

# News on the Sugar

A newsletter distributed by the  
Upper Sugar River Watershed Association  
Winter 2017



## Message from the Director by Wade Moder

Like any good organization, our goal is to accomplish as much as possible, as efficiently as possible, using a limited amount of resources. It's always challenging and yet very rewarding. Through the power of one part-time staff person (that's me), an army of dedicated volunteers and lots of coordination, the following is a sample of our accomplishments from 2016:

- Organized the "Farmers for the Upper Sugar River" group focused on limiting agricultural runoff and maintaining clean water in our streams and rivers. Nearly \$30,000 has been raised so far to fund best management practices for farmers in the watershed.
- Adopted the Sugar River Wetlands State Natural Area and organized eight volunteer workdays (380 total volunteer hours) to remove invasive plants and restore the natural prairie.
- Performed phosphorus testing at 15 watershed locations to create baseline data for future management strategies.
- Completed a partnership with UW-Whitewater to create an erosion vulnerability model on agricultural lands.
- Began a partnership with Mount Horeb School District to develop locally-based environmental education resources tailored specifically for schools and service groups in the watershed.
- Received funding to begin a pilot citizen-science dragonfly survey in the watershed starting in 2017.
- Organized four river clean-up days to remove trash and debris to create a safe waterway for paddlers to enjoy the Sugar River.

Wade  
Moder



While we are proud of the work we did, we are equally thankful for the support we receive from people who share our simple mission of clean rivers. Most notably, the membership of our organization has been and will always be the lifeblood of what we do. Members help us set priorities, influence decision making, and motivate us to make every dollar of their contribution worth it.

In the past, organizations like Upper Sugar River Watershed Association acted as a compliment to the work being done by the DNR and other larger agencies. Today, we are looked upon to take the primary role and fill the gaps brought upon by shrinking budgets. More than ever, the lifeblood of the Upper Sugar River Watershed Association has become the voice of our natural resources. I hope you consider becoming a member or renewing your membership again this year.

For the watershed,

Wade Moder  
Executive Director

# “Farmers for the Upper Sugar River” Making an Impact in the Watershed



In partnership with nine local farmers in the watershed, USRWA received funding from the Department of Agriculture, Trade, and Consumer Protection (DATCP) to kick-start a farmer-led coalition in the Upper Sugar River Watershed called “Farmers for the Upper Sugar River.” USRWA and the founding farmers who helped write both grant applications are one of 15 groups around the state benefiting from Wisconsin’s first Producer-Led Watershed Protection Grants issued.

Farmers for the Upper Sugar River is based in the Headwaters Sugar River and West Branch Sugar River watersheds, which are both impaired due to excess phosphorus loading from various sources. USRWA, who is partnering with the farmers on the coalition, has already established baseline water quality data to help prioritize the coalition’s efforts.

## Formation of Farmers for the Upper Sugar River timeline

- March 2015: USRWA began working with Belleville farmer Brian Brown and crop consultant Eric Birschbach on bringing farmers together
- November 2015: Planned to organize farmers and work towards creating a farmer-led coalition
- February 2016: Held a meeting with interested farmers about creating a coalition
- April 2016: Submitted an application to DATCP’s “Producer-Led Watershed Protection Grant” program
- May 2016: Received our first DATCP grant to create the coalition
- June-August 2016: Developed a mission, finalized goals, created a farmer mailing list, produced a letter, planned for a “Lunch & Learn” to introduce the group to farmers and recruit more into the group
- September-October 2016: Submitted a second grant application to DATCP, created a farmer mailing list, produced a letter, planned for a “Lunch & Learn” to introduce the group to farmers and recruit more into the group
- December 2016: Received our second DATCP grant, hosted a “Lunch & Learn” Grants Annual Workshop
- January 2017-Beyond: Attended the statewide Producer-Led Watershed resources for on-farm conservation trials, provide expert and monetary educational resources, continue recruiting farmers, provide updates through newsletters

**Vision: “Ensuring the future of agriculture by being responsible stewards of the land and water quality in the Upper Sugar River Watershed.”**

**“As a conservation group, things really started coming together and making sense when we brought farmers into the conversation. We learned from each other quickly, and it became clear a farmer-led coalition would be a great asset for everyone.”**

**- Wade Moder, Executive Director of USRWA**

The overarching goal of the group is to bring together like minded farmers, strengthen water quality improvement efforts, and leverage educational and financial resources in the future.

