying in wait along the bank of your local creek, on rocks or vegetation, or maybe you've been lucky enough to watch one dancing across the water's surface. But most likely you've never really noticed them at all.

Fishing spiders are found throughout the Huron River watershed. At least three species, all of the genus *Dolomedes*, have been collected here. Members of this genus can be found throughout the continental United States and southern Canada. Fishing spiders can be large (females have a leg span of up to 3 inches), and therefore a bit intimidating, but they are harmless. These brown and gray, well-camouflaged spiders are similar in appearance to the more familiar wolf spiders, but can be distin-

guished by the arrangement of their eyes. Fishing spiders have eight eyes arranged in two rows of four each, while wolf spiders' eight eyes are arranged in three rows, with the two in the middle row being much larger. Fishing spiders also frequent aquatic and riparian habitats, while wolf spiders are more typically found in uplands.

Fishing spiders, like wolf spiders, are effective daytime predators that do not spin webs to catch prey. They rely on camouflage and excellent eyesight, waiting patiently for prey to pass their way and swiftly springing upon unsuspecting victims. However, fishing spiders do not limit themselves to land-based prey. As their name implies, these spiders also hunt



The six-spotted fishing spider, Dolomedes triton, sits in wait for aquatic prey.

—photo: Giff Beaton

aquatic prey, including mayflies, caddisflies, and stoneflies hatching at the surface, as well as tadpoles and even small fish.

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Water, Water... Everywhere?

New proposed water withdrawal rules stir controversy

In a state literally defined by the Great Lakes, Michigan's ambivalence when it comes to the delicate issue of water withdrawals from the Great Lakes Basin is understandable. Water is Michigan's most prominent and plentiful natural resource. So plentiful, in fact, that some are skeptical of legislation that places strict limits on private use of the resource, particularly in an already shaky economy. However, without effective controls, ever-increasing demand from our thirsty neighbors, both near and far, could have far-reaching environmental and economic consequences for the Great Lakes Basin.

Many citizens and government officials in Michigan and throughout the Great Lakes Basin have for decades vigorously opposed

efforts to divert water from the region's vast supplies, which hold 95% of the U.S. freshwater supply and 20% of the world's available freshwater. Despite these concerns, Michigan has no programs in place to manage or regulate water withdrawals. However, Great Lakes leaders from the United States and Canada recently joined together to publicly introduce a blueprint for how to approve, rather than ban, water withdrawals and exports from the basin.



Eight states and two Canadian provinces share the Great Lakes Basin.

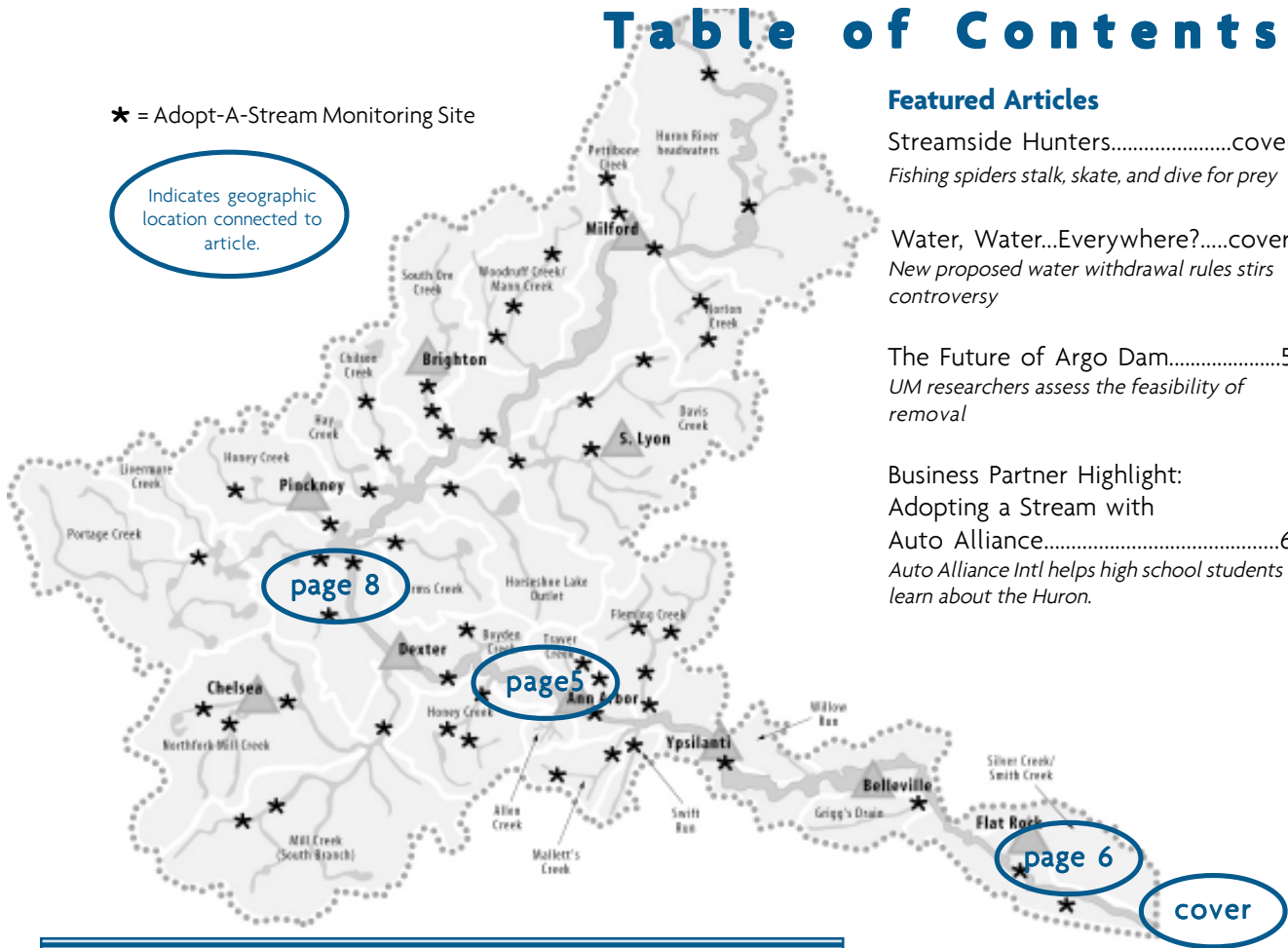
—illustration: U.S. Army Corps of Engineers

