

The Missouri
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THE GREAT GARDEN CONFERENCE

BY CAROLYN TROWER

Members of the Mississippi Hills Chapter Master Naturalists, local gardening clubs, and other garden enthusiasts attended the Great Gardens Conference June 2 through June 4 in Hannibal. Organized by Robert Hendrickson, 3G Farm, and billed as “Natives, Meadows, & Prairies,” the conference was “A three-day event focused on why native plants in the landscape...small yard meadows...and prairie projects are essential not only for our own well-being, but also for our community and our planet.”



Henry Eilers and Robert Hendricks share their enthusiasm for native plants.

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.

Its purpose is to develop a corps of well-informed volunteers to provide education, outreach and service dedicated to the beneficial management of natural resources and natural areas within their communities for the state of Missouri.

The Mississippi Hills Master Naturalist Chapter is located in Hannibal, Missouri, and serves the surrounding counties. We are involved in citizen science, community projects, nature interpretation, and community nature education.

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The conference opened with a Friday night film, “Urban & Suburban Meadows...Bringing Meadows to Big and Small Spaces.” The seats at the Bluff City Theater were filled and there was a lively question and answer session afterwards. Those of us in the rural areas had our eyes opened to the struggles and dedication of people living in cities who were valiantly fighting against the “green concrete” of manicured lawns with prairie patches and native plants.

Saturday’s sessions were held at The Depot with a full house of gardeners ready to learn more about native plants. The sessions were packed with passionate presenters, an opportunity to purchase native plants from Forrest Keeling Nursery, and a wonderful talk from Henry Eilers.

Attendees heard presenters from the Illinois Department of Resources, Pollinator Partnership, Farm Bill Wildlife Biologists, Native Landscape Solutions, and 3G Farm. Each one brought experience and knowledge together as they detailed workable programs and future projects for their organization. The audience received valuable tips for small area native planting and small farm restoration for pollinators, quail, and other wildlife.

For many the highlight of the day was Henry Eilers. Hendrickson introduced his old boss and mentor, one hand holding the mic and the other waving enthusiastically in the air. It was plain to see that Eilers had had a lasting effect on his life and career. Born in Germany in 1934, Eilers was always drawn to the outdoors and after emigrating to the U.S. he was able to develop his childhood interest in plants into a thriving garden center in Litchfield, Illinois. The renowned botanist regaled the audience with stories about his life and about the plants that were so dear to him. So much information from such an engaging man.

The conference concluded on Sunday with a self-guided tour of six area gardens. The three in Hannibal were Broadway Native Garden, Becky’s Garden at Cardiff Hill Overlook Park, and Kristy’s Bird Garden at the lighthouse. Out of town tours were available at 3G Farm, Oak Brook Prairie, and the Casey Prairie.

A special event was held at 11 a.m. Sunday with the dedication of the Mac Ellis Prairie at the Hannibal Regional Airport. The prairie was started in 2021 and was part of the chapter’s goal of 7 prairies for 7 years. Ellis is a member of the Mississippi Hills Chapter Master Naturalist and used his career in conservation to play a major role in implementing the reconstructed prairie. It was a fitting conclusion to a remarkable conference.



MACK ELLIS PRAIRIE DEDICATION

By BOB Kendrick

Mack Ellis was honored with the dedication of the new prairie being developed at the Hannibal Airport. “Mack is a local neighbor who worked on the project from the very beginning and still is there nurturing native plants and weeding out invasives,” said Bob Kendrick.

After a three-year stint in the Navy, Mack went to the University of Missouri where he received his Bachelors and Masters degrees in Fisheries and Wildlife. He worked with the Department of Conservation as a fisheries biologist in Kirksville from 1977 until 1983. He then went to Ted Shanks as a wildlife land manager from 1983 until 1991. From 1991 until 2002 he was a wetland service biologist. In 2002 he went to work with NRCS, then known as the Soil Conservation Service, and worked in the soils and wildlife areas.

Mack retired in 2012, but remained very active on the family farm working on prairie projects with native plants. He joined the Mississippi Hills Chapter of the Missouri Master Naturalist in 2020. Mack is currently assisting our chapter with the new trail project at the Hannibal Regional Hospital. Mack is also one of the main collectors of the native seeds for our library/bank of native seeds which will be used for our 2023 projects. “Mack has a low key, yet humorous, personality and is one those naturalists who just gets the job done and is a pleasure to work with. It is fitting that the airport prairie is named for this naturalist,” added Kendrick.

