



Rock River Reflections

A publication of the Rock River Coalition in cooperation with the Rock River Stormwater Group and the University of Wisconsin-Extension

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Geomorphology of the Bark River - a Good Paddle!

By Dr. Peter Jacobs, UW-Whitewater

The Bark River is an interesting and enjoyable river to canoe. The reaches from Rome Pond to STH 106 at Hebron and from Princes Point to Fort Atkinson are

in the Glacial Heritage Area originated through the impact of glaciation on the underlying bedrock topography. The modern courses of our streams originated as glacial meltwater



both popular and easily accessible stretches of the river, and each has a different landscape history that influences the scenery and stream characteristics along the way. All rivers

was finding its way out of south-central Wisconsin, although each valley often has a complex history. In general, the stream network in south-central Wisconsin is described as having been



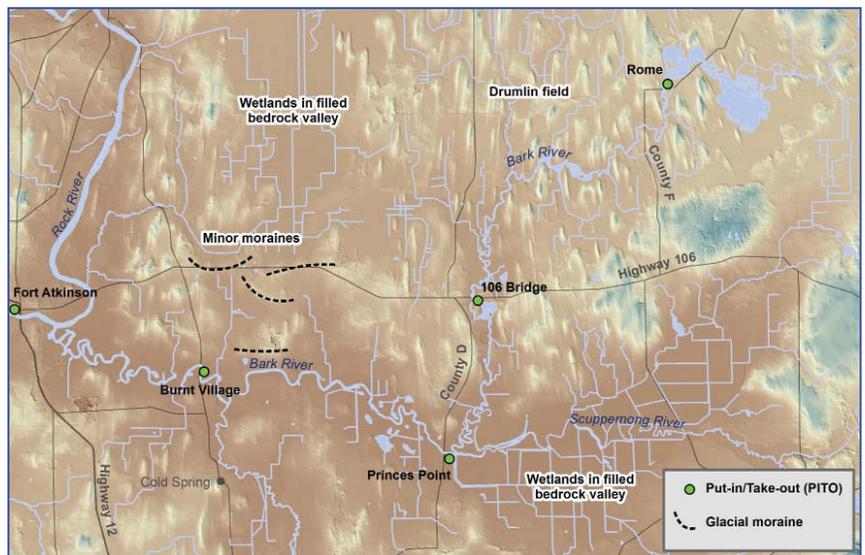
Take time to look for the amazing variety of mussels in the Bark River. Pig Toes, Pocketbooks, Elk Toes, Muckets: all sorts of interesting species.
Photos by Suzanne Wade

“deranged” by glaciation, which resulted in filling of former stream valleys and the new streams developed by connecting wetlands and low areas, often flowing over the top of former bedrock ridges and in other places flowing coincident with former bedrock valleys that are largely filled with sediment but still evident as broad lowlands. The Bark River provides an excellent example of these effects.

has no well-defined valley in the reach, with the stream essentially bouncing between drumlins (hills aligned in a north to south fashion). The gradient of the stream is slightly steeper in this reach, which results in more riffles and a faster stream velocity. The stream bed is typically more sandy and has reaches with boulders and cobbles, since the river is in places cutting through and flowing over the sandy glacial sediment. Water clarity is often greater, reflecting the fact that sands quickly settle from the water column, although later in summer warm stream

From Rome Pond to STH 106, the Bark flows through a relatively new valley that only came into existence after the area's glaciers retreated. The Bark River

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Rock River Coalition President's Message

I have always considered the Rock River Coalition a small but mighty organization. We are small because we only have 2 part-time employees. But we are mighty in many ways. The two most important components to that strength are the hard working Board of Directors and staff, and the key partnerships that the Coalition has formed over the last 20 years. This might is in serious jeopardy if changes are not made to the Governor's proposed budget. If these cuts are not changed by our legislature, then certainly there will be devastating repercussions to the health of the Rock River Basin.

Several of our partners and their programs are in peril due to the Governor's proposed budget. These include:

- Funding to purchase lands that are critical to protecting water resources and sensitive habitats,
- County staff who implement conservation practices,
- Funds to assist farmers with nutrient management,

- State staff who do necessary research that informs critical resource management decisions,
- UW-Extension natural resource educators who provide citizens with essential knowledge and programs,
- And the list goes on and on.

The proposed cuts will mean that the Coalition will no longer be eligible for the grants program through the Department of Natural Resources. This funding has enabled us to achieve many things including support for our citizen stream monitoring program, development of the now state-wide Water Star Program, and work on such issues as advancing the restoration of wetlands and controlling invasive species.

It was a DNR grant that helped the Coalition develop shoreline restorations and rain gardens in many basin municipalities.

The Rock River Coalition Board decided to take action by writing a letter to the Joint Finance Committee and the legislators in the basin stating our opposition to just a few of the

proposed changes to the budget (see page 3). We hope that you will also take action by contacting your legislators and the Joint Finance Committee. To do this, you can find contact information for the legislators at this website: <http://legis.wisconsin.gov/>.

There are many other budget cuts that are a concern for the Rock River Basin. I encourage you to read the budget analysis written by the Wisconsin League of Conservation Voters to find out more: <http://conservationvoters.org/>.

If these cuts to the budget are sustained, it will certainly take away much of the Rock River Coalition's might. It is important now more than ever to support your local and regional resource organizations. If you haven't become a member of the Rock River Coalition yet, please consider it today!