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★ = Adopt-A-Stream Monitoring Site

Indicates geographic location connected to article.



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2005 EVENTS

Saturday, Jan. 22, 11:30-2:30 or 1-4 PM
(Register by Jan. 12!)
Stonefly Search
NEW Center & nearby streams
Call Adopt at (734) 769-5971

Saturday, Apr. 2, Noon
Leadership Training
NEW Center & nearby stream
Call Adopt at (734) 769-5971

Saturday, Apr. 16, 9-3:30 or 10:30-5 PM
River RoundUp
Entire Watershed
Call Adopt at (734) 769-5971

Sunday, May 1, Noon-3 or 2-5 PM
ID Day
NEW Center
Call Adopt at (734) 769-5971
More events and updates on the web at: www.hrwc.org

The NEW Center is located at
1100 N. Main Street in Ann Arbor.
Call (734) 769-5123 or visit the HRWC website for directions.

Save the Date: The 2nd Annual State of the Huron Conference

Friday, May 6, all day
Washtenaw Community College

This event is a great opportunity to learn about the overall health of the watershed, highlight and celebrate successful efforts to protect and restore the Huron, and provide an opportunity to share ideas and strategize for the river’s future health. Please join us!

Streamside Hunters

continued from cover

WALKING ON WATER

Fishing spiders are capable of skating across the water using surface tension, much like the common water strider, an insect. The tip of each of the fishing spider's eight legs forms a depression in the water surface.

The spider skates along by rowing within these tiny dimples. This ability to walk on water provides access to a supply of aquatic prey that is inaccessible to other spider species.

When startled, a fishing spider may quickly gallop or hop across the water surface to escape. The water surface actually is broken in the course of this slapping movement, but it happens so quickly that the spider does not sink.

AMPHIBIOUS ARACHNIDS

As if stalking on land and skating on water weren't enough, fishing spiders also will chase prey underwater by diving in or crawling down the stalk of a cattail or other aquatic plant. Fleeing below the water surface also is an effective means of

escape from terrestrial enemies. These spiders can remain underwater for up to 45 minutes by breathing air trapped in the tiny hairs on their abdomens.

NURSERY-WEB SPIDERS

Fishing spiders belong to a group called the nursery-web spiders. Although they do not spin webs for catching prey, the female uses silk to construct an egg sac for her fertilized eggs.

She carries this sac in her jaws until the eggs are ready to hatch. She then places the egg sac in a nursery web shelter she has constructed from silk and vegetation, where she guards the eggs and her newly-hatched young until they are ready to move out on their own about a week later.

Be sure to look for these amphibious arachnids during your first trip to your local



The dark fishing spider, Dolomedes tenebrosus, is the largest fishing spider found in the watershed.

—photo: Peter J. DeVries

stream or lake this spring. Peek around dock and bridge supports that reach the water, as well as on the trunks of trees and stems of aquatic plants. You may also find them lying in wait on rocks and wood along the shoreline. If you're patient enough, you may observe them skating across the water surface, or diving right into the water in pursuit of prey.

- Jo Latimore

Water, Water... Everywhere?

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The new proposal, known formally as the Great Lakes Charter Draft Annex 2001 Implementing Agreements, is a bid by the region's leaders to balance the need to use water as a tool to compete effectively in the global economy with the desire to preserve the lakes, rivers, and aquifers that make the Great Lakes an inviting place to live and work in the first place.