**Master Naturalist
Core Training Class
2023**

By Jan Golian

AWESOME! **EDUCATIONAL!** **WELCOMING!** **OPEN!** **Fun!** **INFORMATIVE!**

Love IT! **INVITING!**

RELATABLE! **EYE OPENING!**

The above words were quoted by some of the 34 members of the fifth Mississippi Hills Core Training Class. Their quotes also included: "There is so much passion for caring for the earth from both presenters and attendees;" "Meeting and exceeding my expectations;" "I'm getting so much more than I thought I would"; "Really looking forward for the opportunity to volunteer"; "Such an inspiration with practical connections to community and government resources"; and the one we all agree with' "Great to meet with like minded people!"

The one word that comes to mind with this class is simply, "ENTHUSIASTIC!" The core training committee has noted this class has already begun to bond and we look forward to them moving into the established group. The chapter had an opportunity to interact at the July 25 meeting with the core training and established group at the Frank Russell carry in meeting, and look forward to meeting again on August 22 and their graduation the following week on August 29.

Blending the Old and the New!

June Meeting with Chad Smith and the Core Training Class of 2023

It was a beautiful summer evening at Frank Russell Recreational Area's pavilion at Mark Twain Lake. Keeping with our June meeting tradition, we held a pot luck dinner with everyone contributing their favorite dishes—yes there was food and drink galore!

Our guest speaker was Chad Smith with the Missouri Department of Conservation providing the latest updates on what is happening at MDC at both the local and statewide levels. He brought several new members of his team including the new recreational specialist for our area, Tyler Blake.

In additional to our regular members, the new core training class which has 34 trainees were invited. This was a great way to meet and mingle with new members of our team. It was great to see and hear such interest in our program and projects. We are looking forward to everyone working together for a better tomorrow!



Chad Smith and staff answering questions posed by member Ken Daniels.

Vanessa Laatsch, Chapter President, addressing the group.



A beautiful evening was enjoyed by all!

“It was like winning a million dollars!” Tracy Fuller winner of the WGEM Golden Apple Award

By Anne Coleman

Tracy Fuller has been teaching science for 28 years. Most of that time she has been teaching biology at Monroe City High School, and she has been an important part of the success of her students throughout those years. For Tracy, the Golden Apple represents a ton of energy given to her students along with all of the day-to-day ups and downs of teaching that every teacher experiences.



“Every time I look at this apple, I think of what it takes to be a teacher. Being the best that you can be and finding what works to help each student be successful. It takes blood, sweat, tears and laughter...don’t forget the laughter!” It is the laughter and having fun while learning in Tracy’s classes that led to her nomination for this prestigious award.

Every month WGEM News will present one Golden Apple Award during the school year to honor an outstanding Tri-States teacher. They look for those who have made a difference in the lives of their students and have made a mark on their community. These are teachers that go the extra mile and inspire others to be better students or teachers.

Unlike other awards where the recipient may fill out the application and play a role in marketing themselves to the awards committee, the Golden Apple Award nomination is provided by students and parents who then become the teacher’s advocates and cheerleaders while keeping the nomination process a secret to the teacher.

What a surprise it was for Tracy when an unexpected school Assembly took her from the day’s lesson plan to the announcement by her principal and Natalie Wills, the WGEM Anchor, in front of the entire student body that Tracy had won the Golden Apple Award. The cheering and high-fives were a bit overwhelming, but Tracy managed to thank everyone and leave the auditorium with a huge smile on her face and a tear or two in her eyes.

Tracy finished the school year on a high, and she has continued to receive positive feedback from current and former students who have shared with her just how much she has touched their lives. One common thread is that Tracy’s creativity made learning fun, and it is her love of nature and teaching that has made a perfect fit for volunteering with the Missouri Master Naturalist program.

In 2022, MDC held “An Evening with Wildlife” at the Monroe City Middle School. Tracy decided to attend with a student teacher to see what they could learn (she says that you never stop learning) and to meet Penny the Dog. Upon entering the event, she saw a friendly face that she knew—Beth Whelan—who was wearing a Master Naturalist volunteer name tag. Asking Beth more about the program led to her meeting Kathi Moore and Bob Kendrick, and Tracy’s interest peaked enough that she joined the class of 2022.

