



Huron River Report

The Newsletter of the Huron River Watershed Council

Fall 2006

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Going Against the Flow

Steelhead and chinook salmon run in the Huron

The Huron River is the full-time home of almost 100 species of fish, from tiny minnows to trophy smallmouth bass, from the common carp to the endangered northern madtom. The river also provides spawning habitat for several migratory fish species. Such fish, including native gizzard shad, white sucker, channel catfish, white bass, smallmouth bass, walleye, and freshwater drum, as well as nonnative, stocked steelhead and chinook salmon, spend most of their lives growing in Lake Erie.

Migratory salmonids (members of the fish family that include salmon and trout) provide one of the most amazing spectacles in the aquatic world. After spending years growing to maturity in open water, the fish may travel hundreds of miles to return to their hatching site – or, in the case of hatchery-raised fish, their release site – to find mates and lay eggs. In spring or fall, depending on the location and

species, these fish rely on biological clocks and their extraordinary homing ability, often battling their way upstream against rushing flows, struggling through shallows, and leaping over waterfalls and small dams to return to their spawning waters. Anglers and nature enthusiasts make similar seasonal migrations to popular spawning sites to witness this phenomenon and perhaps take home a tasty meal!

The Flat Rock Dam once prevented the movement of fish further upstream into the watershed, so these Great Lakes immigrants were confined to the lower Huron below that point. A fish ladder installed by the Huron River Fishing



An angler tries his luck on the Huron. —photo: Bob Smith



Chinook salmon (top) and steelhead (bottom). Chinook tend to be larger, with dark mouths and backs, while steelhead have light mouths and steel-blue heads and backs.

—illustration: Joe Tomelleri

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Models to the Rescue

A valuable tool for watershed protection



Adopt-A-Stream volunteers learn to collect high-quality data for use in a stream assessment model.

—photo: HRWC

A watershed is an incredibly complex system. Think of the Huron River watershed: twenty-four major tributaries drain over 900 square miles of land into 129 miles of the Huron River. The structure and function of the watershed is affected by its residents (animals, plants, and over 500,000 people), climate (such as precipitation, wind, and temperature patterns), and geology.

Watershed management and protection efforts must recognize this complexity when planning for

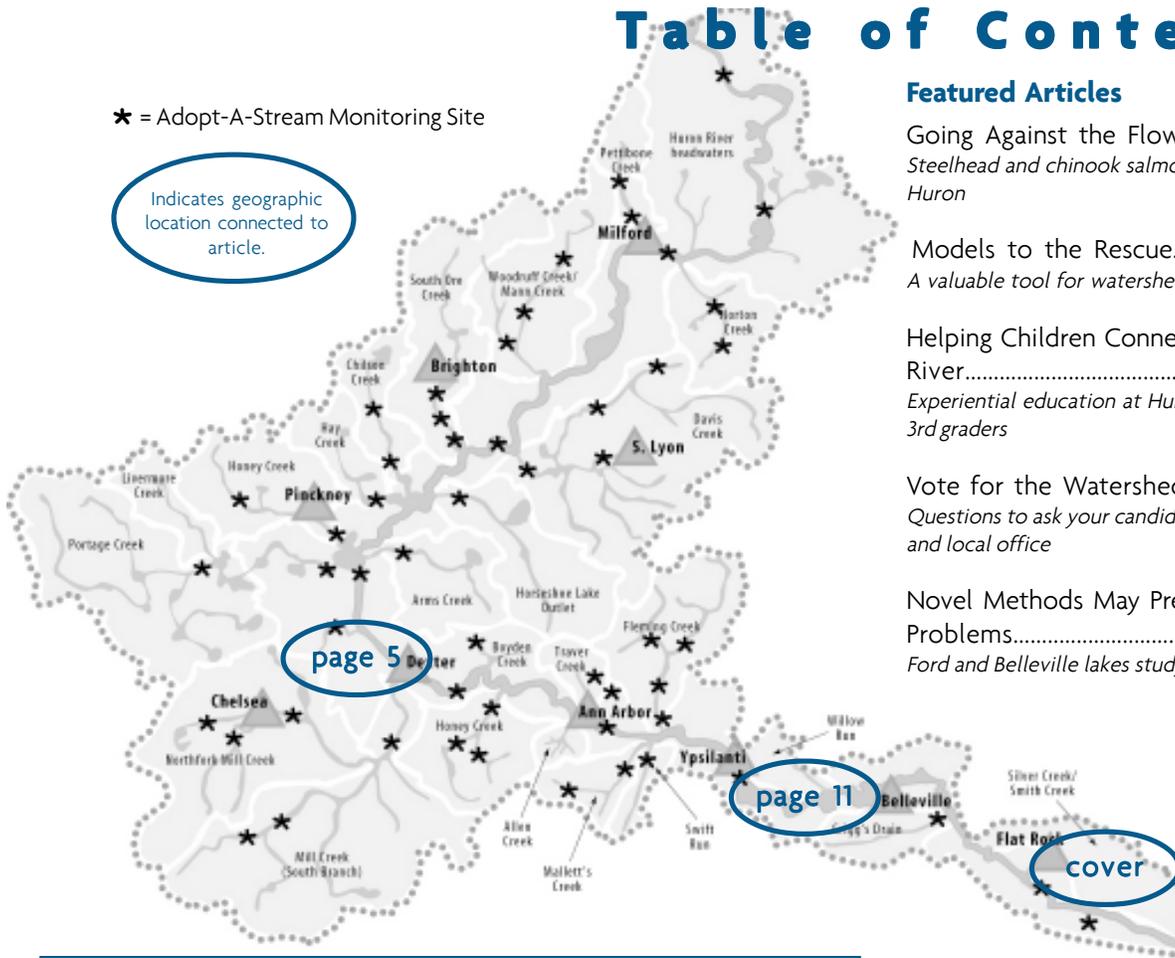
population growth and development. What's more, much of the information that would be useful for watershed management is often not readily available – for example, no data may exist on the amount of runoff generated by a particular parcel of land after a 1-inch rainfall. It's no wonder that organizations and agencies involved in watershed management, like HRWC, need a simplified tool for organizing and analyzing large amounts of different types of data, and for making reasonable estimations when the available data are incomplete.

