



Missouri Master
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Great Rivers Gazette



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Marcia Wilderman
Bill Hoss

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FrontCover Virginia Bluebells and Violets in bloom June 19, 2015, in the woodland section of Hidden Creek Savanna only weeks after a controlled burn.

Back Cover

Chapter members (left to right) Steve Hoyt, Glen Horton, Renee Benage and John Vandover collect seeds in Forest Park on October 29, 2010

The President's Corner

I want to welcome to each and every one of the new members. If I haven't met you yet, please come up and speak to me at the next meeting. My warmest greetings to all my fellow members in Great Rivers. This morning, I planted tiny Butterfly Weed (*Asclepias tuberosa*), Purple Poppy Mallow (*Callirhoe involucrata*), and Prairie Dropseed (*Sporobolus heterolepis*) at Manchester's Seibert Park's new butterfly garden's border. Al and I had grown these in the basement over last winter. While I worked, I thought of you.

While I was actively participating in the awakening of new life, I thought of our projects and the service we provide. All the projects you see on the calendar or mentioned in a meeting begin with an individual's idea. Like a seed, the germi-

nation of an idea is not guaranteed. But if there is no execution, the idea is guaranteed not to germinate!

Do you have a place that is near and dear to your heart? Do you envision a restoration of a savanna or the implementation of a monarch waystation? Perhaps you see a public wooded space that's being choked by Bush Honeysuckle and you want to see it free of invasives; to see shrubs, woodland forbs and grasses bringing nectar, food and shelter to our region's fauna.

We have several examples of projects that have been launched by Great Rivers members who live close by a chosen location, and neighboring members have joined their efforts. It seems a natural match that we generate service near us and conserve on our fuel to get there as well!

As a chapter, we've acquired tools to make our efforts a little easier in the restoration work. We own a brush cutter, chaps, dibble bars and weed wands. They're ready to be used by one and all (a little training required on the brush cutter).

Entertain that restoration daydream. Reach out to our **Projects and Partners Committee** members for guidance in germinating that mental seed of yours; they are eager to help. Call me at 636-256-6893 or email corikeys@aol.com and I'll help any way I can. Even though we have ongoing projects, we need the need ideas to sustain our opportunity base.

Restoration not your interest? There are lots of opportunities for education. Columbia Bottom is in need of extra hands to assist in their ongoing quail and rabbit surveys and Shaw Nature Reserve has events that need our help. The Green Center often needs help. Many of these events have hand-outs to familiarize the volunteers with their subjects.

Review our partners list. Feel free to give one of these partners a call to see if there's an opportunity for you to serve. It's important that you take inventory of your interests, familiarize yourself with our partner organizations and find your special niche.

Whether it's restoration, education, wildlife management, stewardship or some related service, our work in the Missouri Master Naturalist program is a smorgasbord of adventure!

Cori Westcott, President Great Rivers Chapter

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Sherri Schmidt

Winters are Getting Easier

Marcia Wilderman
Editor, Great Rivers Gazette

In 1998 when I moved back to my home state of Missouri for work, I had acclimated to the warm weather of Florida and Louisiana where I had been living for 10 years. The first St. Louis winters were difficult. While sledding my car to work I would wonder why people would live in such arctic conditions if they had a choice. I felt cold to the bone and fell victim to the winter blues. I would recall making Christmas cookies with the window open, leather shoes molding in the humidity, and perpetual sweatiness as distorted memories of joy.

Over the years my yearning for the south sobered, and I have grown to embrace what the earth's obliquity brings to the Midwest. The dramatic changes of the seasons navigate my own inner processes and brazenly remind me of the cycle of birth, death and rebirth. Research findings published recently in the online journal *Nature Communications* <http://www.nature.com/ncomms/2015/150512/ncomms8000/full/ncomms8000.html>, show that as many as one-fifth of all genes in human blood cells undergo changes with the seasons. I believe the seasons have an even more holistic effect on us.