In 2016, Farmers for the Upper Sugar River raised \$30,000 in grant funding from DATCP to organize the coalition, host field days and other educational events, and provide farmers with money to try new conservation practices on farm through 2017.



Farmers for the Upper Sugar River monthly meeting

## President’s Message

by Marty Cieslik



Happy holidays to USRWA members & friends. 2016 has been a very productive year for the organization in terms of projects and

outreach efforts. Wade has moved several programs along and initiated the Sugar River Wetlands State Natural Area restoration work that is a wonderful on-going opportunity to do hands on volunteer work. As President, I am particularly pleased with the “Farmers for the Upper Sugar River” group. Working with Farmers was a high priority goal of the Strategic Plan developed a few years ago so the formation of the group is an important milestone for the organization.

I want to thank all of the volunteers that have been working on our various projects like stream monitoring, restoration work, student and general public education projects, river trail clearing, and special events. Without your efforts these projects do not move forward.

With this success comes a need for even more help on committees and on the Board. Please consider joining a committee or the Board if you have an interest in helping shape the direction of the organization. We have a couple of long term Board members that have expressed interest in taking a break and we will need replacements. If you are not sure about joining the Board, please consider a committee. We have several and can always use help with communications, event planning, fundraising and membership development.

Thank you,  
Marty Cieslik

# What Can Dragonflies Tell Us About the Ecology of Upper Sugar River Watershed?

Robert Bohanan, USRWA Board Vice President and UW Researcher

Collective concern for the environment has quite possibly never been greater, shared by concerned scientists and citizens alike. Citizen scientists have been effective and productive participants in a wide range of scientific endeavors. Members of the public have participated in scientific activities since the beginning of recorded history. Citizen science, participatory research, collaborative research, volunteer-based monitoring and co-created research are the primary descriptors applied to the practice of scientific research involving in some capacity non-professional scientists. Christmas Bird Counts, Volunteer Stream Monitoring, Monarch Watch are just some of the many opportunities for citizens to help collect data.

In 2007, several of us began what is now considered a unique study of urban and metropolitan stormwater runoff and detention ponds in Dane County, WI. We had no idea of how interesting and exciting these little overlooked ponds were going to be and how important they were going to be scientifically in the study of freshwater habitats. This work began as a citizen science project with most of the research being conducted by non-scientists, especially school-aged children and their teachers. What began as a several year study of one pond at what is now the Whalen Pond Outdoor Laboratory, Whalen Rd, Verona, WI, has now expanded to include 16 ponds in the Upper Sugar River.

## Why Study Dragonflies

Dragonflies, and their cousins, damselflies are a regular feature around most bodies of water during summer months throughout the world. There are approximately 3,000 species of dragonflies worldwide with over 300 in the US and 160 species in WI. Dragonflies are often the top predator in ponds without fish. Because their larvae/naiads are aquatic and adults terrestrial, they provide a

Common Green Darner



connection across many food webs.

Green Darner, commonly seen around most ponds, are one of the largest species.

Damselflies, dragonfly cousins, tend to be much smaller and have a slender abdomen compared



Northern Bluet damselfly (male and female in tandem)

to dragonflies and they almost always hold their wings together above their thorax when not flying, unlike dragonflies which hold their wings flat and to their sides.

## What we have learned so far?

We have found a relationship of naiaid and adults to water clarity with more species and higher relative abundance in ponds with higher water clarity and lower turbidity than those with high turbidity and low water clarity (Figure 1 and 2).

Figure 1. Abundance of dragonflies is greater in ponds with higher water clarity.

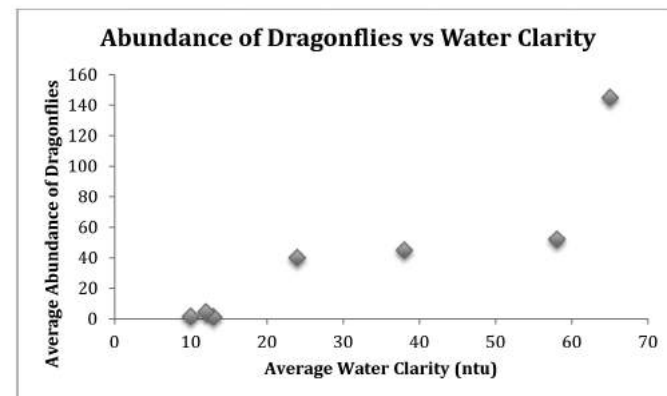
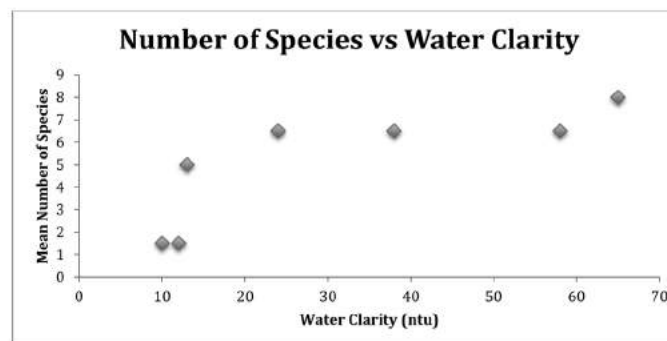


