

Summer Newsletter 2017

Director's Update

We all know that quality and quantity do not necessarily go hand in hand, but this summer we seem to have achieved a balance of both at the Watershed Center. Our team expanded with summer interns and volunteers, along with our Watershed Center Fellow (Ben) and MOBCI Grant Technician (Caleb). The talent and enthusiasm of our summer crew made each day exciting and fulfilling. Along with our gratitude for their work, I think each person was pleased by the unique experiences and connections that Watershed was able to provide in return.



A quality fish from our drinking water supply

The quality of our landscape—our little piece of the watershed—continues to progress daily on a path to long-term health and resilience. Our education programs and partnerships continue to evolve and become more

effective, and we are already in record territory for the quantity of participants we have served this year. Major strides have been made in ongoing projects and efforts like our Little Sac Restoration and Improvement project, Agricultural Demonstration Area and Forest Stewardship Plan which all aim to improve water quality. We have momentum, and things seem to continue to accelerate.

Our momentum is certainly fueled by talented people, but also I think for some of us, me included, this work is an outlet and an escape. The current tone of our national discourse toward each other and the environment can be draining, even emotionally exhausting, possibly in addition to other life stressors. To walk into the Watershed Center and be a part of this community working toward the common mission of clean water is restorative and productive. And we don't want to hog all the fun! There are many ways to be involved. We are pretty good at matching your time and talent with work related to our mission. Being a board member, celebrating with us at the Gala, or rolling your sleeves up and working on volunteer projects are only a few of the possibilities. The Watershed Center can be *your* retreat and outlet too.

Mike Kromrey, Executive Director

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Projects Update

Little Sac Restoration and Improvement Project

Watershed Committee of the Ozarks was awarded a subgrant agreement from the Missouri Department of Natural Resources on April 1, 2014 for the Little Sac Restoration and Improvement Project. On April 1st, 2016 a grant amendment was awarded bringing the total grant funding to \$360,062 with a required \$205,785 in local match. The goal of this project is to improve the drinking watershed of Springfield and Greene County with implementation of best management practices (BMPs) that will reduce nonpoint source pollution.



An eroding streambank and site of upcoming restoration work

As part of this grant, the Watershed Committee will restore and stabilize a 300-foot section of eroding streambank on the

Upper Little Sac River by using the longitudinal peaked stone toe protection method. Construction is planned to start Monday, November 6th and will include a three-day workshop that will allow the rare opportunity to be involved with the field work, willow staking and planting trees during project construction. Mr. Dave Derrick with River Research and Design, Inc. designed the stream restoration and will lead the workshop. So mark your calendars and stay tuned, more details to come soon about this workshop!

Stacey Armstrong Smith, Projects Manager

Agricultural Demonstration Area Revisited

Farming is a major land use in the Little Sac and James River Watersheds. With the help of City Utilities, local Natural Resources Conservation Services staff, and the Greene County Soil and Water Conservation District, we are working to renovate and reopen the Agricultural Demonstration Area (ADA). The ADA is located between Fellows and McDaniel lakes. The ADA will showcase farming practices which benefit people, livestock, the land, and water quality and will be used for classes, tours, and scientific study.

Some of the infrastructure from the original project will be re-used, and some of the previous improvements like a warm-season grass pasture and a robust buffer of trees along the stream will be valuable assets. Funds from the Little Sac Restoration and Improvement Project will help bring the grazing system back into working order. We are looking forward to seeing livestock grazing on a healthy pasture and showing local farmers ideas that are good for the land, the animals, their bottom line, and for water quality.

Hydrilla Found in Fellows Lake

In late July Missouri Department of Conservation (MDC) staff positively identified hydrilla, an extremely invasive aquatic plant, in Fellows Lake. A "hydrilla strike team," led by MDC, was developed shortly after hydrilla was first discovered in 2012, and consists of multiple agencies like City Utilities, Greene County, the City of Springfield, Missouri Department of Natural Resources, WCO, and others. Over 4 years of experience and working together led to a swift and coordinated response to the new find. The hydrilla strike team searched a wide area and delineated a single patch of about 1.8 acres. An aquatic herbicide was applied in the beginning of August, and the eradication program for Fellows has begun. Local lakes and ponds where similar efforts applied are responding very well, meaning the treatments are halting new growth and tuber production. The tubers are like tiny bulbs that form in the sediment and can remain viable for several years. Because of the tubers and tenacity of the plant, eradication efforts require a consistent, continued effort.

Watershed Summer Gala

Thanks to your investment and the success of the event, the Watershed Center Fellowship program can continue for the next 2 years! The fellowship is an elegant solution to keep up with growing demand for our education programs because it will provide both teaching assistance for Watershed Center programs and a valuable educational opportunity for the Fellow through MSU. Teaching *and* learning!

The event was a real celebration of community. Local businesses supported the mission by sponsoring the event, local artists and makers donated silent auction items, we dined on locally produced food, and the room was filled with a positive energy of old friends connecting and new connections being made. Water united us and the evening flowed.

We had a lot of fun too! One of the biggest hits of the evening was our Wine Grab and Whiskey Pull. Staff and board donated 36 bottles of whiskey and Missouri Spirits donated 4 very special bottles. At \$30 a pull, all whiskey bottles were gone in an hour! The Brown Derby Wine Grab was at its peak with 80 bottles, most over the \$20 ticket and many over \$100, even \$200. All bottles were gone by the end of the evening. The impressive wine list was donated generously by local wine connoisseurs and our friends at Brown Derby. Our Silent Auction was a success thanks to Bass Pro Shops, our friends and colleagues who donated their time and talents, and local businesses who created pieces or offered services specifically for our event. We added a new game this year, the Watershed Bag Toss and raffle; feedback was positive and with over 135 plays, we are thinking of bringing it back again next year. Our volunteers and interns did a fantastic job throughout the evening and we appreciate their help. In total, we raised about \$25,000 after expenses!