The Annex, the result of more than three years of negotiation among stakeholders from the basin's eight states and two Canadian provinces, aims to establish a common standard for judging new water withdrawals. The hope is that the Annex will allow enough flexibility to permit local water projects that grow the economy but, at the same time, remain powerful enough to stop ill-advised attempts to divert water from the basin to other parts of an increasingly thirsty planet.

The Annex would make approval of plans to divert water out of the basin extremely difficult, but not impossible. Such a

strategy is viewed as a step backward by those who maintain that a strict policy of "no diversion of Great Lakes water" is necessary to protect the resource.

MUCH CONTROVERSY, LITTLE ACTION

The controversy over whether the Annex would adequately protect the basin from withdrawals is the latest development in Michigan's ongoing debate over protecting Great Lakes water quantity.

The original Great Lakes Charter was signed in 1985 by the basin's eight states and two provinces as a strategy to improve water resource management. But 19 years later Michigan has yet to live up to that document's basic terms. Efforts in recent years to enact protective measures at the state level have been watered down or stalled in the legislature and have yielded little action. Reacting to rising public criticism over the state's inaction on the issue in an election year, Republican lawmakers in the state House introduced an



This billboard was put up in Grand Rapids in 2001 by state Senator Ken Sikkema (R-Grandville) and his nonprofit group "Citizens for Michigan's Future," to raise public awareness of the issue of Great Lakes water diversions.

—photo: Mark Heckman

amendment to the state Constitution in September, 2003 that aims to prohibit all diversions of Great Lakes water from the basin.

However, many legal and water resource experts contend that a simple ban would not withstand legal challenges. While current federal law empowers individual Great Lakes leaders to simply veto plans to remove bulk loads of water from the region's bountiful lakes, rivers, and aquifers, there has long been an unproven concern

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Water, Water... Everywhere?

continued from previous page

that such decisions could be viewed as arbitrary and might be overturned under legal challenges based on recent international trade policy. So U.S. law — backed by a wave of committee recommendations, special reports, and popular opinion — also directs Great Lakes leaders to develop consistent, legally defensible standards that guide decisions about water use and withdrawals. Great Lakes governments would use the standards to determine if individual withdrawal projects — whether leaving the water in the basin or removing it outside of its natural boundaries — are a safe and effective use of fresh water.

If passed, the Annex would amend the original Great Lakes Charter to provide those standards. The Annex is loaded with highly complicated details and it marks a sharp departure from the current “no withdrawal from the basin” policy. The Annex essentially outlines the conditions under which major withdrawals would be permitted. Broadly, it would require that the largest water withdrawal projects implement modern conservation measures, avoid significant harm to the environment, and instead actually improve the Great Lakes.

WHAT DOES IT REALLY MEAN?

The Annex makes the Great Lakes diversion issue — often characterized by images of plumbers piping water from Michigan to thirsty cows and cowboys in dirt-dry Texas — just one component of a much larger and contentious story about regional water use management. Shortages due to local overuse are already occurring within the basin. Annex standards would also address intra-basin diversions of water within the Great Lakes region.

Some basin states, including Wisconsin, Illinois, and New York, have considerable territory and numerous cities outside the Great Lakes watershed. As a result, Great Lakes water is already being shipped wholesale within the “Great Lakes” states, but beyond the watershed itself. For example, two communities outside the Great Lakes watershed— Pleasant Prairie, Wisconsin and Akron, Ohio — already have permission to take water from the Great Lakes. Other communities are actively

developing similar plans to supplement their strained or polluted local supplies.

TOO STRICT FOR BUSINESS, TOO EASY FOR ENVIRONMENTALISTS

Experts on all sides of the debate raise serious questions about the potential implications for the regional economy and environment. Some officials believe that the Annex can succeed in allowing Michigan and other basin states and provinces to harness the region’s abundant water resource without harming it, and without allowing other states, nations, or commercial entities to remove it from the basin.

Michigan state Senator Patty Birkholz (R) of Saugatuck observes that different people read the newly released Annex in different ways. “The public sees this [Annex] exercise as much about a way to say ‘no’ to diversions as any number of jurisdictions see this as a way to get to ‘yes,’” the senator said at a September 14, 2004 public hearing about the proposal in Lansing. “If you look at it in those terms, it becomes a very difficult problem: How to say ‘no’ when you want to say ‘no’ and how to say ‘yes’ when you want to say ‘yes’, but do it in a way that is reasonably fair-handed.”

“The draft agreement and the concept are basically very well thought out, sound, and can work very effectively,” said David Ullrich, director of the Great Lakes Cities Initiative, a coalition of mayors representing U.S. and Canadian communities, at a September 8, 2004 hearing about the proposal in Chicago. “But there is room for improvement.”