Figure 2. The number of different species of dragonflies is greater in ponds with higher water clarity.



We have some species such as 12-spotted skimmer at most ponds throughout the summer and other species such as autumn meadowhawk only in fall and only at



Calico Pennant

a few ponds. Common Green Darner and Twelve-Spotted Skimmer are the most abundant and the most frequently observed, whereas the Variegated Meadowhawk and Calico Pennant are rarely seen (photos).



Twelve Spotted Skimmer

In addition to the potential to tell us something about the health of watersheds and ponds and an early warning indicator of climate change, dragonflies are found widely and are important in food webs. Further there are several species of interest in our area, such as the Spatterdock Darner, that scientists and DNR are keenly interested in learning more about <http://wiatri.net/inventory/odonata/>.



Spatterdock Darner

thus serving as an early warning system of the effects of climate on the ecology of our region.

So what we've learned so far is that there are wonderful and beautiful species of dragonflies flying about our



Smoky Shadowdragon



Comet Darner

The beginning of autumn decided by the red dragonfly. (By Shirao)

neighborhoods and they are telling us some things about the ecology of the ponds in our neighborhoods. Some species are very common and other species are very rare. Part of what explains that phenomenon is related to water clarity. Water clarity is lowest in ponds that have the most sediment running off increasing turbidity and also encouraging algae and cyanobacteria blooms, which further reduces water clarity.

*If you are interested in learning more about the ecology of our neighborhoods and want to participate in dragonfly research as a citizen scientist beginning in 2017, please contact:*

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# Total Phosphorus Monitoring in the Watershed

Building on last year's successful monitoring season, volunteers completed a second year of total phosphorus monitoring by adding five locations to Upper Sugar River Watershed Association's inventory.

## Background on phosphorus

Phosphorus has long been recognized as a major factor in plant and algae growth in Wisconsin's lakes and streams. Small increases in phosphorus can cause substantial increases in aquatic plant and algae growth, which can harm the natural ecosystem and water quality. It can also reduce recreational use, property values and human health. Despite this, phosphorus is a widely used nutrient with varying sources and applications in industries we may not realize.

In 2010, the State of Wisconsin established new phosphorus standards, setting maximum thresholds for streams, rivers and lakes statewide. These standards are still relatively new, however, and its impacts on those that use phosphorus and Wisconsin's waterways have yet to be realized for the most part.