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Indicates geographic location connected to article.



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EVENTS

Saturday, Sept. 16, 9 AM – 3:30 PM or 10:30 AM – 5 PM
River RoundUp
Entire Watershed
Email jmartin@hrwc.org by Sept. 4

Thursday, Sept. 21, 5:30-7:30 PM
HRWC Exec. Committee Meeting
NEW Center
Call Laura at x12 or lrubin@hrwc.org

Saturday, Sept. 30 (all day)
How to Make Engaging Short Videos
This event has a fee.
NEW Center
Email jmartin@hrwc.org by Sept. 22

Sunday afternoon, Sept. 24
ID Day
NEW Center
Call Joan at x11

Wednesday, Oct. 4, 6:30-8:30 PM
Soil Erosion and Sedimentation Detective Training
Washington St. Education Center, Chelsea
Contact Elizabeth at x15 or eriggs@hrwc.org

Sunday, Oct. 15, 5:30-7:00 PM
Adopt-A-Stream Flow and Geomorphology Study Discussion and Potluck
Contact Joan at x11 or jmartin@hrwc.org

Thursday, Oct. 19, 5:30-7:30 PM
HRWC Board Meeting
NEW Center
Call Laura at x12 or lrubin@hrwc.org

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

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Going Against the Flow

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Association in 1997 opened up an additional thirteen miles of river to fish that can navigate both it and the low-head weir just downstream. The Flat Rock Dam is located upstream of Huroc Park in the City of Flat Rock, and the downstream mile of river accessible from the park is a popular recreational fishing locale. In the summer, angling can yield good catches of panfish, such as bass, sunfish, bluegill, and crappie, and in the spring and fall, the steelhead and chinook salmon swim up into the river from Lake Erie to spawn.

WHO'S WHO: STEELHEAD

"Steelhead" is the common name for rainbow trout (*Oncorhynchus mykiss*) that move out of the rivers in which they hatched to grow to adulthood in open water. While rainbow trout that live out their lives in rivers and streams can be identified by their speckles and reddish band down their sides, steelhead turn silver with steel-blue heads and backs. Rainbow trout are native to the Pacific coast, from Alaska to California, and were introduced to cool waters in the Great Lakes region in the late 1800s. Steelhead can grow up to 36 inches and 30 pounds, and typically survive to spawn several years in a row. The female builds a gravel nest, or redd, on the streambed, and after spawning, the male and female defend the nest from egg predators. Huron River steelhead return to Flat Rock to spawn each spring and fall. The MDNR continues to stock young rainbow trout in the Huron River at Flat Rock, with over 66,000 fish released this spring.