Farmers worry about a bureaucratic permitting program. Their complaints range from worries that the proposal’s requirement to provide precise information about where their water wells are located could help terrorists, to fears that they could lose their rights to the water they use to grow their crops.



A great blue heron presides over the Huron River where it flows into Lake Erie. Water diversion does not affect just the Great Lakes, but all of the watersheds that support the Great Lakes system.

—photo:HRWC

Industry advocates contend the plan is too extreme and threatens to whittle away at their ability to use the water and, by extension, the economic advantage that comes with it by permanently locking up a resource that allows companies to generate electricity, assemble cars, and even make prescription drugs. “We oppose diversions out of the Great Lakes,” said Michael Johnston, director of regulatory affairs for the Michigan Manufacturers Association, at a September 14 hearing in Lansing. “But the [Annex] goes way beyond that goal by controlling in-state uses and posing costs that will fall disproportionately on citizens and businesses.”

The Annex has divided advocates for the environment. Many environmentalists cheer it and say it has the potential to become a model of water resource management worldwide, if only it were a little stronger. But others contend the proposal threatens to undermine existing protections, including James Olson, the attorney for Michigan Citizens for Water Conservation, which last year won a lawsuit against a Nestle Waters bottling operation in central Michigan. Mr. Olson argues that the Annex begins with the flawed legal premise that water is a commodity. He says the Annex, as drafted, threatens to replace traditional common-law water use limits with more lenient standards. He also asserts that the proposal fails to draw legal distinctions between traditional water uses — such as

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The Future of Argo Dam

UM researchers assess the feasibility of removal

In 1995, the Michigan Department of Natural Resources conducted an assessment of the Huron River and identified Argo Dam as a candidate for removal, as it no longer serves its original purpose of producing hydropower, and its removal could benefit the aquatic environment for this urban stretch of the river. A group of graduate students from the University of Michigan's School of Natural Resources and Environment (SNRE) recently completed a study of the social, political, and economic feasibility of removing Argo Dam using interviews with stakeholders, an economic analysis, and a mail-based survey.

MAIL SURVEY RESULTS

The mail survey, sent to 2,000 Ann Arbor area residents, revealed that 43% of the adult residents of the study area visited the Argo area in the 12 months prior to the survey. In contrast, nearly 22% had never been to the Argo area and were not familiar with it.

For those who visited Argo, the most popular activities were walking, running, and bicycling, with more than half of users participating. Five percent or fewer of the study area residents fished, kayaked, rowed, or skied there. However, over 64% of the kayaking and over 95% of the rowing done by adults in the study area was done at Argo, suggesting that while these types of recreation are not as popular as walking or bicycling, Argo is an important site for these pond-based activities.

In response to the entire set of perception questions regarding Argo Pond, Dam and parks, about 60% of respondents expressed

opinions about the parks, but only 44% and 35% of respondents expressed opinions about Argo Pond and Argo Dam, respectively. Of those who expressed opinions about the parks, 95% had favorable opinions. In contrast, just 49% of those with opinions about the dam expressed favorable opinions.

The researchers found that of the features in the Argo area, the parks around the pond are more important to residents than the pond itself, and the pond is more important than the dam. Most residents feel strongly that the parks around Argo Pond are attractive, are an asset to the local area, provide good recreational opportunities, and increase local property values. In their opinion, Argo Pond is a suitable place for most types of recreation and the pond is generally attractive and good for property values. They think that Argo Dam improves recreation on the Huron, despite their belief that it is unattractive and that it harms the health of the river ecosystem.

In response to two questions asking whether Argo Dam should be removed or remain in place, about 60% of respondents initially indicated no preference; of those expressing a preference, a small majority favored keeping the dam. However, after reading two pages of background information explaining the tradeoffs between dam removal and dam maintenance, respondents were again asked if they would support dam removal. This time, fewer than 7% indicated no preference, and 62% indicated that they would vote to remove the dam if there would be no cost to them.

The survey used an economic tool called contingent valuation to estimate the public's willingness to pay for removing or retaining the dam. Results suggest that opponents of dam removal are willing to pay approximately \$161 per adult per year to keep the dam and pond in place. Supporters of dam removal are willing to



Argo Dam, reconstructed in the early 1970s, no longer provides flood control recreation on Argo Pond. —photo: HRWC

pay approximately \$135 per adult per year to remove it. However, because the number of supporters of dam removal is greater than the number of opponents, residents of the study area were willing to pay an average of approximately \$22 per adult per year to remove the dam. This suggests that residents of the city of Ann Arbor value dam removal enough to pay over \$2.1 million per year for it.

NEXT STEPS

The survey results indicate that the public is ready to discuss the idea of removing Argo Dam. However, an informed discussion would also require studies of the potential effects of dam removal on the floodplain, the rate of accumulation and composition of sediment, the potential for wetland loss or creation, and possible restoration options. Likewise, further public education is necessary to clarify misconceptions about the dam and its functions and publicize the potential benefits of dam removal.