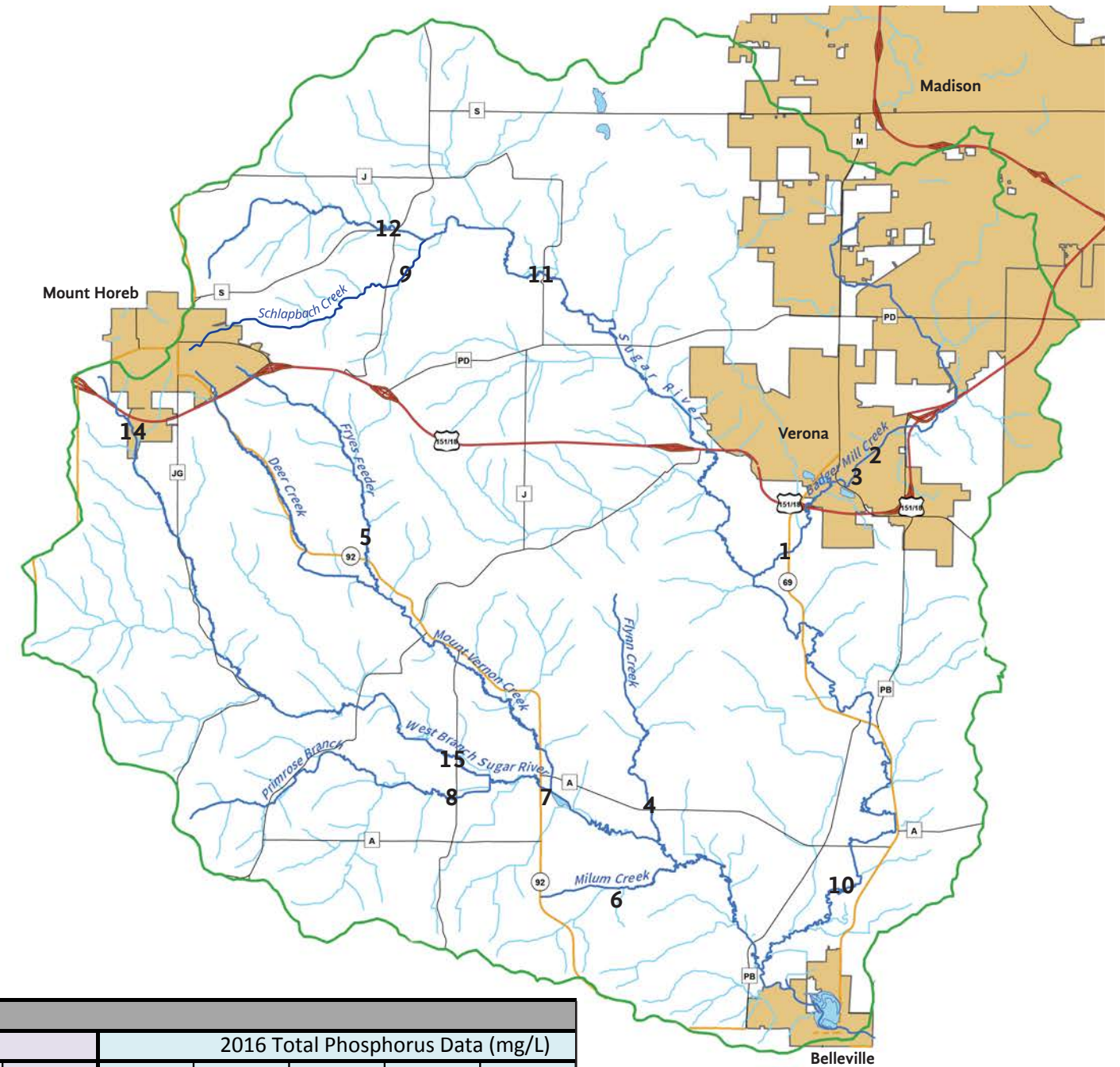
## What is phosphorus and where does it come from?

At its core, phosphorus is a naturally occurring nutrient. It's used in detergents, animal feed and fertilizers, and

is found in our food and our waste. Through its broad uses and sources, phosphorus can reach our waterways through "point" or "non-point" sources and can originate from human-made or occur naturally in the environment. Point sources consist of piped wastes such as municipal and industrial wastewater treatment plants that release liquid effluent to lakes and rivers or spread it on fields; and from natural sources, including wetlands or past phosphorus loads building up in lake bottoms. Non-point pollution occurs when heavy rains and melting snow wash over farm fields, feedlots, streets and parking lots. This carries with it fertilizers, manure, excess soil and contaminates from urban areas which eventually feed into lakes and streams.

## Total phosphorus testing in the Watershed

Beginning in 2015, USRWA began doing total phosphorus testing at various sites in the watershed to create baseline data. Each site is tested six times per year from May to October, and samples are directly sent to the State Lab of Hygiene in Madison. USRWA's goal is to continue accumulating baseline total phosphorus data at more sites to continue accessing the watershed as a whole.