Patricia Cicero,
RRC President



Mission

"To educate and bring together people of diverse interests to protect and improve the economic, environmental, cultural, and recreational resources of the Rock River Basin in Wisconsin"

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Next deadline is June 30, 2015.

A letter-sized color version of this newsletter is available at www.rockrivercoalition.org.

Sign up for a monthly email update at <https://lists.uwex.edu/mailman/listinfo/rock-river-basin-update>.

Contact Marie Rubietta at marier@jeffersoncountywi.gov if you'd prefer a pdf of the newsletter emailed to you.

RRC is a 501(c)(3) not-for-profit organization, providing equal opportunity in employment & programming.

TTY: 711 for Wisconsin Relay

If you need special accommodation for programs please contact the RRC at least two weeks in advance.

Get to Know Our Award Winners

Individual Category: Rick Eilertson is the Environmental Engineer for the City of Middleton. Rick helped conceive the Wisconsin Water Star Program, has been a leader in the Legacy Community (Green Tier) Program for the state and has helped make Middleton a leader in sustainability and water protection efforts in the state.

Elected Official: Joe Parisi, Dane County Executive. Joe firmly and deeply believes in the importance of protecting our natural resources. He has shown that commitment with the investments Dane County has made to protect the vast waterways of the county.

Organization: The RRC is honoring two award winners in this category.

The City of Beloit has been a leader in the promotion of salt reduction strategies for municipalities. Their staff have often been the key presenters at conferences and webinars on the topic. Over the past ten years, their river fronts have changed dramatically with the removal of flood prone buildings. This hazard mitigation and beautification reflects sound decision-making and forward thinking by the city.

The Rock River Trail Initiative has become an important force in the basin over the past five years. In 2000 the Rock River Trail was just an idea, now it is a nationally recognized water trail with key supporters in every municipality that borders the river in two states. The trail also includes driving and biking options.

Educator: Linda Reid is the Director of the Institute for Water Business (IWB) and an Associate Professor of Law at UW-Whitewater. She developed and leads the UW-Whitewater Water Business Program, created the College of Business & Economics' Water Business Minor, and is the faculty advisor to the University's Water Council.

No Genetic Evidence of Invasive Snail Found Outside One Wisconsin Stream

Good News: Results from a multistate environmental DNA sampling effort did not detect any genetic evidence of New Zealand mudsnails in Illinois, Iowa or Wisconsin outside of Black Earth Creek in Dane County, Wis.

The New Zealand mudsnail was found in Dane County's Black Earth Creek in 2013 – the first appearance of the snail in the Midwest outside of the Great Lakes basin. Although they measure just one-eighth of an inch in length, New Zealand mudsnails multiply quickly and alter resources used by trout and other stream animals.

The study was done by the Upper Midwest Environmental Sciences Center in La Crosse and the University of Wisconsin–Stevens Point. These genetic sampling techniques have been shown to be more sensitive in detecting rare organisms than conventional sampling methods.

"The Stop Aquatic Hitchhikers guidance of cleaning debris and draining water from gear are good first steps," said Bob Wakeman, aquatic invasive species program coordinator for the Wisconsin DNR. However, given the hardness of these snails, additional steps are encouraged, including scrubbing gear with a brush to remove the hard-to-see snails, freezing gear or soaking it in hot, 120° F water.

"By taking these steps," said Wakeman, "all water users can protect Wisconsin waters from the impacts of invasive species."

To learn more, visit DNR.wi.gov and search "New Zealand mudsnail." For the complete USGS report on the eDNA monitoring project, visit <http://goo.gl/rZVh7S>.

CONTACT: Maureen Ferry, DNR aquatic invasive species monitoring coordinator, 608-261-6450; Maureen.Ferry@wisconsin.gov

Concerns of the Rock River Coalition Board concerning the 2015-17 State Budget

By Eric Compas and Patricia Cicero, RRC Board Members

As a nonpartisan and nonprofit organization, the Rock River Coalition works to build alliances and consensus among all stakeholders in the region to protect the watershed. Every so often, though, proposed changes in policy or funding directly affect our mission and our ability to protect and improve the Rock River Basin.

In our review of Governor Walker's proposed state budget for 2015-2017, we found several changes that will likely have a substantial negative effect on the basin and its water quality. We encourage you to learn more about the proposed changes and to ask your representatives to minimize their impacts.

Here are our top concerns:

1. Consolidating control in the DNR Secretary (removing authority from the Natural Resources Board)

The budget removes the authority of the Natural Resources Board to govern the DNR and consolidates power under the DNR Secretary, who is a political appointee.

This change will substantially reduce our local community's voice in DNR oversight and rule-making and will reverse an almost 100-year-old tradition of a community voice in conservation.

It will greatly reduce our capacity to control our basin's own destiny.

2. Moratorium on Knowles-Nelson Stewardship Program land purchases

By limiting spending, the budget would place an effective moratorium on Stewardship Program spending until at least 2028 (past when current authorization for the Program ends in 2020). Our basin has greatly benefitted from Program purchases, including Korth Park where we've held our annual meeting in the past. Without the program, the DNR and local partners will have no flexibility in increasing recreational and hunting opportunities and protecting sensitive lands within our basin.