WHO'S WHO: CHINOOK SALMON

Chinook salmon (*Oncorhynchus tshawytscha*) are large silvery fish with irregular black spots on their backs and tail fins. Chinook salmon were introduced to the Great Lakes in the 1960s to provide sport fishing and to help control the invasive alewife, a small plankton-eating fish that invaded the upper Great Lakes through the Welland Canal and has greatly impacted Great Lakes ecology by competing with whitefish and other native species. The chinook is the largest salmon, growing to 36 inches in the Great Lakes and occasionally to 40 pounds or more. They are native to the Arctic and Pacific coastal regions from Alaska to California, and have



The HRWC Adopt-A-Stream program works with teacher Carolyn Grapentine's Environmental Science class at Flat Rock High School to monitor the health of the river in a program supported by Auto Alliance International. Every fall, the students travel to the river at Huroc Park to collect information on water quality, habitat, and aquatic life. Last October, while using a small net to collect invertebrates from the stream bottom, a student came up with more than he was expecting – a 24-inch chinook salmon headed upstream to spawn (see photo at left)!

—photo: C. Grapentine

been widely introduced elsewhere, including the Great Lakes. Like the steelhead, chinook move out into Lake Erie to grow for several years, and then return to the Huron to spawn. Unlike steelhead, the chinook dies after spawning. Chinook salmon have not been stocked in the Huron River at Flat Rock but fish from Lake Erie still form a small spawning run there each fall.

You don't have to head up north this fall to experience the thrill of steelhead and salmon fishing. Anglers will find easy shoreline access in Flat Rock only a short drive from home, so there is no need for a boat and all the heavy tackle normally associated with open water trout and salmon fishing. Save your gas and try the Huron River runs!

— Jo Latimore



**Second Annual Conference
October 2-3, 2006**

Ralph A. MacMullan Conference Center on Higgins Lake

Join HRWC at this statewide conference dedicated to volunteer stream and lake monitoring!

For more information on this year's conference as it develops, and to view presentations from the 2005 conference, visit www.micorps.net/conference.html, or contact Jo at jlatimore@hrwc.org or at (734)769-5123 x14.

Models to the Rescue

continued from cover

MODELS SIMPLIFY

Models have become a popular tool in watershed protection and management because they provide ways to deal with the inherent complexity of natural systems. In general, a model is any representation of a real-world system. A globe is a model of the Earth, and a toy car is a model of a real car. Many watershed models are available, including physical models used to teach children how water runs downhill into rivers, and mathematical models that use soil, land use, and precipitation data to predict stormwater runoff.

The amount of detail that a model includes is dependent upon the purpose of the model. For example, a city map is a model of a city that includes streets and landmarks that help you find your way; it does not include unnecessary detail, such as cars on the highway or people seated on a park bench. Similarly, our physical teaching model of a watershed does not need to include fish in the river to meet the goal of showing how water flows over the landscape.

CRUNCHING THE NUMBERS

The majority of models used in watershed protection and management are mathematical models – numerical formulas that can generate calculations or predictions based on inputs of actual data entered by the person using the model. For example, HRWC uses stormwater models to predict the volume of runoff that could be expected from a landscape under various land use scenarios. The data input to such models includes land use type, land area, amount of precipitation, soil type, and other similar variables. This tool has been very useful for comparing the likely consequences of proposed zoning ordinances or other management actions, by allowing us a glimpse at likely future impacts to the watershed without having to actually alter the landscape. Models also can help target areas that would benefit most from treatment or restoration activities.

PROCEED WITH CAUTION!