A measure of my love for any season at hand, especially if the height of it becomes unbearable, is the expectation of the next. Oh how I relish the anticipation of spring during the grey of winter and the forecast of fall while in the scorch of summer! One of the fancies I indulged this past winter was of growing a lemon tree. I found an article on growing lemon trees in a magazine and I kept it open on my kitchen table for weeks. By February I couldn't wait any longer. I bought a lemon and enveloped six seeds in the age-old manner of wet paper towel in a baggie. As all brick homes in the city, my apartment is rarely toasty enough to germinate seeds in the winter, even with the furnace on. So I wasn't sure how to start the germination process. My answer was to

bind the baggie next to my body. Why use an electric germinator when I am a walking 97° heater? For weeks I worked, slept, and lived with the seeds while they germinated, taking the baggie off only to shower. Every couple of days I would check the seeds progress. My little miracle babies. Once the weather warmed I was able to take the seeds off and plant them in soil. Three tiny lemon tree seedlings have survived and looking happy and healthy.

I find February and March the hardest months to bear. By then I am over saturated with the navel-gazing incubation of winter and I'm ready to run outside and play. This March was easier...partly due to my lemon seed gestation experiment, but not completely. I have learned so much more about Missouri ecosystems over the last couple of years as a Master Naturalist that I can appreciate the winter more: the vernalization benefits for plants; the ample opportunities to watch raptors.

I can't say I tolerate the cold any more now than I did back in 1998, but I know more how to cooperate with it. I wear wool sweaters and think, "At least I'm not in Michigan". Missouri winter isn't so bad after all. Still yet, to quote the Indigo Girls' Southland InThe Springtime, "When God made me born a yankee, he was teasin".



The Missouri Master Naturalist™ program is a community-based natural resource education and volunteer service program for adults, sponsored by the **Missouri Department of Conservation** and the **University of Missouri Extension**.



UNIVERSITY OF MISSOURI
M Extension



Update on McDonnell Prairie

Shawn Thomason

Hello from the McDonnell Park Prairie in St. Ann. Things are greening up nicely out here. The prairie plants are starting to show themselves....mostly Monarda, Coreopsis, Purple Coneflower, Queen Ann's Lace, Dog Bane right now...at least that is what I can identify at this point. The focus right now is keeping an eye out for Bull Thistle, Crown Vetch and Sericea Lespedeza which were a problem last year. I'm hoping that with last year's efforts to eradicate these invasives, along with some minor over seeding in some heavily infested areas, we will keep them at a manageable level this year. The prairie was mowed last spring and fall to allow for easier spot spraying but we're hoping to let it grow this year...so that we can assess the overall status of the area.



Re-sprouts have been minimal in the woodland edge to the north where we cut out all the honeysuckle. Barbara Stagg and Eileen Hall have also been working hard pulling the seedlings that manage to sprout up. We have a good chance of keeping the honeysuckle in check as we planted almost 400 native shrubs which are leafing out and getting established now.

This year along with some regular volunteer opportunities, we'll have a couple of opportunities for the Great Rivers Chapter to tour the site together. The June Great Rivers meeting that will be held at the park and an ecology walk with Dr. James Trager scheduled for September 10th. More information to come as these dates become closer.



All Photos Shawn Thomason



Bill Hoss

On March 30, 2015 Forest Park Forever and the City of St. Louis conducted a controlled burn at Hidden Creek Savanna. The area from the bridge in the middle of the property towards the woodlands was burned. As a result, the spring plant and bird surveys normally done in April and May will be delayed for several weeks. However, the plants in the burned area are recovering quickly.

The photo at the top of the page taken by Bill Hoss shows the area immediately after the burn.

In subsequent visits to Hidden Creek Savanna since the burn, Bill Hoss and Sherri Schmidt have observed the

following: Bluebells, Celadine Poppy, Golden Alexander, Spring Beauties, Violets and Wild Sweet William blooming. Also observed were a Cardinal, Common Grackle, Mourning Dove, Red-winged Blackbird, Robin, Song Sparrow and Tree Swallow (using one of the nest boxes). On April 28, 2015, we spotted a Bluebird perched on one of the Bluebird houses. We had seen Bluebirds in previous bird surveys, but it was during the winter surveys in February. During the past five years, we had not observed Bluebirds in the spring.