3. Eliminating funding for non-profit organization and environmental education grants

The budget eliminates \$1.4 million in capacity-building grant programs that the Rock River Coalition and similar organizations have relied upon to do our work and provide resources to volunteers. These grants allow the DNR and the state to accomplish considerable conservation work, such as our stream monitoring program, at low cost.

Specifically, these cuts would eliminate state funding for the Ice Age Trail which has a significant stretch through our basin and eliminate the Wisconsin Environmental Education Board (WEEB) and the grants they provide.

These programs are effective and cost-

efficient ways for the state and DNR to achieve conservation goals and should be maintained.

4. Reduced funding and staff for water quality programs

The budget reduces funding for staff to county Land and Water Conservation Departments by \$815,000 per year and reduces funding for conservation practices by \$250,000 per year. Both cuts would negatively impact the Rock River Recovery effort and our ability to reduce nonpoint source pollution to our waters.

5. Reductions in DNR scientific staff

The proposed budget cuts 66 DNR positions, 18 of which come from the Bureau of Science Services and account for one-third of its staff. Our board works regularly with DNR staff and scientists and has witnessed the growing challenge of DNR employees in accomplishing their jobs. We see these position cuts as a direct attempt to weaken DNR's ability to carry out the laws that protect our state's land and waters.

As a board, we believe these budget and policy changes do not reflect the best interests and values of our members and the citizens of the Rock River Basin. Please take the time to review these proposed changes, reach your own conclusions on their impacts to the Basin, and contact your representatives to share your views.

New Guide for Local Watershed Planning

UW-Extension recently announced a new publication focused on lake and river protection called "A Citizens Guide to Watershed Planning in Wisconsin."

The 44-page booklet helps individuals and groups create a watershed restoration team, draft a watershed restoration plan, and implement water quality improvement practices.

The guide was designed to be most useful for citizen-led restoration initiatives, but it also has helpful information for county land conservation departments, regional DNR staff, non-profit groups, and municipal wastewater treatment staff, according to Dan Zerr, the primary UW-Extension author.

In fact, Zerr said, the guide's tables, figures, and glossary contain basic information and tips for anyone interested in protecting their local waterways, even if they are not currently ready to start a full-scale restoration effort.

For those who are ready, the guide devotes several pages to developing plans that meet the Environmental Protection Agency's nine key watershed planning elements. Including these elements has become very important in the last few years as both DNR and EPA have tied them to eligibility for some grants.

The booklet is currently only available digitally as a PDF at its companion website: <http://fyi.uwex.edu/watershedplanning/>

Community Shares of Wisconsin: The Big Share

The Rock River Coalition participated in The Big Share on March 2nd, a fundraising day organized by Community Shares of Wisconsin.

Thank you so much to everyone who donated. Especially the person who gave a \$280 gift; enough to purchase one level 1 kit for a new monitoring team.

Total contributions for the day were \$914. All will be used for our monitoring program.

Geomorphology of the Bark

Continued from Page 1

temperatures allow algae growth that obscures clarity. And of course some parts of this reach do flow over muddy sediments that contribute to higher levels of silt and clay that can also obscure clarity.

From Princes Point to the confluence with the Rock River, the Bark River flows through a filled valley. The valley is carved into bedrock and is a broad and deep valley that extends from Waukesha County, across Jefferson County, and then south into Rock County at the southwest end of Lake Koshkonong.

However, because the bedrock valley is almost thoroughly filled with up to 300 feet of glacial sediment, the surface expression is of a broad flat region. This area was formerly filled with wetlands and floodplain forest,

but today it contains many large agricultural fields. Along this reach of the Bark River, very little high topography is near the channel and instead the channel meanders in amongst floodplain forest, wetlands, and some agricultural fields. Mostly the channel banks rise only a few feet at most to the modern floodplain. In a few areas along this reach, paddlers should look for thinly stratified muddy sediment exposed in the higher cutbanks. The stratified muddy sediments were deposited in an extensive lake that existed in low areas in front of the melting ice sheet, and while the river has eroded much of the sediment in building the modern channel and floodplain, the high remnants mark the abandoned lake bottom. This landform is called a terrace. The gradient of the stream is gentle in this reach, which results

in broad meanders, few riffles, and slower stream velocity. The stream bed is either hard mud or mucky sediment and no boulders occur along this reach except where placed on the bank as rip-rap. Water clarity is almost always low, reflecting the fact that the stream is flowing over and cutting into banks of mud. By late summer the warm stream temperatures allow abundant algae growth that further obscures clarity.

The Bark River is an easily accessible river with several put-ins and take-outs that allow paddlers to choose trips ranging from two to six hours. Regardless of route or time on the water, the paddling is pleasant, noise from adjacent roads is minimal, the scenery is interesting, and bird sightings from waterfowl to eagles are common.

April Showers Bring Stormwater Runoff

By Becky Binz, Rock River Stormwater Group Education Coordinator, MSA Professional Services

In fact, all showers bring stormwater runoff. And runoff, be it from roofs, lawns, driveways, or roads, eventually ends up in our lakes and rivers. There is something that many of us can do to reduce that runoff and beautify our yards: Plant a rain garden! We have some great resources to get you started, but first we'd like to bust some myths:

1) Rain gardens are not a breeding ground for mosquitoes.

Mosquitoes need 7-12 days of standing water to lay and hatch eggs. Rain gardens may have some standing water for a few hours after a storm, but they are dry between rain events.