Tracy is now putting her creativity into volunteering for educational and interpretative programs held by our chapter at local schools and other events. She is also part of the Advanced Training committee and has now completed her initial certification. Tracy likes that there are a variety of ways that you can volunteer and share what you already know while continuing to learn more about a multitude of nature topics.

Congratulations, Tracy! You are a credit to your profession, and we hope to share many years of Master Naturalist events with you in the future.

Field Trip to Forrest Keeling

BY CAROLYN TROWER



Eleven members of the Mississippi Hills Master Naturalist Chapter met at Forrest Keeling Nursery (FKN) on May 12. The nursery graciously hosted a meeting of the Native Plant Committee chaired by Ann Humphreys.

The committee meeting was held in their conference room. Topics discussed were plans for installation of the Hannibal Regional Hospital native plant butterfly garden; status for the butterfly garden to be installed at the Frank Russell Recreation Area; signage; and upcoming field trips.

Kim Lovelace Hainsfurther, President of FKN, spoke to us about the nursery and its history. The nursery was founded in 1948 and was rooted in conservation and stewardship from the beginning. Decades of research has provided the base for the 1.5 million seedlings, liner, and container plants. Today the nursery spans 150 acres and holds 60 greenhouses. They are well respected and have been recognized with a Corporate Conservation of the Year award. After the 1993 flood the nursery established a patented RPM (air root pruning) program to re-establish native hardwoods to the area and worked toward wetlands restoration. Forrest Keeling is a major provider of plants for conservation, restoration, and growers across 49 states, Canada, and countries in Europe.

Mary Gibler, Wholesale Sales Manager, then took members to the greenhouses to see how trees are planted from seedlings into pots and then into larger tubs as they grow. We were given a tour by trolley of more greenhouses and the area where trees are potted for final sales. Most trees here were products of the RPM method. The RPM production method is a result of two decades of field research and allows the tree to develop greater root mass. This then allows the tree to flower and fruit faster and ensures better survival.

Their oak trees are a point of pride. “The oak genus has become our primary focus. One of the Midwest’s climax species, oak is important for conservation.” (FKN field guide)

They grow 39 species of oak and have created several hybrids. The RPM seedlings grow faster and produce earlier and heavier acorn crops that benefit wildlife. These trees can live up to 300 years. One of their favorite oak cultivars is the “Jillian Anne Young.” It is a white oak and has been selected for the University of Missouri’s Legacy Oak Project to replace the aging pin oaks that line Francis Quadrangle on the Columbia campus.

Another project dear to the nursery’s heart is the Monarch Research Project. A devastating storm damaged 340 communities of 27 counties in the Cedar Rapids, Iowa, region in 2020. Close to one million trees were destroyed. While it will take years to bring the area back to normal, Forrest Keeling is proud to be a tree supplier for the project whose non-profit headquarters are in Marion, Iowa.

After a delicious lunch served to us in the conference room, members enjoyed shopping at the nursery’s garden center.

I, personally, came home with a greater respect for the nursery and its dedicated staff. The importance of native flowers and trees cannot be overstated. I also came home wanting to read more about oak trees and their impact on our communities throughout history. Visions of oak groves danced in my head as we headed home from Elsberry. Ann’s field trips have proven to be thought provoking and I enjoyed this one very much.



Mississippi Hills members listening to Forrest Keeling Nursery president Kim Lovelace Hainsfurther



MEET Meg Garey

By Bella Erakko



How could a child not love a purple-tongued, tallish horse with a camouflage coat and a tall neck known as an Okapi?

Meg Garey met her first Okapi in Florida when her father took her, as a very small child, to the zoo. Today, no matter the state, no matter the zoo, she'll find her okapi followed on closely by her love of lizards and snakes.

She connects her fascination with nature from the time she was a toddler. "I was very interested in animals. Dad always took me to zoos or aquariums wherever we lived." Be it Florida, Boston, up and down the East Coast, Chicago, or Hannibal, he fostered her love of nature. "We used to go hiking and camping. In Maine, we had this huge forest behind our house. We'd walk trails, look for moose." When someone gave her a wildflower checklist, she started checking.

"I tend to look at the ground ... mosses, mushrooms, flowers, lizards, snakes. I really love snakes. I'm not sure why."

It seems naturalists fall into two groups ... the vista-lookers, and the ground-lookers. Meg loves hiking, and admits, "I look at the ground. I am not one of those speedy hikers."