The perception data indicates that if changes are to occur at Argo, they need to maximize the utility and beauty of the parks, which residents value highly, and continue to promote varied types of recreation at the site, while removing hazards that threaten the river ecosystem's health.

-Elizabeth Riggs

Summarized from the University of Michigan SNRE Masters Thesis, [Investigating the Feasibility of River Restoration at Argo Pond on the Huron River](#)



View of Argo Pond looking upstream from the Argo Dam. —photo: HRWC

AutoAlliance International

HRWC business partner highlight

AutoAlliance International Inc., located in Flat Rock, Michigan is a supporting member of the Huron River Watershed Council and its mission. AutoAlliance opened in 1987 as Mazda Motor Manufacturing (USA) Corporation (MMUC). In 1992 MMUC became AutoAlliance International, a 50-50 joint venture between Ford and Mazda. The facility has more than 3,500 employees on 400 acres with 2.7 million square feet of building space producing the Mazda 6 and Ford Mustang vehicles.

AutoAlliance recently launched a Community Initiative Committee through which it has engaged local Lower Huron community members to better understand how AutoAlliance International's operations are linked to the surrounding community. An environmental sub-committee is currently developing strategies to build on the positive impact the environment has on the surrounding communities.

One of AutoAlliance's recent community initiatives resulted in launching the Flat

Rock High School Huron River Study project (see article below). AutoAlliance financial and employee support, combined with the involvement of Flat Rock Community Schools teachers and the technical knowledge of the HRWC "Adopt-A-Stream" program, engages local high school students in the study of the Huron River in their community. AutoAlliance is very proud to provide this opportunity to the high school students and is hopeful that these students continue as stewards of the Huron River. This project has been extremely well received by the community school district. AutoAlliance hopes this program will be integrated into the high school curriculum for many years to come.

This project is one of many business- and community-oriented environmental activities in which AutoAlliance is engaged. Other projects include ISO 14001 Environmental Management System certification, Wildlife Habitat Council Certification, and support of the elementary school Experiencia EarthWorks program.



This is one of the first of many environmental initiatives AutoAlliance sees being launched in cooperation with the community. These types of cooperative community environmental activities are good for the business by keeping it in touch with surrounding community values.

AutoAlliance very much appreciates the technical expertise that the Huron River Watershed Council brought to the table in getting this project off the ground.

**-Terence M. Filipiak,
AutoAlliance International**

The Next Generation of Huron Stewards

AutoAlliance International helps high school students learn about the Huron

Adopt-A-Stream is delighted that AutoAlliance has made it possible for Flat Rock High School students to monitor the conditions of the Huron River in their community.

The students, with their environmental education teacher, Carolyn Grapentine, and Adopt volunteers Paul Cousins, David Reichhardt and Don Rottiers, have measured the width, depth, substrate and bank characteristics at several places in the stream at Huroc Park in Flat Rock. They also have been busy documenting land use, vegetation, and any erosion problems.

The students are enjoying learning more about the ecological conditions at the Huroc Park site by using kicknets to collect samples of the macroinvertebrates and then spending time in the classroom identifying their collections. Amy McDonald, a student participant, said that she found her work interesting because she



Flat Rock High School students measuring the river. —photo: Carolyn Grapentine

has lived next to the Huron all of her life and now she knows a lot more about it.

Ms. Grapentine spent her free time working with the Adopt-A-Stream staff during her summer vacation and on Saturdays to learn how to do measuring, mapping, and collecting so that she could be prepared to help her students combine the monitoring experiences with the classroom curriculum.

The students will compare their information to historic data from the site and, with Adopt-A-Stream assistance, the students will write and design a report that they will present to the Flat Rock City Council for consideration.

- Ellen Offen



Adopt-A-Stream volunteer Don Rottiers helps students identify macroinvertebrates. —photo: Carolyn Grapentine

What's Going On?

Great news on the Watershed Council... spread the word

The Watershed Council is going at full strength. Following is a summary of some of the great works we are doing throughout the 'shed.

IN THE PAST 6 MONTHS, HRWC HAS BEEN:

- ◆ Chosen to co-direct Governor Granholm's Michigan Clean Water Corps (see article, below). HRWC will provide statewide trainings, mentorship, and grant funds to lake and stream volunteer monitoring programs in conjunction with the Great Lakes Commission
- ◆ Working with a citizen's group in Chelsea to stop erosion into Letts Creek and change City mowing practices to provide a buffer
- ◆ Receiving three grants from the Michigan Department of Environmental Quality totaling \$400,000 for water quality improvements and protection. These funds leverage the membership dollars raised by four-to-one
- ◆ Assisting high school classes in Flat Rock to learn river monitoring techniques, data interpretation, and how to present the findings to local decision-makers (see article on page 6)
- ◆ Protecting and upholding the Natural Rivers Act and the Huron River's Natural River Designation, the only river designated as such in SE Michigan, against attacks to weaken the Act and the Huron River Plan under the Act
- ◆ Reviewing the Codes and Ordinances of 16 Huron River Watershed Communities and recommending improvements for better water quality protection
- ◆ Directing the development of the program and the selection criteria as a member of the City of Ann Arbor's Greenbelt Commission
- ◆ Initiating and advancing with 6 communities ordinance improvements in the Mill Creek watershed
- ◆ Working with 22 municipalities to develop a roadmap for protection and restoration of the Lower Huron and Chain of Lakes subwatersheds in the Huron
- ◆ Advancing the Middle Huron partnership agreement, an innovative agreement between point and non-point source pollution partners to voluntarily reduce phosphorus pollution