2) Rain gardens do not require a lot of maintenance. Rain gardens are not maintenance free, but they also do not require much maintenance. The first two years will be the most crucial as far as maintenance; you will need to do some watering and weeding during this time. After that the rain garden is mature and will only require some thinning from time to time.

3) Rain gardens are not expensive. While hiring someone to design and install a rain garden on your behalf can get pricey, you can do much of the research and installation yourself. There is a wealth of material online to guide you through rain garden design and installation. If you go this route your only cost is the cost of the plants. You can do it!

Now that myths have been busted, what exactly is a rain garden? A rain garden is planted in a shallow depression and contains native plants and grasses which have deep roots. These deep, fibrous roots create root channels and when old roots decompose this results in more porous soil and water soaks in more quickly. The plants and grasses in rain gardens are unique in that they are typically heartier and can withstand periods of drought and short periods of standing water.



A rain garden with a curb cut, receives rain water from the lawn as well as from the street.

Photo credit: US EPA

If you are interested in building your own rain garden, you are in luck – resources abound! The Wisconsin DNR and the University of Wisconsin Extension both have several “how-to” guides on their websites and a general web search will reveal countless others.



This article is brought to you by the Rock River Stormwater Group, a coalition of ten communities and UW-Whitewater committed to improving the Rock River's health. Thank YOU for helping to Renew the Rock by planting a rain garden this year.

Learn more at www.RenewTheRock.com.

UW-Whitewater Partners with the Rock River Stormwater Group to Teach about Water

By Anna Courtier, UW-Whitewater

The UW-Whitewater Science Outreach group has partnered with the Rock River Stormwater Group to deliver stormwater education activities to K-12 students. We are currently running demonstrations and hands-on activities with elementary schoolers (Kindergarten – Grade 5) and working on a “scale-up” of the curriculum to work with middle schoolers as well. We have run these activities in classes during the school day, as part of an after-school program, and at family science events, and we also have a demonstration planned at a public library.

The EnviroScape brings runoff to life

The activities focus on a balance between stormwater surface run-off and percolation into the ground. First, students explore with “EnviroScape” landscape models. These models are used to help students track the flow of surface water and pollutants into local waterways. Students sprinkle cocoa on the models to represent exposed soil on farm fields and at construction sites, powdered drink mix to represent fertilizer on farm fields and personal lawns, and sugar or salt on roadways to simulate road salt or salt solutions used in the wintertime. After the models have been prepared, kids are given water bottles to simulate both gentle and heavy rains on the surface. As water soaks into the ingredients students added to the surface, channels of water flow and these materials can be seen flowing into storm drains and into the river itself.

One really interesting observation is that many of the younger kids initially think that the sugar or salt disappears when it is wet, because they can no longer see it. Continued observations of the drink mix and the cocoa usually lead them to realize that the road salt flows into the river too, even if it is “invisible.” *This realization that we can't always see pollution is a big one for kids this age!*

After the surface water run-off activity, students are introduced to the idea that precipitation falling on permeable surfaces has a chance to soak into the ground, recharging groundwater and reducing pollution. We have tried this activity in a variety of ways, but the version that seems to work the best with this age group lets the students form groups to compete and try to create a soil column that does the best job cleaning up polluted water. Students are given a plastic bottle to fill with layers of gravel, aquarium rocks, sand, and potting soil. They can choose the order and amount of each material within their group. Then, each group receives the same amount of powdered drink mix and water to pour onto the surface of their soil column. The water percolates through the soil, and students can observe the color and amount of water coming through the other end of the column. The group with the cleanest water wins, and then we discuss the additional influence of plants and vegetation, and how these types of surfaces relate to their own yards. The students really seem to enjoy these activities, and we almost always witness an “a-ha!” moment as kids realize something new about stormwater or groundwater.

This partnership is working well and we enjoy collaborating with the Rock River Stormwater Group to introduce the next generation to the importance of clean water.



Students experimenting with an EnviroScape model to observe the path of stormwater run-off at UW-Whitewater's Passport to Science event, October 2014.

GHA Paddle Volunteer Corps: A New Local Group for Paddlers

By Clare L Carlson, President, Friends of Glacial Heritage Area and Kevin Wiesmann, Parks Operations Supervisor, Jefferson County Parks Department



The Glacial Heritage Area, centered in Jefferson County, includes portions of Dane, Dodge and Rock Counties.

Where is the Glacial Heritage Area?

The Glacial Heritage Area (GHA) in southern Wisconsin is a region located within the eastern portion of the Rock River Basin. An area centered in Jefferson County, the Glacial Heritage Area also incorporates portions of eastern Dane, northern Rock and southern Dodge counties (see map).

In addition to encompassing thousands of miles of state and county land, including wildlife and state natural areas, parks, river-based conservation areas and multi-use trails, the Glacial Heritage Area is also home to many recreational public-use watertrails, including ten lakes and eight paddleable rivers and creeks, each with access points for the boating public.

As a result of the GHA designation to this region, the Friends of GHA was formed as a nonprofit support organization. The Friends coordinate "silent sport" and educational activities to connect people to the GHA in a wide variety of ways and interests such as guided bird walks, paddles, environmental education

programming, art instruction, and bike tours. As the Friends continue to grow our membership, program leaders have learned that an additional element in the effort of making connections to surrounding natural resources is through volunteer work.