Just as she entered her teen years, the family moved to Hannibal. "It was a big culture shock. It's probably the smallest town I ever lived in. So it was a big change. I missed the ocean. But there was something comforting about being near the river and water."

"It took me awhile to find the wild places, but definitely, I love Sodalis. It's quite near my house; I can walk there." When the night hikes led by Gale Rublee began, Meg went to as many as she could ... bats, fireflies, owls, frogs. Gale mentioned there was an upcoming Master Naturalist's class starting soon, but swamped by life, it

slipped Meg's mind. Then she saw Kristy's posting on Facebook and said to herself, "Oh YEAH, definitely!" Unusual for her (she researches anything and everything) she didn't have time and showed up for the orientation not knowing what to expect. But like others with a passion for nature, she was pretty sure she'd found her "tribe."

Vanessa tapped into Meg's enthusiasm and asked if she'd head up a new volunteer-opportunity-alert committee. All too often, upcoming events were listed too late for people to schedule it in; or it occurred before anyone knew about it. Being a natural researcher, Meg quickly set up an early-alert system for members.

Her nature-travel bucket list includes visiting all of the National Parks. As time permits, she and Sabrina head out further and further. This year, they raptured over the springs in Eureka Springs, Arkansas.

Once upon a time Meg wanted to be a zoologist. "But English," she laughs, "was a lot easier." Having visited so many museums, zoos, and aquariums growing up, she thought she'd relish working in a museum.

That dream, at least, has been fully realized. Meg promotes all-things-Twain for the Mark Twain Museum. Now if only Mark Twain had loved Okapis, or at least snakes so she could justify a Twain terrarium ...



IT'S A PLAN!

By Pollinator Garden Committee Co-Chairs: Ann Humphreys and Pam Whiston

“In the past, we have asked one thing of our gardens: that they be pretty.

Now they have to support life, sequester carbon, feed pollinators, & manage water.”—Doug Tallamy



Black-eyed Susan (*Rudbeckia hirta*)

We are fortunate to have great resources in Missouri for gardeners and homeowners who want to add native plants to their existing gardens and home landscaping. Our committee has been hard at work for over a year, creating a plan for a Butterfly Garden, which brings together the best information about which plants will achieve the objectives of attracting and supporting butterflies with blooms providing pollen and nectar from early spring through late fall, and using plants native to Missouri which will thrive in our unique area in the northeast corner of the state. In this article we want to share our plant list and garden plan with you, explain how the plan was created, and pass along links for the resources we used. We also want to share with you our big vision for the long term work of this committee.

The Plan

The plan our committee has developed for a Native Plant Butterfly Garden can be found on the Mississippi Hills Master Naturalist website as follows:

- The [design plan](#) for a 4' x 25' bed.
- The [plant list](#) with both the common and the scientific plant names.
- The [graphic detail](#) that lists the common name, scientific name, sun exposure, height, spacing, soil preference, color, and bloom time.

The plan calls for 90 plants of 19 different plant species and has been designed for a 100 square foot bed. Using a 100 square foot bed as a standard bed size allows the plan to easily be scaled up or down by simple multiplication to calculate the number of plants needed for the actual area to be planted.

Why Customize?

When we started work a year and a half ago, we thought creating a plan for a Butterfly Garden would be a snap! We intended to use the Native Garden Design: Butterfly Garden, created by Scott Woodbury for GrowNative.org, which is a division of the Missouri Prairie Foundation. (The Missouri Department of Conservation is one of the sponsoring organizations and funders of this plan, as well as the other plans on the GrowNative.org website. As of this writing, there are a total of 13 plans, and more are in the pipeline.) When we reviewed the plant list, we discovered something interesting: not all the plants thrive in our area. If you look at the USDA Plant Hardiness Zone Map, you will see that 80% of Missouri is in Zone 6a and 6b. We live on the dividing line at the northern edge of Zone 6a and southern edge of Zone 5b. It appears to us that the plant list for the GrowNative.org plan is drawn from Zone 6 plants. To succeed in our gardens, we need plants that are hardy in both Zones 6 and 5.