It is extremely important that users of models and their results appreciate not only the strengths, but also the weaknesses of models. The very feature of models that

make them so attractive – their simplicity – can also cause the most headaches. To continue with the stormwater runoff model example, a simple version of the model requires only a few types of data – land area, land use, and annual rainfall – to predict runoff and the amount of various pollutants, like phosphorus, nitrogen, or sediment, it might contain. The land use category only allows the user to choose among seven land use types; for example, the “agriculture” category includes all types of agriculture, even though it is unlikely that an apple orchard produces the same amount and type of runoff as a plowed



A model is a simplified representation of the real world. —photo: HRWC

field. Similarly, all “residential” land use is assumed to produce the same amount of runoff, whether there are ten houses per acre or only one. As a result of the very general nature of this model, the results are also very general and imprecise – perhaps useful on a large, statewide scale, but not so useful at a township scale. A more complex model allows the user to enter more detailed land use data, and more precise information on precipitation patterns, and also requires data on soils, slope, and other factors omitted from the simpler model. The predictions of a fine-scale model much more accurately predict the runoff on a township scale.

GARBAGE IN, GARBAGE OUT

Model output is only as good as the input – that is, if the data entered into the model are of poor quality, then the

calculations or predictions that the model produces will be equally poor. HRWC uses data collected by staff and volunteers and puts a strong emphasis on quality assurance. Some useful data are available from external sources, such as precipitation data from nearby weather stations. We are similarly vigilant about the quality of the external data we use in our models and analyses. Whenever a model is used for making water resource management decisions, it is important that the data informing the model is of the highest quality available. Good modelers will test model outputs against historical and recent results to validate the model’s predictive ability.

MODELS AT WORK

In addition to predicting stormwater runoff, HRWC uses models for identifying critical natural areas in the watershed for protection and for analyzing volunteer stream monitoring data. HRWC’s Bioreserve (or natural areas) model integrates natural area data, including topographical diversity, geology, size, potential for supporting rare plants and animals, and presence of wetlands and surface water to rank different sites in the watershed for preservation and management priority. The Adopt-A-Stream Ecological Condition model takes the aquatic macroinvertebrate (aquatic insect), habitat, and temperature data that volunteers collect and assigns an Ecological Condition score to each monitoring site based on what we should see at each site if it were unimpaired. We translate this score into Excellent, Good, Fair, or Poor for our semi-annual Monitoring Gazette.

Models help us make sense of our complex watershed by serving as useful tools for organizing the data we collect and allowing us to experiment with different management scenarios before implementing them. They also help us identify the healthiest – and the least healthy – parts of the watershed so that we may better focus our protection efforts. As part of our watershed protection toolbox, models will help us protect, rehabilitate, and sustain the Huron River system.

— Jo Latimore

Helping Children Connect to the River

Experiential education at Huron River for 3rd graders

HRWC was delighted to provide third graders and their teachers with an exploration of the Huron River at seven activity stations on a lovely spring day last May. Lisa Suomala and Debbie Ferri, teachers at Wylie Elementary School in Dexter, brought about 60 third graders to Dexter-Huron Metropark on May 23rd.

Hands-on activities included sorting and identifying aquatic macroinvertebrates, using a "turbidity tube" to measure suspended sediment, assessing the stream habitat, banks and riparian zone, identifying algae and other aquatic plants, and measuring stream velocity. Worksheets had been prepared for the students to use at each station, and essential points were summarized on display boards. After the science activities the students broke for lunch, finished writing up their worksheets for the various stations, had a short play period, and boarded their bus to return to school.

The river was high and fast - up in the lawn at the park - but volunteers Bob Collins and Ken Spears managed to find quite a lot of aquatic macroinvertebrates and used these to help the students make an assessment of water quality. Marty Wilson and her teams of students at the stream velocity station had to step lively as they timed the movement of sticks down a 50-

ft stretch of river with a stopwatch, then calculated the stream velocity. Each activity was planned at an appropriate level for third graders, and was coordinated with state educational benchmarks and objectives.

We are exploring additional opportunities for classes to visit and learn about the river. If you are interested, contact Joan Martin at jmartin@hrwc.org.

— **Dave Wilson, HRWC Volunteer**



Peggy Liggitt explains aquatic plants to third graders.

—photo: HRWC

THANK YOU TO THE VOLUNTEERS!

Bob Collins, Joan Hellmann, Linore Latham, Peggy Liggitt, Ken Spears, and Marty and Dave Wilson



Dave at the Leadership & Collectors Training in April 2006.