GHA Paddle Volunteer Corps: Making Connections

With this idea in mind, the Friends and Jefferson County Parks Department have organized a new volunteer group called the GHA Paddle Volunteer Corps with the central duty of assisting County Parks staff with watertrail maintenance. As members of the Coalition, you are aware of the importance of volunteers to complete tasks such as stream monitoring; in addition, you recognize that this work is a great way for folks to find value and make a personal connection to water resources.

To be sure, the Friends has experienced this connection through other volunteer work—prairie restoration projects, invasive plant removal, and trail-building—and is pleased to now offer watertrail maintenance through the Paddle Corps.

Paddle Corps Work Days

Under the guidance of the County Parks Department and Kevin Wiesmann, Parks Operations Supervisor, the Corps' main tasks will be the removal of obstructing debris and litter. "Our goal is to remove only those logs and branches that inhibit paddle craft from getting through an



Volunteers enter the water to pull debris onshore.

area. We aim to remove debris gently, surgically, so to speak, so as to be as light on the land as possible," said Mr. Wiesmann at the latest Corps leaders meeting.

Volunteers with chainsaws will cut fallen logs while others will pull branches and logs to shore. All private homeowners along a waterway will be contacted prior to each work day for permission to use shorelines. Most hand tools will be provided, but volunteers will be asked to bring their own waders as well as sign waivers prior to launch. A full list of supply needs will be sent out to the Corps mailing list.

In order to accommodate a variety of schedules, work days will be organized for both weekday and weekends. Days scheduled at this time are: May 30 and June 13 on the Koshkonong Creek, and July 18 and August 22 on the Bark River. As with all Friends volunteer

activities, volunteers are free to help out as much or as little as they choose. If interested, contact Clare at friendsofgha@gmail.com. For a complete list of work days and further details, visit www.glacialheritagearea.org.

Paddle Corps Outings

Happily, the Corps is not all about labor—leaders are also organizing a number of weekday and weekend group paddles. The first weekend paddle is scheduled for Saturday, May 16 at Red Cedar Lake to observe bird migration, and we'll also paddle the Bark River in mid-June. Please visit our website, Facebook page (Glacial Heritage Area) or join the mailing list (contact Clare at friendsofgha@gmail.com) for more information and to participate.

The initial response to Corps work days and paddles has been very enthusiastic; we look forward to a productive and enjoyable season.



Folks gather at the launch site before Friends paddle down the Bark River. Photo by Kevin Wiesmann, 2014.



600 Gallons of Free Water

600 gallons. That's the amount of free water that comes from a 1000 square foot roof in every one inch rain event. Harvesting rainwater and backyard composting don't just make healthier plants; they also help sustain communities by reducing runoff.

Stormwater runoff, a by-product of every rain event, carries organic materials loaded with phosphorus into our waterways and is fueling excess plant and algae growth that is plaguing Madison lakes. It is estimated that the urban communities alone contribute about 30% of the total phosphorus that enters lakes Mendota, Monona, Waubesa, Kegonsa, and Wingra each year. Just one pound of phosphorus, the equivalent of about one large compost pile of leaves, can generate up to 500 pounds of algae if not managed correctly by homeowners.

Rain barrels along with compost bins will be available for discounted prices at the Compost Bin and Rain Barrel Sale on Saturday, May 9th at the Alliant Energy Center parking lot for both Madison and non-Madison residents. Compost bins will be sold for only \$69.99 and 50 gallon rain barrels with a diverter are just \$119.99. Area residents who pre-order before by April 27th will save an additional \$10 off.

This opportunity is open to both Madison residents and non-residents. For more information and to pre-order your rain barrel and compost bin, supplies are limited, visit <http://www.cityofmadison.com/streets/compost/CompostBinSale.cfm>.

Rain Barrels come in all shapes and sizes. City of Madison is offering two sizes of the Rain Reserve style rain barrel shown here.

Stream Side Notes

By Nancy Sheehan, RRC Volunteer Stream Monitoring Coordinator, nancy@rockrivercoalition.org

Spring Equinox and World Water Day

March is often a hard month to live through. If you are like me, you are anxiously awaiting the warmer temperatures of spring and summer. But before the Northern Hemisphere tips toward the sun and we plunge headlong into our favorite summer activities, I wish to take this moment to focus on the critical role each of you continues to play in protecting our streams in the Rock River Basin. Through our citizen stream monitoring efforts, we continue to call attention to the water quality challenges facing our streams. We also expand our community of people committed to improving streams. So, next time you stand in a stream, remember the part you are playing in Wisconsin's proud tradition of holding our waterways in public trust for future generations. Please know that you are acting locally to implement the goals of the Clean Water Act to protect and restore our waterways. Thank you for continuing to be the voices of our streams.

More changes for the state-wide Water Action Volunteers Program

As some of you may already know, Kris Stepenuck, state-wide WAV coordinator, will be stepping down to take a faculty position at the Rubenstein School of Environment and Natural Resources, University of Vermont. For the past fourteen years, Kris has provided invaluable leadership transforming the idea of citizen engagement in water quality monitoring into a reality. Starting out with just four volunteers in 1996, Kris has worked diligently and collaboratively with many individuals, nonprofit organizations and governmental agencies to build a successful program with 641 volunteers today. The Rock River Coalition wishes Kris much luck at the University of Vermont – their gain is our immense loss.