We used three resources to modify the original **GrowNative!** plant list to find suitable plants for our area:

GrowNative.org, Native Plant Database, which has a link to the USDA PLANTS Range Map that will show whether a plant has been reported as being in the counties of Lewis, Marion, Ralls, Monroe, and Shelby:

[GrowNative! Plant Database](#)

The Missouri Botanical Garden Plant Finder (this site also gives the pronunciations of scientific names):

[MOBOT Plant Finder](#)

The Missouri Wildflowers Nursery Native Plants Catalog, either the online version or the print version. This provides information on light preference, bloom period, flower color, height, moisture/soil type preferred, spacing, what it attracts, and whether it is deer resistant. Here is the website for the online catalog:

[MO Wildflower Catalog](#)

-or-

[MO Wildflower Plant List](#)

Brush Up on Your Latin and Shop at Native Plant Nurseries!

There is just no way around it—you must use the scientific names of plants to ensure you are getting the plants we list in the plan.

Here is the contact information for the two nurseries our committee has worked with:

Forrest Keeling Nursery
88 Forrest Keeling Lane
Elsberry MO 63343
573-898-5571
800-356-2401
Info@fknursery.com

Missouri Wildflowers Nursery
9814 Pleasant Hill Road
Jefferson City MO 65109
573-496-3492
Mowldflrs@socket.net

Our BIG Goals!

Our Pollinator Garden Committee has long range goals of customizing all of the **GrowNative!** plans for our area. One down, twelve to go! But we do not just want to create these gardens on paper, we want to put them in the ground and see how they perform. Originally, we hoped to put these gardens on public lands that would be accessible to everyone, and possibly use signage with QR codes to provide plant lists and other information. We are finding that public lands often have budget and staffing limitations, which put the continued maintenance of gardens in jeopardy. The best planned and planted pollinator garden will turn into a pile of weeds if it is not maintained. As Scott Woodbury said during his program to our Chapter in March, "MAINTENANCE IS KEY!"

Our committee may have better success working with individual landowners who already have gardening experience, and who understand that all gardens require maintenance.

Here is the assistance our committee can provide a landowner:

1. Help the landowner determine what plan is best suited for the location and soil type of the site, and whether any soil amendment would be beneficial.
2. Help the landowner locate a source for plants.
3. Drive to the plant nursery and pick up the plants the day before planting.
4. Organize a workday for Chapter volunteers to plant the garden.

Here are our expectations of what an individual landowner would do:

1. Prepare the bed (landowners would decide the location and size of the bed, which only makes sense since they will be maintaining the garden once it is planted)
2. Pay for the plants.
3. Maintain the garden after it is planted.

This model of working with landowners on private lands is in line with Doug Tallamy's idea for *Homegrown National Parks*.

"Our National Parks, no matter how grand in scale, are too small and separated from one another to persevere species to the levels needed. Thus, the concept of Homegrown National Park, a bottom-up call-to-action to restore habitat where we live and work and to a lesser extent where we farm and graze, extends national parks to our yards and communities." —Doug Tallamy

Re-Branding!

After attending The Great Gardens Conference in Hannibal MO, June 4-6, and hearing Robert Hendrickson's persuasive talk on the difference between calling something a native plant (no interest) and a pollinator ("Give me 2!"), we are considering changing our name from "The Native Plant Garden Committee" to "The Pollinator Garden Committee." What do you think?

Next Steps

From talking with people at our Chapter meetings and at the Core Training sessions, we know there is a lot of interest in native plant gardens among our members and in our new class. If you have been thinking about adding native plants to your home landscaping but have been feeling unsure about what to do next, talk to me or Pam. We can help you create a plan, find the resources you need, and recruit willing hands to make your ideas a reality!



Common Milkweed (*Asclepias syriaca*)

MISSOURI BUMBLE BEE ATLAS

2022 RECAP AND 2023 SEASON TARGET

By Anne Coleman

With the arrival of summer, naturalists are exploring their local woods, lakes, rivers, and natural areas in earnest to begin the process of observation, data collection and reporting to citizen science or other projects, and often times just for fun! One project that I have been a part of for the last three years is the Missouri Bumble Bee Atlas, and I am excited when I see the first of the bumble bee queens in the spring—for me it has always been the Common eastern bumble bee.

Having done several surveys near my home during those years, I have also found that the Common eastern bumblebee is the most common bumble bee I've captured, but Missouri is home to 11 different species of bumble bees, and so I'm always looking for a new species in my area.