—photo: Al Woolf

Dave is a folk dancer, a recorder player, and a retired professor of physical chemistry and environmental engineering at Vanderbilt University; after his retirement he worked for Brown and Caldwell, an environmental engineering firm. His research interests include development of improved wastewater treatment techniques and of innovative technologies for the cleanup of contaminated soil and groundwater. He has also mentored about one hundred high school science projects. Dave has been helping volunteer organizations on technical and educational projects in the Cumberland River watershed in Tennessee and on the Huron River; he is currently working on a sediment study in the Mill Creek watershed.

Film Your Favorite Creek

Millers Creek Film Festival to expand next year

The first Millers Creek Film Festival was such a wonderful success that HRWC is expanding the contest to include videos that you (or your family or group) make about any stream or part of the Huron River. The focus of your short (less than 5 minutes) film is people's connections to the river system. Videos can be about the pleasure given by the river, its history, or threats to its quality.

Take the HRWC workshop on video production on September 30. Submit a film by February 20. Details about the contest, information about river issues, and the 2006 winning films are at www.hrwc.org or www.aamillerscreek.org. See your film at the Michigan Theater on March 30, 2007, possibly win a prize, and help the Huron!

2006 Winning Films

Public Service Announcement: **Where Is Nature?** by Belal El-Hibri, Lucy Carson, Amjad Tarsin and Megan Smallwood

School-age Film: **The Story of a Creek** by Matthew Conto

Adult Film: **Millers Creek Documentary** by Katie Barkel, Gabrielle Mineo, Michael Rubyan and Ashley Statfeld

Suds on the River

Members raise glasses to the Huron

On Thursday, August 10, HRWC held its Suds on the River Event. Over one hundred people attended and enjoyed a wonderful evening of tasting Huron River Watershed-brewed beers.



What are the ingredients for a successful Suds on the River? Fine weather, great brew, scrumptious food, scenic views, and people who care about the Huron.

—photos: Marc Akemann

A Big Thanks to . . .

Deborah Webster and **George Miller** ~ our gracious hosts

Arbor Brewing Company, Grizzly Peak, and Jolly Pumpkin breweries - great beer is brewed in the Huron

Bennigan's for tasty wings, egg rolls, and chips and salsa; **Dexter Bakery** for scrumptious homemade pretzels; **Ann Arbor La Shish** restaurant for outstanding pita, hummus, baba ghanouj, and tabbouli; and **Whole Foods Market** for the beautiful cheese tray

The **Loose Dogs Bite** band whose music made the event fun and enjoyable for everyone

Tom Thompson for a beautiful floral arrangement

Forever Wild 2006

Tales, tunes and photos with Walkin' Jim Stoltz

September 18, 2006, 7 PM
Washtenaw Community College,
Morris Lawrence Building

An evening celebrating America's rich natural heritage through stunning photography, live wilderness music and gripping stories from 26,000 miles of walking.

For free tickets and more information, contact Dale Petty or Jeannine Palms at (734) 971-5870 or jeannine@ wetmeadow.org.

Vote for the Watershed

Questions to ask your candidates for state and local office

With candidates for local and state office vying for your vote this fall, HRWC has some ideas to help you choose the candidate that will do the most to keep the Huron River watershed healthy.

WATER PROTECTION STARTS ON THE LAND

The major issue for our watershed is the current trend of sprawling development that is paving over and fragmenting large swaths of natural areas and farmland. These patterns of development must change if the watershed is to continue to provide safe drinking water and recreational activities and be maintained as a beautiful natural resource in all of our communities. To protect those natural areas and farmland, development must be directed into cities and towns where infrastructure can accommodate more compact, human-scale neighborhoods, businesses, and workplaces.

During this campaign season, it is important that you take the time to examine your local and state candidates' stands on this issue.

KEY QUESTIONS

Raise the following questions during candidate forums, question-and-answer sessions at appearances, in letters-to-the-editor, and in personal contacts with them:

- How would you work to maintain and preserve our "green infrastructure"; that is, the forests, grasslands, lakes, streams, and

wetlands that filter pollutants, control floods, keep our air clean, provide recreation, harbor wildlife, and perform so many other services that keep us happy and healthy?

- Michigan's land use policies are consuming land faster than the population is growing. How would you encourage growth to occur in a more efficient way?
- How can Michigan make the most efficient use of its infrastructure spending (roads, sewers, water, and transportation)? For example, would you increase the proportion of transportation funding spent on public modes of transportation, or on widening existing roads and building new ones?
- With 63 local units of government in our watershed (and 1,800 in Michigan) having planning responsibility, and each one having to generate its own local revenue in competition with neighboring



Do you know where your candidates stand on promoting smart land use decisions that will maintain the health of the Huron's wildlife, water, and communities?