Thank you for making it a success and we look forward to seeing you all at the Gala next year!

Mike Kromrey, Executive Director



Watershed Center Update

It has been a very productive summer here at the Watershed Center. We continue to set new records for field trip participation and our outreach programs. In a continuing effort to reach new audiences, we have a number of new collaborative education projects involving outside organizations. This summer's "Dream Team" of interns and volunteers have accomplished a great deal in both habitat improvements and educational programs.

Splash! Returns

Once again, the Watershed Center was thrilled to partner with Springfield Public Schools to offer Splash! as part of the summer school Explore program. Second and Third grade students in the Splash course explored watersheds, aquatic life, water pollution, and sources of their drinking water. Over 750 students from 22 different elementary schools participated in the course. Students were able to make four weekly field trips to the Watershed Center to participate in a variety of hands-on experiences. The course culminated in a fishing trip to Valley Water Mill Lake. It was fantastic to see the level of excitement and engagement in the students.



Students exploring a watershed demonstration model.



Students investigating stream life.



The smile says it all-first fish!

Collaboration with the Springfield Art Museum

Collaboration with local organizations is an excellent way to reach a broader audience. We are excited to be working with the Springfield Art Museum to offer an innovative program combining science and art. Using the common theme of journaling, the Watershed Center and the Art Museum staff will provide two classroom visits and trips to both the Museum and the Watershed Center to teach students about science and art. Applications for this STEAM program are available at the Springfield Art Museum's Placeworks website (http://www.sgfmuseum.org/).

Jeff Birchler, Watershed Center Coordinator

Watershed Center Update Cont.

Habitat Improvement

Wildlife is hidden. Of course the ear may be struck by the cuckoo's rain-call, just as the eye graced by the monarch's waltz. Yet between the milkweed outside my window and the Mexican fir tree branch upon which the small butterfly will eventually rest, are several thousand miles. And during this trip the monarch will travel unknown, only to perhaps grace another eye, when it descends into central Mexico. Wildlife is noticed, but yet unseen.

Restoration work functions similarly. A great deal of labor will never be seen; in fact, the majority will remain hidden. Only rarely will our project align with what is immediately visible from the trail or the parking-lot. Here at the Watershed for instance we've spent our summer treating the various invasive species that threaten the ecological stability of the site's remarkably rare habitat. And, often, this work happens in places that are less than easily observable.

For example, in the southwest corner of the property Volunteers Jade and Cole cut and stump-treated over 35 Autumn Olive trees. Ally and Riley hand -pulled, and stacked, over 30 5x5 piles of invasive species that will serve as wildlife habitat. Seth and Ryan felled 15 Eastern Red Cedars, which were choking-out native glade species in places far from the trail, and turned them into posts for a split-rail fence. Our Post- Oak Savanna too, created with the sweat and vision of Ben Parnell, is being prepared for a winter planting of native flora.



Volunteer Seth splitting cedar

All of these assignments, and the innumerable hours devoted to them, serve

as the foundation from which our visible projects emerge. Like the distance between the Missouri milkweed and the Mexican Fir, the sheer volume of our effort, here in the un-walked corners of the Watershed Center, perhaps adds a felt level of magic and awe to those few projects that break into the plane of sight. And, so, the spring-site rehabilitation project—the clearing of Bush Honeysuckle, California Privet, Burning Bush, and the planting of native glade species—while only accounting for roughly 10% of our total work this summer, stands out, not just as something beautiful per se, but rather as a testament to the far more immense amount of work that has taken place at the Watershed Center. The centerpiece of our collective work this season is but the expression of the thousands of hours of unseen effort that came before it and will continue after. It is the monarch noticed but yet unseen.

Caleb Sanders, MoBCI Grant Technician



Spring overlook from the trail (before)



Spring overlook from the trail (after)



2400 E. Valley Water Mill Rd. Springfield, MO 65803

Research at the Watershed Center

The Watershed Center and Valley Water Mill Park provides a great location for study and research. Missouri State Graduate student Heather Moule, research specialist Marc Owen, and professor Bob

Pavlowsky in the Department of Geography, Geology, and Planning at Missouri State University are completing a study to understand the contributions of flow and nutrients (total nitrogen, total phosphorus, & suspended sediment) from Sanders Spring to the South Dry Sac River. Discharge and water monitoring stations have been installed below the spring, near the dam of the Valley Water Mill Reservoir, and at the USGS flow gage below the reservoir outlet on the main channel of South Dry Sac River.

Water samples are collected at 7 sites throughout these areas. The study began in Spring 2016 and will end in Spring 2017. To date, four sampling events have been completed at low flow during periods between storms. Preliminary results showed that Sanders Spring flow contributed 45 to 76% of the total amount of flow at the USGS gage. TN concentrations at the spring were 17 to 42% higher than concentrations in the main channel at the gage, while TP concentrations were 55% lower to 9% higher.



Measuring discharge near Sanders Spring

More sampling will be completed to understand seasonal changes in the water budget and nutrient balance for the reservoir. The results will help us understand the role of karst conditions on controlling flow and nutrient loads in the Ozarks and will help evaluate current management strategies by the Watershed Committee of the Ozarks.