Finally, a Buttonbush was planted in the wetland area on 05/08/15. We hope the Buttonbush will thrive and provide another nectar option for pollinators.



Looking west from the trail to the bridge towards the woodland area.

Bill Hoss



This photo from 4-28-15 shows a view of the recently burned area from the woodlands, looking towards the bridge

Sherri Schmidt



Celadine Poppy

Bill Hoss



Bluebird perched on a Bluebird box at Hidden Creek Svanna (4-28-15)

Sherri Schmidt



Bluebells blooming in the woodland area of Hidden Creek Savanna

Bill Hoss

The Gazette needs your photographs. Send us your photos taken during volunteer work or training classes. Photos can be of any subject relating to your Missouri Master Naturalist work whether it is cutting honeysuckle, trail work, surveys or teaching a class.

Let your fellow members see what you've been doing.

Missouri MasterNaturalist State Conference

Cori Westcott

There were a dozen of Great Rivers chapter members in attendance at the 2015 State Conference held in Springfield, Missouri. The food, lodging and venue were great. The Springfield Plateau chapter provided an abundance of musical acts Saturday evening that reflected the southern Missouri river culture. For Saturday's lunch, we were entertained with Uncle Bob's vocals and guitar while an unfolding vignette of folks in boat costumes passing by while a fisherman sat on the stage's edge. Real fun.

Other wows I experienced.

Dr. Chris Barnhart of Missouri State University and aquatic biologist Bryan Simmons presented "Mussels and Endangered Aquatic Species". We learned to identify mussel species and we received a mussel field guide. I was impressed with how much water a single mussel can clean by filtering for food! You can search "Dr. Chris Barnhart" on YouTube to see videos of mussels luring their host fish. It's incredible.

John Miller, Interpretive Center Manager for MDC, gave an entertaining presentation of "Hellbenders and Turtles". He finished by introducing us to a turtle and frog race that in which kids compete without using live animals. A video of this game will be posted on our Facebook page that educators should be sure to watch.

PJ Wilson of Renew Missouri, Dan Chiles of Ozarks New Energy, and Dr. Alexander Wait, Biology Professor



Cori Westcott

at Missouri State University presented "Energizing a Sustainable Future". I learned that Missouri was ranked the third highest coal user in the country. Go to www.renewMO.org to learn more of Pj Wilson's work to pull us kicking and screaming towards a more sustainable use of energy. Although these speakers reported a very bleak current status, they left us with the knowledge that it's not too late to reverse the curve.

Springfield sure knows how to throw a party! It may be our three chapters: Great Rivers, Confluence, and Miramigoua, who join forces and host the next full-fledged state conference in 2017. The Tri-chapter folks are considering the logistics. I'll tell you more as things develop.

See you at the next chapter meeting if not before!



Cori Westcott

Separate from the conference, Al and I joined other Great Rivers members to visit Dan and Margie Chiles's solar powered home named Rockspan. The home is built on property that has been in their family for generations. Their solar panels are on the roof of the house. The cement walls of the barn hold a layer of foam which in turn holds tubing. Water from the home runs through the tubing to the barn's roof at twilight. The water is cooled overnight, and in the morning it runs back through the house.

While I was on the roof, I placed my hand on its white surface and then on a dark piece of trim. I couldn't believe the difference. While directly under the sun, the white surface held no heat. I want a white roof!

You can read more about Rockspan at: <http://www.dan-chiles.macmate.me/rockspan/RockSpan/Home.html>

Great Rivers Member - *Claire Beaudoin*

I became a Missouri Master Naturalist and joined the Great Rivers Chapter in 2010, just after I graduated with a degree in Biology from Webster University. I was interested in the naturalist program, because it provided me the opportunity to take a variety of environmental science based classes, and to get involved with a group of likeminded people who enjoyed working outside to improve the natural surroundings of our community.