—photo: Ron Gamble

jurisdictions, we have a real problem accomplishing smart regional planning. How do you plan to encourage more cooperative regional planning and cost-saving ways to share community services?

- Do you support legislation (such as the Clean Water Authority Restoration Act, currently introduced in the federal House of Representatives) to clarify federal Clean Water Act language to ensure broad protections for smaller wetlands and streams that the Supreme Court recently ruled against protecting?
- How would you work to maintain Michigan's agricultural industry and preserve agricultural land in our state?
- Encouraging a mix of housing types is critical to creating livable, efficient communities. What would you do to ensure a range of housing opportunities and choices in every Michigan community?

Every election is important. The choices that voters make will impact the future of our communities and the health of the Huron River for generations to come. It is imperative that we consider land use issues when we select candidates to represent and lead us.

— Adapted by **Kris Olsson** from Michigan Environmental Council's brochure, "Finding Common Ground: Candidate Questions about Our Land and the Future of Michigan." www.mecprotects.org/candidatequestions.pdf



The health of our creeks depends on natural and open lands that drain into them.

—photo: HRWC

Know Your Board Representative

Tim Walsh, Village of South Rockwood

Tim Walsh is one of the newest members of the HRWC Board. He represents the Village of South Rockwood. He and his wife, Theresa, have lived in South Rockwood for 11 years. Tim is the chairman of the South Rockwood Brownfield Redevelopment Authority, and he also serves as Secretary of the Board of Directors of the Michigan Association of Environmental Professionals.

Tim graduated from Eastern Michigan University with a Bachelor of Science degree in Aquatic Biology in 1975. Prior to that, he served with the US Army Rangers in Vietnam. His career at Detroit Edison involved the following responsibilities: a technician in the Engineering Research Department; the Environmental Compliance Specialist at the Monroe Power Plant; and a Senior Environmental Engineer in the Environmental Management & Resources

group. We are very pleased that the residents of South Rockwood have such an interested person to represent them. Call Tim at (734) 379-6246 if you have any questions, comments, or if you would like to be more involved in watershed issues. You may also call HRWC at (734) 769-5123 ext. 12.



HRWC Board Representative for Village of South Rockwood, Tim Walsh.
— photo: HRWC

— Eunice Burns,
HRWC Executive Committee

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Laura's "Stream" of Consciousness

An update on HRWC projects and activities

'TIS THE SEASON

It's summer in Michigan, and it's the season I love. There are so many opportunities to get out and enjoy the watershed and to help monitor and protect the watershed. If you haven't already, you can still canoe, fish, hike trails, or simply relax beside the Huron. We also have lots of monitoring going on throughout the watershed. Our measuring and mapping teams are out looking at stream and bank conditions. In those heavy thunderstorms in later summer and early fall, volunteers are racing out to measure the storm surges. This summer, my family studied a part of Fleming Creek and visited weekly to measure the water temperature as part of a larger temperature study throughout the watershed. Beware: according to my kids it is now "our creek". Please call us if you want to learn more about the creeks of the Huron and help us understand them better.

THOSE DAM SEDIMENTS

We finally got some information on the status of the sediments behind the Mill Pond Dam in the Village of Dexter. It's not bad . . . and not good. The really bad stuff we were most concerned about is absent, but some of the heavy metals are high . . . not high enough to put the removal cost into seven digits or prohibit the removal,

but enough so that we need to start to study best removal strategies that will minimize the suspension and transport of the impoundment sediments and protect water quality downstream. It's a new endeavor for HRWC and our partners, but one that will be exciting.

STAFF CHANGES

HRWC has some staff changes to report. Chris Riggs, Watershed Planner, returned to graduate school at the U-M in late June to pursue a new career in elementary education. He will put his science experience to use with a younger generation. We all wish Chris the best of luck and thank him for his great work at HRWC.

And we welcome Ric Lawson to HRWC as a Watershed Planner. Ric has a strong background in environmental management and policy application, over six years of experience managing a diverse array of projects at the Great Lakes Commission, and has established relationships with HRWC staff, board, volunteers, and stakeholders and partners in the watershed.