- ◆ Helping 110 volunteers monitor macroinvertebrates in 46 sites; 45 volunteers to assess habitat at 11 sites; and 24 volunteers to monitor flow at 14 sites in three creeks. The Middle Huron program engaged 12 volunteers in monitoring nutrients, total suspended solids, and flow at 10 sites

Thank you to our volunteers, individual, business, and government members, technical advisors, board members, and funders. HRWC would not have this breadth and impact without you.

- Laura Rubin

Taking "Adopt-A-Stream" Statewide

The Michigan Clean Water Corps aims to foster volunteer monitoring programs throughout Michigan

Starting this year, HRWC's Adopt-A-Stream Program will get a chance to share its knowledge and experience about how to begin and sustain a volunteer monitoring program with the rest of the State of Michigan.

The Michigan Clean Water Corps, created in 2003 by an Executive Order signed by Governor Granholm, will establish and train a statewide network of volunteer monitoring organizations to assist the MDEQ in protecting our water resources. The Corps will build on existing volunteer water monitoring programs established by the MDEQ for both lakes and rivers. The MDEQ has contracted with the Great Lakes Commission, in partnership with HRWC, to assist in the development, implementation, and administration of the Corps.

MDEQ hopes the Corps will provide:

- ◆ Frequent collection of reliable data on an increased number of streams and lakes throughout Michigan
- ◆ Volunteer activities that generate stewardship statewide
- ◆ MDEQ biologists working with citizen scientists
- ◆ Knowledge about the current conditions of streams and lakes throughout Michigan available on the web
- ◆ A grant program that assists new groups to begin and sustain a monitoring program

Jo Latimore and Joan Martin will apply their experience with HRWC's Adopt-A-Stream program to train and advise

volunteer monitoring groups statewide. Joan was earlier appointed by MDEQ Director Steven Chester to sit on the Steering Committee for the Corps.

The program is funded through August 2007 and may be extended for additional years.

- Joan Martin



HRWC trains volunteers to collect benthic macroinvertebrates.
—photo: HRWC

Know Your Board Representative

Kathryn Bowring, Dexter Township

Kathryn Bowring, representing Dexter Township, is the newest member of the HRWC Board of Directors. She is a native Michigander raised in South Lyon. Her love of water began in her family's backyard where a pond afforded her many hours of swimming, fishing, boating, and catching frogs and turtles. Since childhood, Kathryn has broadened her aquatic horizons through an interest in deep sea fishing, having won a tournament and a trip to Hawaii with her catch of a 400 lb. Blue Marlin.

A number of years ago, Kathryn, divorced with two small children, had to decide how to support her family. An interest in computers led to several positions, starting with a very minimum wage, until she had a job with Apple Computer and then with Microsoft. She is now between careers and looking for the next challenge.

In the meantime, she is enjoying her work with HRWC, her local lake association and her three grandchildren. If you have questions or comments or wish to become more involved with the issues surrounding the river and environs, call Kathryn at (734) 878-7081. You may also call the Watershed Council at (734) 769-5123.



HRWC board representative for Dexter Township, Kathryn Bowring.
—photo: HRWC

-Eunice Burns

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Promoting Better Design in Developments

New fact sheets use local examples

An excellent set of fact sheets now is available for use in your area to encourage improved design in new developments. These fact sheets, developed by Washtenaw County Drain Commissioner Janis Bobrin, provide illustrations and specifications about Low Impact Development (LID). LID is an environmentally-friendly approach to land development and storm water management that balances growth with environmental integrity. LID designs are often cost-effective and improve the aesthetics of the site. Each fact sheet provides a brief description, diagram, locations where the techniques are in use, and special considerations such as maintenance issues.

Jerry Hancock, who reviews plans with developers for the City of Ann Arbor, has found the fact sheets to be very effective. Hancock says, "Immediately upon printing of the low impact design fact sheets I found them useful. While reviewing site plans I give the fact sheets to designers and developers to correspond with my specific recommendations. Within the first month alone I was able to persuade one petitioner to utilize porous pavement, and another to add a bioretention island, by showing them the fact sheets. These sheets pack in a lot of useful information in an easy to read format. But the most persuasive aspect of them is that they rely entirely on local examples. Designers are usually more comfortable knowing that these practices have already been successful in the area."