In January 2013, I began graduate school in the Department of Geology at the University of Missouri – Columbia. At Mizzou I was able to join Dr. Cheryl Kelley in researching methane (CH₄) in hypersaline (salt concentration / salinity greater than seawater) environments. My research focused on methane oxidation, which is known to play a significant role in reducing methane concentrations in sediments and water columns in a variety of aqueous environments. In marine systems, for example, it is thought that more than 80% of CH₄ produced is oxidized before reaching the atmosphere. However, under hypersaline conditions, little research has been performed to evaluate methane oxidation. So, we investigated the microbial oxidation of methane (to carbon dioxide) in microbial mats and gypsum crusts at several hypersaline ponds. I was able to travel to two hypersaline sites, including several ponds throughout the Atacama Desert in Chile, and in Guerrero Negro, Baja California Sur, Mexico. Overall, our research indicates that little to no methane is being oxidized in these systems.

I finished my thesis here in St. Louis and I am graduating this semester with my MS in Geology and recently just stated a new job as an environmental scientist. Attending graduate school out of town did not leave me much time to continue volunteering with my fellow MMNs. Nevertheless, my return to the chapter has been exciting, as I have missed pulling honeysuckle (believe it or not) and planting trees with all of you! It has also been great to see the progress made at our project sites.

Oh yes, and I am currently updating and posting new stuff on the MMN - **Great Rivers Facebook** page, so if you have any suggestions on what you would like to see more of on the page, please feel free to email me at cbeaudoin19@gmail.com.

I would also like to take this chance to thank everyone for all of their words of encouragement and support throughout the last few years, it was very much appreciated. Thank you everyone!



Kori Pratt and Colleen at Hidden Creek Savanna Bill Hoss

Letter From Colleen

The following is a letter from Colleen Scott. As there has been reorganization in the Missouri Department of Conservation, Colleen will now be the MDC advisor to the Confluence Chapter. Colleen has been with Great Rivers since the chapter began in 2007. -Ed

Great River Members, I've been thinking about what I want to write and wondering how to say thank you to such a wonderful group of human beings. We are certainly not saying goodbye. But our paths will cross even less now that my responsibilities have changed.

Looking at all of your accomplishments, from the partners you work with, the re-creation of Hidden Creek Savannah, the countless number of honeysuckle that have nowhere to grow... I am inspired. And so, until we see each other again, I leave you with a quote from Woodrow Wilson.

“You are not here merely to make a living. You are here in order to enable the world to live more amply, with greater vision, with a finer spirit of hope and achievement. You are here to enrich the world, and you impoverish yourself if you forget the errand.”

With admiration,
Colleen Scott

Front Gate Planting Project Claire at Gempp Davidson Memorial CA

Sherri Schmidt

During the May 2014 walk thru of the Conservation Area, the chairman of the Claire Gempp Davidson Memorial Conservation Commission asked Bill Hoss and Sherri Schmidt to develop a planting proposal for the area near the front gate. At the time, the area next to the fence was a jumble of plants containing weeds and invasive plants like Bush Honeysuckle.

The plan developed by the Master Naturalists proposed planting native shrubs, small understory trees and wildflowers. The wildflowers included host and nectar plants for Monarch Butterflies. All plants had to meet the following criteria:

- Native
- Attractive to wildlife
- Showy in at least one season with flowers, berries and/or foliage
- Low maintenance

We also wanted to have plants blooming throughout the growing season. Not only would the project show examples of landscaping with native plants and provide benefits to wildlife, the proposed plantings would make the area along the street more attractive and inviting to visitors and people

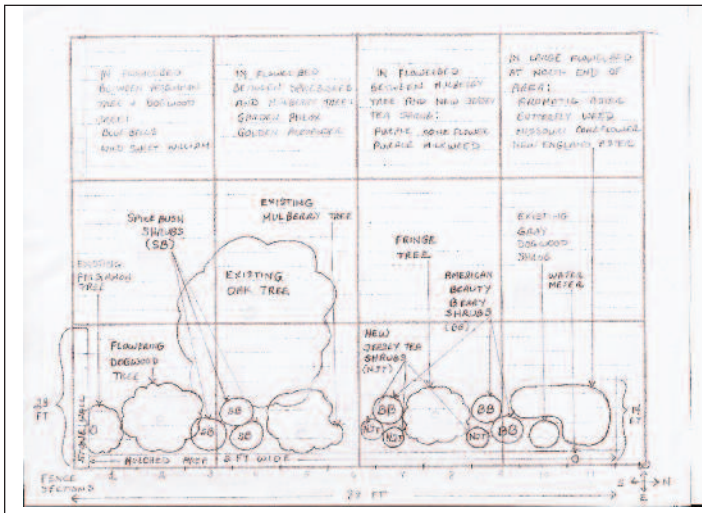


View before work started on garden. June 17, 2014 view Sherri Schmidt

During the most recent walk thru of the Conservation Area, the chairman of the commission said the front gate planting was exactly what he was hoping for. A number of local residents walking by the front gate have made positive comments about the new plantings.