Ric will be directing our efforts to implement watershed management plans throughout the watershed: the Chain of Lakes, Middle Huron, and Lower Huron Initiatives. Ric also will continue to assist with MiCorps, the statewide volunteer monitoring effort, and the final stages of the stormwater enhancement projects at Sarah Banks Middle School and the Wildwood Subdivision, in Wixom.



Watershed Planner old and new: Chris Riggs and Ric Lawson.

—photo:HRWC

SUMMER INTERNS

We were very fortunate that two people chose to spend the summer working with us as interns. Erica Zontek is a gifted master's student in the School of Natural Resources and Environment, University of Michigan, studying resource policy and behavior. She won a Sussman award from the University to work full-time with HRWC for the summer. She helped with the Middle Huron monitoring, organized two trainings on how to identify soil erosion control permit violations, completed a study on the economic impacts of sprawl, and also worked on various smaller research projects.

Sunil Joy is a senior in Environmental Studies at the University of Michigan. He chose HRWC as the location to fulfill his Field Experience requirement. He spent most of his 160 hours with us transcribing and revising a book about the Huron River Watershed published by HRWC in 1976. Pinckney High School asked for copies for 210 physical sciences students but we had only three left and no way to reprint it. Sunil has brought it up-to-date and learned enough of Adobe PageMaker to put it into a publishable form for us. He has also been very helpful on a variety of smaller jobs.

We thank Erica and Sunil for their hard work and ability to juggle multiple projects.

— Laura Rubin



HRWC Summer Interns, Sunil Joy and Erica Zontek

—photo: HRWC

Spotlight on a Member

John Allen and Edith Maynard

John Allen and Edith Maynard live in the Allens Creekshed in Ann Arbor and have been members of HRWC for more than ten years. They originally got involved with HRWC through their good friend, Adopt-A-Stream Director Joan Martin.

They continue to support HRWC because they are impressed that HRWC has been able to bring the watershed into focus for its residents and that so many people have stepped forward repeatedly to volunteer. John and Edith are encouraged about the health of the river because they know that through HRWC's Adopt-A-Stream program, the watershed is thoroughly and reliably monitored year after year, thus providing a sound scientific basis for future plans and efforts. They are pleased that HRWC has been able to keep the river and its problems and improvements constantly before the eyes of the public in a clear and timely fashion.

Both John and Edith are retired biologists who have a fundamental love of the natural world. They feel that a river flowing through our communities can be a lifeline and source of comfort for its citizens. Their favorite spots in the watershed are Gallup Park and Argo Pond.

In retirement, they have time to pursue other interests. John has been enjoying woodworking and Edith does watercolor painting. Her pictures are often on display in the NEW Center, delighting all of us who work and visit here. They also volunteer for The Nature Conservancy in the Upper Peninsula; their volunteer efforts



John and Edith enjoying the outdoors.

—photo: courtesy of J. Allen and E. Maynard

were recognized with an Oak Leaf Award in 2003. John and Edith are very special in their love of nature and their support for HRWC and its programs.

— **Ellen Offen**

Receive a Fabulous Gift

Remember that you can receive a wonderful gift for increasing your HRWC membership donation by just 15%. Three HRWC business members encourage you to dig a little bit deeper into your pockets and to raise your donations.

When you increase your donation, you will be eligible to select one of the following outstanding gifts:



A 25% discount off of your bill (does not include alcohol) when you eat at Bennigan's on South State in Ann Arbor

Two free hours of canoeing from Heavner Canoe and Kayak Rental at both its Proud Lake and Island Lake locations in Oakland County



A coupon from Whole Foods Market in Ann Arbor to receive \$2.00 off of their 10 lb box of water quality friendly Whole Foods Market 365 Laundry Powder, Natural Orange Scent

Novel Methods May Prevent Algae Problems

Ford and Belleville lakes study update

During the past three years, U-M scientists have been studying the nuisance algae conditions in the middle Huron River, Ford Lake and Belleville Lake. The goal of this study is to develop an effective management plan for the lakes in close partnership with municipal governments and state officials. The U-M scientists, led by Dr. John Lehman, believe the problem stems from nutrients present in the lake bottom sediments that are released from the mud during times of stagnation. When storms mix the water in the lakes following prolonged periods of stagnation, the nutrient-rich bottom water becomes stirred into the surface where there is enough sunlight to grow nuisance algae. The main nutrient culprits are phosphates and ammonia. Dr. Lehman's team has studied seven possible solutions for this problem, with two possibilities being identified as worth further investigation:

1. Selectively discharge water from deeper in the lake
2. Add oxygen to the deep water to counteract stagnation

In December 2005, the Ypsilanti Charter Township Board of Trustees voted unanimously to endorse a series of experiments aimed at testing the concepts of selectively discharging water from the bottom of the dam to normalize the flow patterns in the lake (#1) and oxygen injection (#2) on Ford Lake itself. In its first experiment, U-M scientists discharged 300,000 cubic meters of water per day (123 cubic feet per second) from the bottom of the Ford Lake dam from June 22 to June 30, 2006. The objective was to increase the mixing of surface and bottom waters to avoid the stagnating nutrient-rich build-up. The team will continue monitoring the lakes to measure the effectiveness of this solution.

Additional experiments with selective water discharge are planned during 2006. This fall, a detailed mailing and several public forums will be used to convey information regarding this study to local residents. By summer of 2007, U-M scientists should be ready to try experimenting with the addition of oxygen to the bottom of the lake. They estimate

that it will take about one ton per day to effectively prevent stagnation. The federal agencies sponsoring the scientific work are expected to fund the experiment.

For more information and updates on this project, please refer to the website: www.umich.edu/~hrstudy.

— Donna Lehman,
University of Michigan

Note from HRWC:

While this work focuses on the in-lake nutrient load (the lake bottom sediments), reducing the external loading (i.e., the nutrients entering the river, streams and lakes from upstream sources) is the ultimate solution to improving the quality of Ford Lake and Belleville Lake and preventing future algal blooms. The sooner nutrient inputs are reduced, the sooner the nutrients in the lake bottom sediments will stop being a problem.

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 2006 member dues, mailed to: Huron River Watershed Council

1100 N. Main St.
Ann Arbor, MI 48104

- | | | |
|--|---|--|
| <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 _____

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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.



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Thanks to Our Supporters!

Protecting the Huron 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:**

Ypsilanti Food Co-op for making the Huron River Day canoe trip from Gallup to Peninsular Park fun by providing a light dinner, and **James Mann**, who made the trip more interesting by describing the history of Peninsular Park.

Arbor Farms Market for supplying cookies and lemonade that helped make the Huron River Day canoe trip's stop at Bandemer Park refreshing and fun.

Suzy Heiney, Amy Kuras, and Laura Rubin for making the river and park come alive by giving brief talks about the history and future of Bandemer Park and the Huron River watershed.

Dave Brooks for his thoughtful and generous donation of a computer.

Marilyn and Edward Couture for effortlessly helping with a difficult mailing.

Cedric Richner of Richner and Richner for helping HRWC with fundraising.

Janine and Steve Easter for the delightful summer evening at their home and the wonderful opportunity to tell their friends all about the Huron River Watershed and HRWC.

Mike Bergren, Michele Eickholt and Lee Green for loaning us their metal detectors.

Tim Dekker, Graham Lewis, Sue Lillie, Cullen O'Brien and Don Rottiers for the design and installation of new and improved stream level sensors in Millers Creek.

Gary Hochgraf, John Lillie, Don Rottiers and Nancy Stokes for their careful survey measurements of our stream transects despite the obstacles placed in their path.

John and Sue Lillie and Nancy Stokes for doggedly finding our buried rebar pins against all odds.

Michael Benham, Karl Bates, Jennifer Hardacker, and Rick Ratliff for guiding the Film Festival so adroitly.

Belal Hibri for his talented work to produce a professional trailer for the Millers Creek Film Festival.

Tom Chettleburgh, Margaret Doub and Graham Lewis for continuing to download our transducers.

Robert Duha, Rajeev Jain's family, Rosalie Meiland, John Minderhout and Nancy Stokes for talking to people at our booths at the Green Fair and Huron River Day.

Clara Angove, Rochelle Breitenbach, Erika Carter, Lee Burton, Michele Eickholt, Mick Leiferman, Graham Lewis, Abe, John & Leo Lofy, David Reichardt, Laura Rubin, Molly Wade, Dan Willertz, and John Zielinski for recording the warmest and coolest temperatures in their streams every week.