I know that some of Missouri's bumble bees have not been seen in the state for nearly twenty years which makes doing surveys and sharing the resulting data even more important. For those who might not be familiar with this project, the organization's website summarizes their work:



“Since 2020, the Missouri Bumble Bee ATLAS survey has been conducted by more than 130 volunteers to determine bumble bee species distribution in Missouri. Over 2,300 bees have been collected and identified and habitat information recorded. The ATLAS has given us and our partners valuable insight into bumble bee nectar plant preferences and habitat needs. The bumble bee species of most concern in Missouri rely almost exclusively on native plants for nectar and pollen. In addition, they are found mostly where there is a diversity of blooming native plants. Information gained is helping design better plantings for pollinators. Bumble bees are not only important native pollinators, but the same habitat they use are also valuable for species like bobwhite quail and declining grassland birds. Sponsoring partners include the University of Missouri, The Xerces Society, and Quail Forever.”

In 2022, I completed two point surveys along with habitat assessments and captured 26 bees, 14 of which have had their species verified as a bumble bee (I evidently have an abundance of carpenter bees in my area that keep making their way into my net). Twelve of those were Common eastern bumble bees (*Bombus impatiens*) and two were American bumble bees (*Bombus pensylvanicus*).


At the state project level, nearly 4,000 bumble bees were observed on 112 different plants, and 450+ habitat assessments have been conducted. Seventeen of the verified sightings were in Ralls and Pike counties (none recorded in Marion, Monroe, Shelby). The species sighted most often were Common eastern bumble bee (my #1 sighting), Brown-belted bumble bee, Two-spotted bumble bee and the American bumble bee.

Following is a summary of the data that has been collected so far—



Are you volunteering for a Citizen Science Project—Bat Counts, Butterfly Surveys, Night Jar Surveys, FeederWatch or other projects? These projects collect important data for conservation decision makers and guide future work.

Please share your stories—we'd love to hear more about Citizen Scientists in the field!

Bee Species 	2020	2021	2022	Grand Total
Common eastern bumble bee (<i>B. impatiens</i>)	425	516	340	1281
Brown-belted bumble bee (<i>B. griseocollis</i>)	41	496	450	987
Two-spotted bumble bee (<i>B. bimaculatus</i>)	21	329	332	682
American bumble bee (<i>B. pensylvanicus</i>)	107	171	203	481
Black and gold bumble bee (<i>B. auricomus</i>)	17	96	115	228
Southern Plains bumble bee (<i>B. fraternus</i>)	12	33	22	67
Half-black bumble bee (<i>B. vagans</i>)	-	7	1	8
Yellow bumble bee (<i>B. fervidus</i>)	-	1	-	1
Bumble bee (<i>Bombus</i> sp.)	15	52	43	110
Grand Total (Verified Records Only)	638	1701	1506	3845

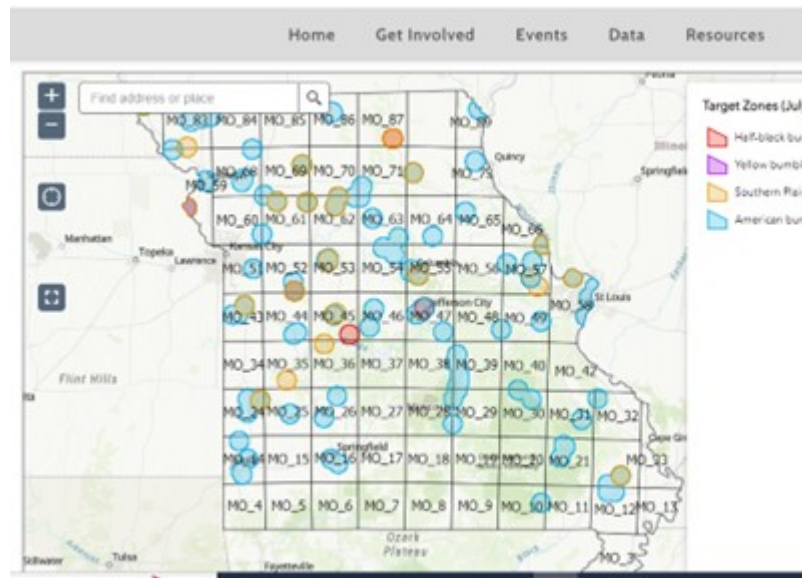
The Atlas' 2023 season started June 1st and runs through September 30th, and it is never too late to join in the fun! Online training is available if you are interested, and if you have questions, please feel free to contact me.