Future Projects at Claire Gempp Davidson Memorial Conservation Area.

While planting the wildflowers at the front gate, we noticed Bluebells blooming in the nearby woods. We had heard Bluebells existed in the Conservation Area, but had never seen them previously. As a future project, we plan to clear invasive plants like Bush Honeysuckle and non-native vines



passing by.

The Commission approved the plan, and in late March and early April, Bill Hoss and Sherri Schmidt planted Beauty Berry shrubs, a Flowering Dogwood, a Fringe Tree, Spicebushes and a Wild Hydrangea.

In mid April, wildflowers were planted by Great Rivers Chapter members Bill Hoss, Debbie Croghan, Pam Fournier, Pam Klump and Sherri Schmidt. They included: Aromatic Aster, Bluebells, Butterfly Weed, Garden Phlox, Golden Alexander, New England Aster, Orange Coneflower, Purple Coneflower, Swamp Milkweed and Wild



Newly planted Fringe Tree *Chionanthus virginicus*

Bill Hoss



View of the bed just after planting.

Sherry Schmidt



Sherry Schmidt, Pam Founier and Bill Hoss after planting. Not shown are Debbie Croghan and Pam Klump.

from the nearby woodlands, in an effort to encourage the native wildflowers. At the existing Butterfly Garden next to the Monarch Waystation, we are also planning to inventory existing plants, remove invasive or unwanted plants, identify any other plants to include and create a seasonal calendar

showing what plants are likely to be in bloom. We will keep members posted on future projects at Claire Gempp Davidson (CGD). Please let Sherry Schmidt know if you would like to volunteer at CGD, or are interested in a field trip to the area.



October 24, 2014



June 17, 2015

Above are before and after photos of the planting area.

both Bill Hoss

Seibert Park: A Lesson in the Power of Hydrology and a Little Planting Too

Cori Westcott



I thought I was ready for the Stream Team Level 3 audit the morning of April 7th. Randy Sarver, DNR biologist was here from Jefferson City and was planning to audit my monitoring that morning at 9:00AM. At 8:00AM, he said the radar was showing severe weather in Warren County and suggested we connect via phone again at 9:00 and decide if we should cancel.

The 9:00 phone call proved unnecessary. It was time just to hunker down and witness nature's extraordinary power. I observed hail amounts that I have never witnessed before. In one part of our yard, the house and the privacy fence captured over a foot of hail that stuck around for a couple days. Our back yard had fast flowing rivers from various directions all moving towards the NW corner of the lot. Water was pouring in through each space between boards in the privacy fence. More than half of our back yard was under water. I was initially pleased to see how well the overflows on our rain gardens were doing until finally all the gardens were under one big lake of water.

At 10:45, a fellow Grand Glaize Creek Water Quality

Monitoring volunteer texted me to inform me that one of the creek's USGS (United States Geological Survey) discharge sensors was reading over 3,000 cubic feet per second. That is alarming! Usually when we measure the discharge, it's 1.8 cfs.

When the hail passed, I took my first photograph of the Grand Glaize Creek as it emerges from under HWY 100 (Manchester Road) and travels the northern boundary of Seibert Park. The photo above was taken just a few minutes after 11:00AM. Notice the arrows I drew near the top of the photo. That's a debris line left from a higher flow from the previous hour.

According to the USGS sensor #07019150 (about a half-mile downstream), the creek went from its usual 2.0 cfs at 9:20AM to 5,110 cfs at 9:50AM. That's an increase from 2 to 9.71 feet in thirty minutes. It's entirely possible that one could have observed a wall or wave of water barreling down the creek.