Citizen stream monitoring project in Yahara River watershed

On February 28th, around thirty volunteers and members of non-profit organizations joined together to celebrate streams in the Yahara River watershed. The workshop was made possible with funding from Yahara WINs. The City of Fitchburg donated the conference room at the beautiful Community Center. Assisting in the organization and facilitation of this workshop were Allison Werner with the River Alliance of Wisconsin and Nik Simonson with Dane County Office of Lakes and Watersheds. During the workshop, various speakers provided a summary of the adaptive management program and results from both the citizen stream monitoring program as well as USGS gauges across the watershed. With presentations from various panelists, participants learned about stream restoration projects. Presentations by all facilitators can now be viewed on the RRC Citizen Stream Monitoring web page.

Presenters included: Ralph Erickson, Madison Metropolitan Sewerage District; Todd Stundebeck and Faith Fitzpatrick, Water Science Center, USGS; Bob Hansis, Inter-Fluve, A River Restoration Design and Assessment Firm; Wade Moder, Executive Director, Upper Sugar River Watershed Association; Steve Richter, Director of Conservation Programs, The Nature Conservancy.

Also available on our website are water quality reports for all sites in the Yahara River watershed.

ESRI ArcGIS Mapping

Not only is the RRC indebted to the UW System for leadership shown by UW-Extension over these past twenty years, UW System faculty and staff continue to support our work in many ways. This past month, I have been fortunate to work with Karen Tuerk who is the GIS Certificate Program Manager for the UW Department of Geography. Ms. Tuerk has helped in the development of a preliminary map using our new on-line subscription to ESRI ArcGIS. Ms. Tuerk has provided invaluable assistance. I am hoping that a UW GIS Certificate graduate student will continue the work we have started as part of his/her capstone project. If you are interested in helping with this initiative please contact me.

WAV funding for total phosphorus monitoring

The 10 volunteers across the Rock River Basin who requested funding from the WAV program to conduct phosphorus sampling are still awaiting word on funding.

RRC wins grant award from WDNR

Last month, we received the good news that the RRC was awarded a River Planning Grant from the WDNR to analyze water quality data collected by volunteers over the past 12 years and to issue a basin-wide water quality report card. The RRC will now be able to strengthen the RRC stream monitoring advisory committee with the assistance of Allison Werner, River Alliance of Wisconsin. Stay tuned for more updates.

Spring Training—Help get the Word Out!

Here are the current spring workshops. One more may be added in Dodge County if Bonnie Borden 4H Educator develops groups of 4-Hers and families interested in monitoring.

Please help to publicize these volunteer trainings. More volunteers mean more streams can be included in our citizen monitoring program.

2015 Spring Stream Monitoring Training Workshops

Level 1 Baseline Stream Monitoring Training

Saturday, 9 May: 9:00am–2:30pm
Amundson Center, 200 Spring Street, Cambridge

Saturday, 30 May: 9:30am–2:30pm
Turtle Creek Parkway, 6528 South Smith Road, Clinton (Rock County)

Level 2 and Level 3 Nutrient Sampling Training

DeForest Area Public Library, 203 Library Street, DeForest
Saturday, 2 May 2015: 9:30am–12:30pm

What Do These Levels Mean?

Level 1 Baseline Monitoring Program

- Experience: No prior experience is necessary.
- What volunteers monitor: Level 1 volunteer stream monitors collect data on temperature, stream flow, dissolved oxygen, water clarity and biotic diversity of aquatic critters. RRC provides all necessary training and usually all equipment. All RRC volunteers use state-wide Water Action Volunteers (WAV) program methods and enter data into a state-wide database.
- Time Commitment: Level 1 volunteer monitors to visit their stream sites once a month from April to October. Site visits usually take about 2 hours.
- Location of Stream Site: You can choose a stream site or the RRC coordinator will assign a site to you. All stream sites are wadeable.
- Equipment Needs: All equipment is provided except for either a pair of shoes you do not mind getting wet or hip waders.
- Training: At the training, you will learn all the monitoring techniques necessary to become a Level 1 volunteer stream monitor.
- *For your viewing pleasure:* Here is a link to a great video series created for the WAV program: <http://watermonitoring.uwex.edu/wav/monitoring/video.html>.

Level 2 Water Quality Trends Monitoring Program

- Experience: Some prior experience is necessary. Many of our volunteers begin at as Level 1 volunteers then “graduate” to Level 2.
- What volunteers monitor: At this level, volunteers measure clarity and use meters to measure dissolved oxygen levels. Volunteers also place small temperature reading devices-called thermistors—in the stream bed.
- Time Commitment: Our Level 2 volunteer monitors visit their stream sites once a month from April to October. Site visits usually take about 1.5 hours.
- Location of Stream Site: Level 2 sites are preselected and are wadeable. Please contact the RRC coordinator for a list of sites waiting to be “adopted”.
- Equipment Needs: All equipment is provided except for a pair of shoes you do not mind getting wet or hip waders.
- Training: At the Level 2 training, volunteers learn how to calibrate the dissolved oxygen meters and how to place thermistors at their stream sites.

Level 3 Nutrient Sampling Program

Some prior experience is necessary but exceptions can be made. All monitors must attend the training workshop. Our Level 3 monitoring program in the Yahara River watershed centers around nutrient sampling – particularly focusing on total phosphorus which is a major contributor to algal blooms in the Yahara chain of lakes. All level 3 sites are preselected.