\* = Significant rain event prior and during data collection

**Bold** = Data collected exceeds the 0.075 mg/L total phosphorus standard set by WI DNR

**Bold in Orange** = Data collected is at least 2x the 0.075 mg/L total phosphorus standard

**Bold in Red** = Data collected is at least 3x the 0.075 mg/L total phosphorus standard

Upper Sugar River Watershed Total Phosphorus Data													
Site Information			2015 Total Phosphorus Data (mg/L)						2016 Total Phosphorus Data (mg/L)				
#	Site	Municipality	May	June	July	August	Sept	October	May	June	July	August	Sept
1	Badger Mill Creek upstream of Highway 69	Town of Verona	<b>0.173</b>	<b>0.334</b>	<b>0.284</b>	<b>0.236</b>	<b>0.275</b>	<b>0.176</b>					
2	Badger Mill Creek @ Lincoln St Channel Upstream	City of Verona							<b>0.147</b>	<b>*0.234</b>	<b>0.234</b>	<b>0.178</b>	<b>0.19</b>
3	Badger Mill Creek @ Lincoln St Channel Downstream	City of Verona							<b>0.144</b>	<b>*0.22</b>	<b>0.234</b>	<b>0.176</b>	<b>0.187</b>
4	Flynn Creek at CTH A	Town of Primrose	0.0692	0.0459	0.039	0.0449	0.0626	0.0547					
5	Fryes Feeder upstream of Highway 92	Town of Springdale	<b>0.087</b>	0.0501	0.0559	0.0495	0.0398	0.0361					
6	Milum Creek at Fritz Rd	Town of Montrose	<b>0.102</b>	<b>0.0986</b>	<b>0.0939</b>	<b>0.0791</b>	<b>0.0863</b>	0.0629					
7	Mount Vernon Creek @ CTH A	Town of Primrose							0.0382	*0.0693	<b>0.15</b>	<b>0.101</b>	0.0488
8	Primrose Branch at CTH U	Town of Primrose	<b>0.157</b>	<b>0.0846</b>	0.0462	0.0595	0.0509	0.0528					
9	Schlapbach Creek @ Klevenville Riley Rd	Town of Springdale							0.0279	*0.0622	0.0503	<b>0.0793</b>	0.0619
10	Sugar River at Frenchtown Rd	Town of Montrose	<b>0.109</b>	<b>0.181</b>	<b>0.0857</b>	<b>0.144</b>	0.0492	0.061					
11	Sugar River @ CTH J	Town of Springdale							0.0489	<b>*0.0784</b>	0.0518	<b>0.137</b>	0.0628
12	Sugar River upstream of CTH P	Town of Cross Plains	0.0748	<b>0.0848</b>	0.0593	0.0114	<b>*1.46</b>	<b>0.115</b>					
13	Trib to Sugar River at White Crossing Rd	Town of Verona	<b>0.103</b>	0.0691	0.0598	<b>0.168</b>	<b>*0.469</b>	0.0718					
14	West Branch Sugar River at Docken Rd	Village of Mt. Horeb	<b>0.112</b>	<b>0.1</b>	<b>0.11</b>	<b>0.123</b>	<b>*0.156</b>	<b>0.181</b>					
15	West Branch Sugar River at CTH U	Town of Primrose	<b>0.234</b>	<b>0.151</b>	<b>0.111</b>	<b>0.141</b>	<b>0.107</b>	<b>0.0863</b>					



# New Zealand Mudsnails Found in the Watershed



A colony of New Zealand mudsnails compared to a penny.

A second confirmed occurrence of the invasive New Zealand mudsnail (*Potamopyrgus antipodarum*) was recently discovered in Badger Mill Creek near Verona. Black Earth Creek and Badger Mill Creek are the only two inland streams in Wisconsin known to have populations of the invasive snail.

The New Zealand mudsnail is highly invasive in Western states and is known to reach high abundances, outcompete native stream insects that serve as food for fish, and change nutrient flow in streams. Its impacts can vary and it is uncertain what impacts this invasive species will have on streams in Wisconsin.

The discovery was made during a routine biological sampling conducted by Madison Metropolitan Sewerage District on Badger Creek at the Highway 69 bridge crossing. Badger Mill Creek, which begins in the town of Middleton, receives effluent from sewage outfall near Badger Prairie in Verona. Regular monitoring helps the Madison sewerage district gauge the effects of its discharge on the creek.

Stream anglers, volunteer and professional water quality monitors, and paddlers play an important role in preventing the spread of the New Zealand mudsnail. All water users are reminded to inspect all gear, including waders, boots, nets, and boats, prior to leaving any stream. People who wade a stream for any reason can also use a brush to scrub their boots and waders or freeze their gear to further reduce their risk of transporting New Zealand mudsnails to other streams. It is also recommended that people use rubber or neoprene waders instead of felt when possible due to the difficulty of cleaning felt soled waders.



New Zealand mudsnail

- **INSPECT** your boat, trailer, and equipment, including waders, nets, and fishing gear;
- **REMOVE** any attached aquatic plants or animals (before launching, after loading, and before transporting on a public highway);
- **DRAIN** all water from boats and equipment; and
- **NEVER MOVE** live fish away from a waterbody.