I had been expecting some shrubs from Missouri De-

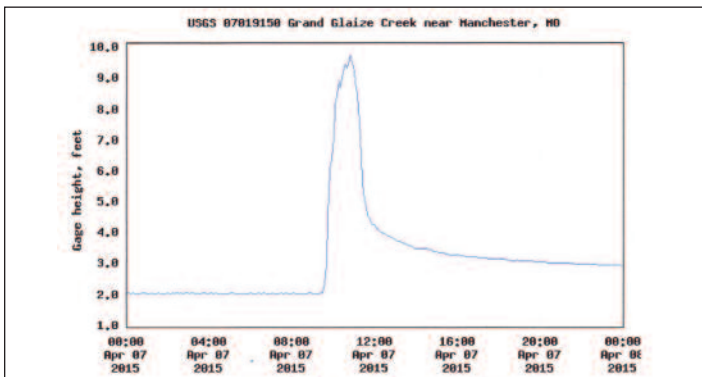
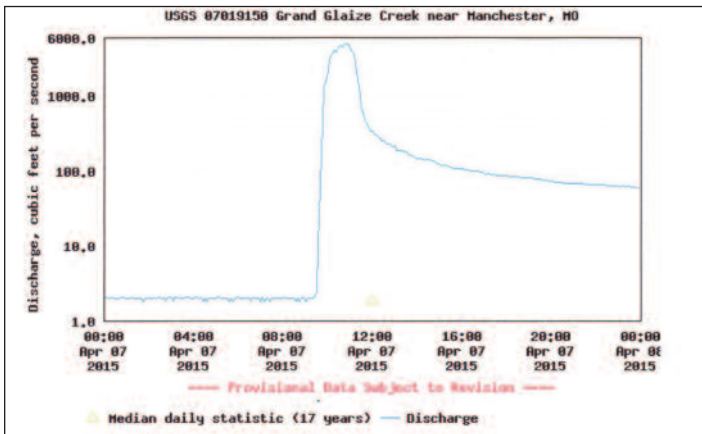
partment of Conservation’s George O. White Nursery to arrive to plant on the creek’s northern slope to help control erosion. Again, study the photo taken that morning. Notice the circle in the lower half. It’s pointing to a chunk of parking curb. Now, see the second photo taken last year and notice the circle around the same curb. Note the soil that had been lost in that morning’s rush of water. It took only thirty minutes to wash that soil away. What you’re seeing are chunks of old Sulphur Springs Road which was rebuilt several years ago. The old concrete was piled up there and top soil was applied. The top soil is now gone.

We did finally get the shrubs in. On April 18th, Cindy Lueder, Diana Miller, Michael Smith, Claire Beaudoin, Al Westcott and I planted White Oak, various hickories, Buttonbush, Smooth Sumac, Aromatic Sumac, Ninebark and Spicebush at Seibert Park. Some were even planted among the chunks of concrete.

Look around you. Our urban environment is almost all concrete, turf grass and building surfaces. We’ve even paved over many creeks’ channels, especially the new drainage channels formed from our developments. We have orchestrated the more destructive forces of our urban streams. Of course the more frequent severe storm occurrences cause even more damage. All these factors are at play. Does that mean we give up? I don’t think so. It’s a reminder to all of us who are Missouri Stream Teamers. We can order bundles of native, one-year-old bare-root saplings from our state nursery for free, to vegetate our streams’ riparian corridors. Let’s talk to our county and city parks departments. Let’s encourage the removal of aggressive non-natives that usurp the space our native plants need to live and hold our soils in place. It can’t compete with all of our gulley washing events, but it can be a healthy start towards better stormwater management in our region.



Cori Westcott



Cori Westcott

I’ll leave you on a positive note. While digging a hole beside a fallen tree on a north-facing slope, I unearthed a Western Slimy Salamander *Plethodon albagula* (according to **The Amphibians and Reptiles of Missouri** by Tom R. Johnson, page 83). Michael Smith kindly took the picture. I released the little fellow back into his humus-rich soil. And, yes, Bill. I’ll remember to add the species to our flora/fauna inventory of Seibert Park.