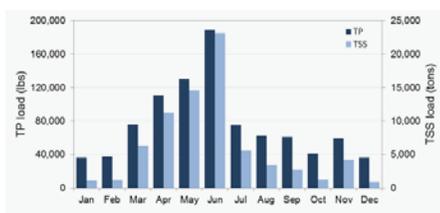
Level 3 volunteer monitors visit their stream sites once a month from April to October. Site visits usually take 39 minutes. Volunteers take their samples to MMSD Nine Springs Plant in a cooler within 14 hours of sampling. MMSD will analyze the samples for nutrients at their labs.

That's a Lot of manure!

By Suzanne Wade, RRC Board member

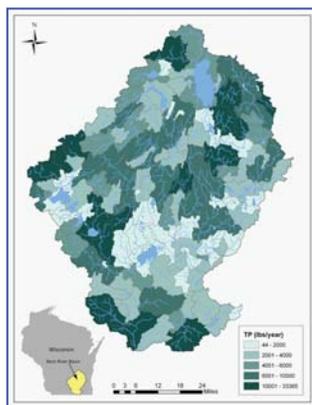
Our waterways are most at risk for agricultural runoff during the months of March, April, May and June. Because it is almost impossible to spread the vast amount of manure generated by farm animals when crops are growing, farmers spread the manure in the fall and primarily in the late winter and early spring. Couple this spreading with winter snow melts, frozen ground, and spring rains, and the result is manure running off fields and sometimes reaching our waterways.

The trickiest time for spreading is when the ground is frozen, because if there is rain or sudden snow melt all that valuable soil nutrients in manure may wash off the land with the water. Especially on fields that aren't flat or are close to waterways. As you can see from the chart, taken from the 2010 Rock River



TMDL Report, phosphorus spikes in the late winter through late spring because of these factors.

Most Rock River Basin farmers are good stewards of their land and of our water resources. However, with 62.5% of the land in agriculture, what happens on agricultural lands, and decisions farmers make regarding their operation, has a critical impact on water quality. The map shows you areas in the basin which are most responsible for phosphorus in our waters. The darker the shade, the more phosphorus entering our waterways. Phosphorus is a concern as it causes unwanted algae and aquatic plant growth.



Animal manure contains pathogenic microorganisms, growth hormones, antibiotics, chemical cleaners from process water and nitrogen and phosphorus compounds. Improper storage and land application of manure

have resulted in polluted runoff to lakes, rivers and streams and infiltration to groundwater causing contamination of private wells with nitrates and bacteria.

Managing manure to ensure benefits and reduce harm is particularly a concern with large confined animal feeding operations or CAFOs. These are farms with more than 1,000 animal units. Currently, there are 35 CAFOs in the Rock River Basin with more proposed. This includes 22 dairy, 7 beef and 6 chicken facilities.

Animal feeding operations are classified by animal

type and number and the term "animal unit" is used as a measure of manure production. An operation that exceeds 1,000 equivalent animal units is designated as a CAFO. The number of animal equivalents to 1,000 animal units varies by type: 715 milking cows, 1,000 beef cattle, 2,500 pigs, 30,000 chickens (wet manure) or 82,000 chickens (dry manure).

The DNR requires that these large farms have no discharge of manure from the buildings where the animals are housed. The farms are required to apply their manure according to a Nutrient Management Plan, most do this by holding the manure in storage tanks and emptying these tanks once or twice a year by land spreading, injecting the liquid material into the ground or aerial spraying. A few CAFO's in Dane County pump their manure to a biogas digester which removes a significant amount of phosphorus and returns nitrogen rich liquid back to the farm.

Aerial spraying of untreated manure is a highly controversial practice. While it allows the manure to be spread on growing crops, it does aerosolize and can cause air, water and human health concerns. Of particular worry are bacteria that could be air borne and infect nearby residents. This is a growing practice in the state. Currently a task force is exploring what rules or management practices should be required for manure that is applied through irrigation systems.

Currently aerial application is a limited practice in the Rock River Basin, but the practice is cost efficient and maximizes the value of the nutrients during plant growth, so it is likely to become more common state-wide. Most farms truck manure to apply it, which is more costly than pumping it to the farm field.

We applaud all the farmers in the Rock River Basin who take the extra steps to insure that the manure from their animals stays on the land.

In our next issue we will do another article with more information on all types of land spreading including municipal, industrial, septic and agricultural effluent. Surface water isn't our only concern, we will also discuss the recently passed groundwater protection ordinance passed in Keweenaw County.



Center pivot irrigation equipment for aerial spray of untreated livestock manure.

Become a RRC Member

In addition to supporting RRC work, members receive newsletters, notices of conferences, and special events. To become a member, complete the following:

Name _____

Title _____

Affiliation _____

Address _____

City _____ State _____

Zip _____ Phone (____) _____

E-mail _____

I am a member of _____ Chapter.

Memberships Fees

Individual	\$ 25
Family	\$ 35
Student/Senior Citizen	\$ 15
Classroom	\$ 25
Affiliates*	\$ 50
Municipal**	\$125
Corporate	\$ 200

*Includes small businesses, organizations, lake districts, small municipalities and individual municipal departments
 **Covers entire municipality including all departments, administrative staff and elected officials

Any donation or membership of \$150 or more will be recognized and linked to your website from our website: www.rockrivercoalition.org

Donors of \$500 or greater will receive an ad in this newsletter. Check out our website for more information.

Tax Deductible Donations

Amount	Purpose
	General Support
	Citizen Monitoring
	Other:

Donations are greatly appreciated and can be targeted towards specific projects.