-Joan Martin

Porous Pavement, an alternative to conventional impervious pavement, has many water quality benefits such as storm water infiltration and ground water recharge. Porous asphalt and pervious concrete are two types of porous pavement which have been installed locally.

Considerations:

- Suitable in areas with high soil permeability of 3"/hr. or more, a slope of 3% or less and 3' or more above high water table
- Ideal for areas with low volume or overflow parking.
- The additional cost of porous pavement installation can be offset by a reduction in storm water piping, structures, and detention basins required for conventional pavement.
- Maintenance costs for porous pavement can be 30% less expensive than conventional pavement.
- Detailed specifications on soil erosion, sediment control and system installation, as well as thorough construction oversight are necessary for proper performance and reduced risk of failure.

Olson Park

Location:	Pontiac Trail and Dhu Varran Rd. Ann Arbor
Engineer:	Ayers, Lewis Norris & May, Inc.
Size:	600 SF
Installation Date:	2003-04
Material:	Hastings Checker Block Pavers
Installation Cost:	\$9,000/SF including materials and installation

Office of the Washtenaw County Drain Commissioner, Janis Bobrin. Funded by the United States Environmental Protection Agency; administered by the Michigan Department of Environmental Quality.

For more information, contact Harry Sheehan at (734) 225-4614
www.washtenaw.org/government/dc/drain_commissioner/30.html

The fact sheets are available for viewing and printing at the Drain Commissioner's website:

http://www.ewashtenaw.org/government/drain_commissioner/dc_lid.html.
(A simple way to locate them is to Google the following: Washtenaw County Drain Commissioner + LID.) Four topics are available: porous pavement, native landscaping, bioretention islands, and vegetated swales.

Water, Water.... Everywhere?

continued from page 4

agriculture or manufacturing — and water used as a product in the burgeoning bottled water industry. "Why should we write rules that would for the first time provide the means for legal export of water outside of the Great Lakes Basin for private profit?" asked Olson.

- Adapted by Chris Riggs from an article by Andy Guy in the Septem-

ber, 2004 Great Lakes Bulletin. Andy directs the Great Lakes Water Project and manages the Michigan Land Use Institute's regional office in Grand Rapids. Reach him at aguy@mlui.org.

You can find a draft of the proposed Annex at: www.cglg.org/1projects/water/annex2001implementing.asp. The formal comment period closed on October 18 (more than 10,000 written comments were

received), but comments will continue to be accepted by the Council of Great Lake Governors for consideration in preparation of the final draft, expected to be released next spring. You can send your comments via email to annex2001@cglg.org.

A Feast on the Huron

"Dinner on the River" event a rousing success

Over 100 HRWC members and friends enjoyed a sumptuous meal and fantastic views of the Huron at the home of Richard and Linda Greene at the "Dinner on the River" event, November 8. Local chefs Paul Cousins, Ricky Agranoff, and Craig Common created a fantastic dinner.

The Greene home sits on a high bluff over the Huron, providing a scenic vista.

Many arrived early to take a walk down the bluff to a trail leading to neighboring Osborne Mills County Park.

Lively conversation punctuated the evening as people met new friends who appreciate the river and HRWC for a variety of reasons.

Richard Greene gave members a brief history of the property, noting that the farmers across the street would graze their cows on it because its access to the Huron provided drinking water.

The most frequent suggestion of the night was, "You've got to do this again next year."



Members enjoy the scenic vista from the Greene home.

—photo: Al Woolf

What's Left Out There?

HRWC identifies the Huron's remaining natural areas

In order to provide local communities, land conservancies, and other interested organizations with information about the location and value of our remaining natural areas, HRWC has completed a map that ranks the areas based on the ecological services they provide. The map encompasses all of the communities in the Huron watershed.

HRWC staff spent 2 years digitizing the areas on a computer, using digital aerial photographs taken over Oakland, Livingston, Wayne, Washtenaw, and Monroe counties. We drew boundaries around areas on the photographs that appeared to be woodland, wetland, or open field, and ended up mapping nearly 1,700 sites, for a total of

237,000 acres (out of about a million acres of total land) in the watershed. Once the map of the areas was complete, staff worked with faculty and students at the University of Michigan School of Natural Resources and Environment to develop a computerized model to rank them.

The ranking criteria included:

- Size
- Whether wetlands were on the site
- Whether rivers or lakes were on the site
- The potential for the site to contain groundwater recharge areas
- The potential for the site to harbor a high diversity of ecosystems (determined indirectly by measuring diversity of the site's geology and topography)
- The potential presence of high value remnant ecosystems such as lakeplain prairie

Efforts to preserve natural areas are nearly always limited by funding. The map provides one tool for prioritizing funding to preserve the best natural areas first, before encroaching development engulfs them forever. Programs like the City of Ann Arbor's Greenbelt millage, where communities are attempting to save the best natural areas through purchase of development rights or outright acquisition, will find the

map useful. Other communities have used a similar map that Livingston County Planning Department staff adapted from the HRWC map to enact ordinances to require a permit before development in the areas occurs.