## What is currently being done

The Upper Sugar River Watershed Association (USRWA), River Alliance of Wisconsin, and Southern Wisconsin Chapter of Trout Unlimited are currently teaming up with the DNR to install signage and boot brush stations across Badger Mill Creek and the Sugar River watershed to assist river users in

cleaning their gear. Volunteers will be needed over the coming months to build these stations and assist with further monitoring.

USRWA will be at both the Trout Unlimited and Badger Fly Fishers spring opener events in January and February to educate anglers on the mudsnails, and the importance of inspecting your gear before moving to a new stream. Options are also available to apply for grants to increase awareness, which USRWA is currently exploring.

Please contact Wade Moder at [usrwa@usrwa.org](mailto:usrwa@usrwa.org) or 608-437-7707 if you have questions or would like to be part of the volunteer effort.

## SAVE THE DATE

### *Conversations About Conservation: Why do Dragonflies Matter?*

Date: Wednesday February 1 at 6:30 pm  
Location: Wisconsin Brewing Company  
1079 American Way, Verona

Learn about new and exciting citizen science research on dragonflies, water quality and habitat in the Upper Sugar River Watershed with implications for protection, conservation and restoration of habitat critical for dragonflies. This series of conversations are free, fun and open to everyone! We hope you'll join us at Wisconsin Brewing Company for Conversations About Conservation, but if you can't join us in person, you can still watch the show and ask questions on line.



### *USRWA Annual Meeting*

Date: Sunday March 19, 2017  
Refreshments begin at 12:30 pm  
Presentation begins at 1:00 pm  
Location: Epic in Verona, WI  
Andromeda Building, in the Delphi Rm  
[usrwa.org/annualmeeting](http://usrwa.org/annualmeeting)

Join us for an update on the Upper Sugar River Watershed Association over the past year, and listen to a presentation from Paul Reckner of the Wisconsin Historical Society on the history of the Sugar River uncovered through a recent archaeological survey along State Highway 69.

### *3rd Annual Rob's Sugar River Ramble*

Date: Sunday June 4, 2017  
Location: Grundahl Park, Mount Horeb  
Cost: \$45 in advance,  
\$40 to rent a canoe or kayak  
Details at [usrwa.org/ramble](http://usrwa.org/ramble) or call 608-437-7707

Connect with the Watershed by land and water as you cycle through the beautiful countryside beginning in Mount Horeb, WI, then paddle the sparkling Sugar River until you reach your destination near Paoli, WI. After the event, get transported back to Mount Horeb with your fellow participants for a locally-sourced feast, beer tasting and entertainment. All proceeds support the Upper Sugar River Watershed Association.



# Prairie Restoration at Sugar River Wetlands State Natural Area



Below: Spreading prairie seeds



**Background:** Upper Sugar River Watershed Association began a partnership in January 2016 with Wisconsin DNR to help restore Sugar River Wetlands State Natural Area in Verona.

**Problem:** The “Work Area” is loaded with invasive buckthorn and honeysuckle, and a clone of aspen trees has begun to thrive in a historically open prairie setting. Invasive reed canary grass is also abundant on the west side of the Work Area moving towards the wetland. Not only does this promote the spread of invasive species being next to a recreational trail, but it also causes significant erosion from soil exposure due to deep-rooted plants being driven out of the area.

**Solution:** Cut and treat buckthorn and honeysuckle in the winter and spring, and burn the brush piles in winter when snow is on the ground. Foliar spray any re-growths in the summer and fall. Girdle aspen trees in the summer and cut them down gradually so not to disturb the landscape all at once. Collect prairie seeds from the adjacent remnant prairie from August to October, and spread the seeds in December. Foliar spray reed canary grass as needed.



Above: February volunteer workday  
Left: Girdling aspen trees



## Work Accomplished in 2016

Total Workdays: 8  
Total Individual Volunteers: 85  
Total Volunteer Hours: 380  
Total Acres: 3

## Upcoming workdays

4th Saturdays of the Month from 9 am to Noon  
Saturday January 28  
Saturday February 25  
Saturday March 25  
Saturday April 22

Volunteers and work leaders meet where Epic Lane and County View Road meet in Verona, overlooking the Epic Systems campus to the east and the Military Ridge State Trail to the west. An approximate address is 2517 Country View Road, Verona, WI 53593.

Details available at [usrwa.org/events](http://usrwa.org/events)

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