Please mail this completed form with check to:

Rock River Coalition
 864 Collins Rd
 Jefferson, WI 53549

or register and pay online with PayPal at:
www.rockrivercoalition.org/membership.asp

RRC Annual Meeting & Awards Ceremony

Tuesday May 12, 2015 5:00 - 8:00pm

CamRock Cafe and Sport

217 West Main Street, Cambridge, WI

Cost: \$16/person

Register by May 7th, 2015 by sending your name, address, phone and email along with a check to: RRC Annual Meeting, 864 Collins Rd, Jefferson WI 53549.

Or register and pay via PayPal from our website.

5:00 - 5:30 **Mingle:** with members, friends, board of directors and guests.

5:30 - 6:30 **Eat:** Meal will include: Queso & pico served with blue chips, hummus platter with assorted veggies & toasted flatbread, meatballs in BBQ sauce, assorted toasted sandwiches - quartered, strawberry spinach salad and assorted cookies. Also ice tea and water. Other beverages available for purchase. Price includes tip and tax.

This is a good time to talk about the Coalition and what we should be doing together to protect and improve our Rock River Basin.

6:00 - 6:30 **Annual Meeting and Awards Ceremony:** Please come and thank our award winners - See page 2 for more information about each of our great River Protectors.

River Protectors: Dane County Executive, Joe Parisi; City of Middleton Environmental Engineer Rick Eilertson; Rock River Trail Initiative; UW-Whitewater Director of Institute for Water Business, Linda Reid; and the City of Beloit. RRC Friends Awards will be given to Scott Taylor, Joleen Stinson, Jim Koepke and Rock River TMDL Group.

6:30 - 7:30 **Keynote** By Scott Taylor, owner of Taylor Conservation LLC, an ecological consulting firm.

Identifying Actually Restorable Wetlands in the Subwatersheds of Horicon Marsh & Lake Koshong

All RRC members are encouraged to attend, enjoy and meet with others involved in RRC activities. The public is welcome!

Call for Nominations to the RRC Board

If you care about the Rock River Basin and want to encourage cooperation between people of diverse interests, want to see improved water quality in the Rock River, a vibrant economy that supports agriculture and sustainability and recreational opportunities for all, then please consider running for the Rock River Coalition's Board of Directors.

If interested contact President Patricia Cicero at patricia@rockrivercoalition.org.

Critters Rule at the Dodge County 4H Family Learning Day



Jeanne Scherer and students at the Dodge County Family Learning Day
Photos by Suzanne Wade

Jeanne Scherer DNR Aquatic Invasive Species Specialist braved the cold and icy waters of two streams in the Rock River Basin to bring an assortment of stream critters (also called benthic macroinvertebrates) to the annual Dodge County 4H Family Learning Day.

The students, ranging in age from early elementary through high school, along with a parent, poured through the contents finding lots of scuds, mayflies, midges, damselflies, and fingernail clams.

Since the samples came from streams going in and out of Rock Lake and Ripley they also learned about zebra mussels and Chinese mystery snails, both invasive species.



Jeanne was joined by RRC Board Member, Suzanne Wade who explained the RRC monitoring program, what its value is and how they could get involved.

Bonnie Borden, the Dodge County Dairy & Livestock Youth Educator is hoping to develop a group of 4H and family monitors.

We wish her well, we definitely need more monitors in Dodge County.

Water Star Wisconsin Creating Community of Practitioners Through Webinars

Water Star Wisconsin has again partnered with the Green Tier Legacy Program of the Wisconsin DNR to put on monthly municipal Sustainable Strategies webinars for 2015.

The shows, which are offered at no charge, air from noon until 1pm and can be seen from any computer with an internet connection.

Because of the professionalism of the presentations that span a variety of disciplines, attendees are eligible to receive certificates of participation to submit for on-going credits to their professional organizations.

Water Star Wisconsin is designed to honor municipalities who do outstanding work to provide their communities with safe and abundant groundwater; lakes and streams protected from polluted runoff; and maintain educational outreach for their citizens about water use issues.

The upcoming programs are explorations into topics that affect all of our lives. Presentations are interactive, concise, and research-driven, pitched at a level for practitioners who handle these infrastructure challenges.

Takeaways for professionals are how-tos from case studies of best management practices; latest looks at applied research on topics of practical interest.

Citizens and policy makers can expect deeper understandings of the day-to-day issues facing public works professionals and municipal staff.

Registration can be found at:
<http://waterstarwisconsin.org>.

Upcoming Water Star Webinars

April 16

A Cost Benefit Analysis of Securing LEED Certification for Municipal Projects

Presenters: Korrine Haefel, Executive Director, Wisconsin Green Building Alliance and Heather Goetsch, Program Manager, Wisconsin Green Building Alliance

May 21

PACE Works – Engaging Your Business Community to Meet Your Energy Efficiency Goals

Presenter: Monica Curtis, Executive Vice President, Energy Operations, Wisconsin Energy Conservation Corp.

June 18

Road Ditch Maintenance to Protect Streams and Water Quality

Presenters: Jesse Schomberg, Program Leader/ Author "Guide to Rural Ditch Maintenance"

Maureen Millmann, Environmental Analysis and Review Specialist, WDNR

For questions about the program, contact Andy Yencha, Water Star Coordinator, at 414-256-4631