If you are interested in the map, please contact Kris at (734)769-5123 or kolsson@hrwc.org.

- Kris Olsson



Kingfishers hunt and live along the river system. —photo: HRWC



Natural areas provide a host of ecological services, including habitat for this Northern Leopard Frog. —photo: HRWC

A Special Thank You!!

... To everyone who made "Dinner on the River" a memorable evening

Linda and Richard Greene for opening up their beautiful home and being such gracious hosts.

Paul Cousins, Craig Common and Ricky Agranoff for preparing delicious food for all of our guests.

Arbor Beverage for donating wine to help make the Dinner more festive.

Hiller's Markets for providing all the food and ingredients.

Bennigan's Grill and Tavern for providing salad.

A-1 Rental, Inc and Action Rental Center for donating so many items to make the Dinner a success.

Beverly Black for bringing her harp and her wonderful music.

Al Wooll for taking so many beautiful pictures.

Dough Boys Bakery for the yummy baquettes.



Members wine and dine on the Huron. —photos: Al Wooll

The Huron River Watershed Council

The Huron River Watershed Council is a coalition of Huron Valley individuals, businesses and local governments established in 1965 under Michigan's Local River Management Act to inspire attitudes, behaviors, and economies that protect, rehabilitate, and sustain the Huron River system. The Watershed Council is a non-profit organization under section 501(c)(3) of the federal tax code.

If you enjoy this newsletter, please consider membership. Services of the Council include hands-on citizen education, technical assistance in policy development and direct river protection projects. You will find a membership form below. All contributions are tax deductible.

Yes, I want to help the Huron River Watershed Council protect and restore the Huron River.
Here are my 2005 member dues:

<input type="checkbox"/> \$5,000 Mink	<input type="checkbox"/> \$500 Blue Heron	<input type="checkbox"/> \$50 Friend
<input type="checkbox"/> \$2,500 Smallmouth Bass	<input type="checkbox"/> \$250 Mayfly	<input type="checkbox"/> \$30 Supporting
<input type="checkbox"/> \$1,000 Green Heron	<input type="checkbox"/> \$100 Steward	<input type="checkbox"/> \$___ Other

Name _____

Address _____ City, State _____ Zip _____

Phone _____ Email _____

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Please examine your mailing label for your HRWC membership expiration date and use that as a reminder to renew. If there is no date, then you may not be a current member of the Watershed Council. Please consider HRWC membership. We need your support. Thanks.

The Huron River Watershed Council receives contributions via payroll deduction through EARTH SHARE of Michigan.



Thanks to All of Our Supporters!

Protecting the Huron River is a big job and we would be lost without the donations of time, talents, and resources from our dedicated volunteers and supporters. **We extend Special Thanks to:**

Marc Akemann and Al Wooll for their excellent photography.

Kristi Skebo for patiently entering Adopt information.

Dave Wilson for investigating our study sites in Mill Creek.

Dave Brooks for organizing and completing the mapping of our Geomorphic Pins, with help from **Richard Bacolor, Noemi Barabas, Rajeev Jain, Michael Landis and Bob Ponte**.

Noemi Barabas, Donald Chung, Margaret Doub, Rajeev Jain, John & Tui Minderhout, and Marge Mogelnicki for faithfully and carefully downloading our transducers.

Paul Muelle of Huron Clinton Metroparks for introducing the new Environmental Interpretive Center at Indian Springs Metropark to HRWC members.

The remarkable group of **125 resourceful and caring people** (ages 3 to retirement!) who made the Fall Roundup so successful.

Jim Mudd for helping with sticky GIS and computer questions and taking on the watershed-wide impervious surface capacity study.

Scott Bell, Dan Herrema and their Limno-Tech, Inc. colleagues for their *pro bono* development of a hydrologic model for Mill Creek watershed.

Marilyn and Edward Couture who are mailing experts and always willing to help.

Karen Prochnow for writing a wonderful letter encouraging others to join HRWC.

Scott Munzel for his legal review and suggestions on our waiver form.

Carrie Turner for speaking on behalf of HRWC at Women in Praise, Water for Life.

Josie Parker, the Ann Arbor District Library Director, for taking her time to meet with HRWC members and provide them with information about the Mallets Creek Branch and the innovations employed at the Branch to protect Mallets Creek.

Paul Cousins, David Reichardt, Don Rottiers, and John Stahly for helping us to teach students about the river and local streams.

Great Harvest Bread Company for generously providing delicious treats to hundreds of people at several events.

Whole Foods Market for making our member events at the Metropark and Library even sweeter.

Jim Fackert for making a wind-up box for the 60-foot cord on our flow meter just when we needed it.

See a **Special Thank You** on page 11.