This year there will be a focus on (1) Missouri's Species of Greatest Conservation Need and (2) species that have been petitioned to gain federal protection under the U.S. Endangered Species Act. One of those species is the American bumble bee, which I have been fortunate enough to observe the last three years.

In Spring 2023, the Missouri Bumble Bee Atlas released a new grid map that includes High Potential Zones (HPZs). The HPZs exist within the existing grid cells and serve as priority areas for 2023-2025.

As I had recorded one of the target species in my grid cell (#65) in previous years, you can see that an HPZ (blue circle) was drawn in as a priority area. I will be excited to see how many of the tar-

get species I can observe this year and if having priority areas might change the survey's results.



For more information and to learn how to participate, please visit:

<https://www.mobumblebeeatlas.org/>

Top 10 Plants Bumble bees were visiting when surveyed in Missouri (reported at a genus level):

1. **Clovers** - Trifolium
2. **Bergamots** - Monarda fistulosa
3. **Thistles** - Cirsium
4. **Goldenrod** - Solidago/Oligoneuron
5. **Partridge Pea** - Chamaecrista
6. **Sunflowers** - Helianthus
7. **Milkweeds** - Asclepias
8. **Coneflowers** - Echinacea
9. **Blazing Stars** - Liatris
10. **Asters** - Symphyotrichum

Spotlight on Species

MONARACHS AND MILKWEED

A Dance For Survival

By Carolyn Trower



Think pollinators and most people think butterflies. Butterflies are one of the most proliferent insects that help pollinate the many flowers and foods we enjoy every day.

In recent years “Save the Monarch” has become the rallying cry of conservationists all over North America. One cause for their decline is the disappearance of milkweeds in much of the eastern United States. The milkweed plant is a necessary habitat for monarchs to thrive. Monarch Watch, an environmental organization (monarchwatch.org), estimates that 2.2 million acres of milkweed habitat is lost in the U.S. each year. Losses come from land use changes on commercial, industrial, and agricultural lands. It’s not only monarchs that depend on the milkweed plant. Many pollinators use their flowers for their nutritional needs.

The milkweed family includes many species. In Missouri milkweeds are perennial weedy plants and most have a clear or milky sap. Many milkweeds grow along roadsides, in pastures and in agricultural areas. Agriculture’s use of pesticides has drastically reduced the milkweed that grows along with other roadside weeds in these areas.

This loss of milkweed has caused the monarch numbers to drop due to the loss of their host plant.

Eighteen species of milkweed can be found across Missouri of which 13 are used as host plants by monarchs. Four of the species most favored by monarchs are butterflyweed (*asclepias tuberosa*), common milkweed (*asclepias syriaca*), purple milkweed (*asclepias purpurascens*), and swamp milkweed (*asclepias incarnata*). Other species found in Missouri include whorled milkweed, green milkweed, smooth milkweed, and prairie milkweed.

The bright black and orange monarch is easily spotted as it flits from one flower to the next. Like other butterflies its life cycle has four parts: egg, caterpillar, pupa, and adult. Milkweeds are the host plants that provide the food a monarch caterpillar must have. These plants are chemically compatible with the monarch. The adult lays the eggs on the leaf of the milkweed and when the caterpillar emerges it begins to eat the foliage. The ensuing rapid growth goes through five molts before it enters the pupa stage and forms the beautiful green chrysalis most people recognize. The transformation into a striking adult takes about five weeks.

Fewer milkweed plants lead to a decline in the monarch population. Experts estimate a 90% population decrease over the last 20 years. According to a Missouri Conservationist booklet, “...the two lowest wintering population levels were recorded in the last decade.” Other causes for a decline in the Monarch population are a decline in the Mexican oyamel fir forests where the butterflies winter and untimely weather events including hail, freezing temperatures, and high winds.

Nature organizations, garden clubs, and youth organizations are all rallying around the “Save the Monarch” banner. Adults, teens, and children are learning that the interdependence of pollinators and native plants is necessary for all living things.

Seeds for birds, nectar for bees and other pollinators, and acorns and berries for other wildlife depend on pollinators. Humans round out a healthy diet with the many fruits and nuts that come from pollination. Many of these organizations are planting butterfly gardens to help bolster the number of monarchs and other declining pollinators. A reputable native plant nursery can provide milkweed plants for a thriving butterfly garden. Plants may also be purchased from Monarch Watch.

Information for this article came from the Missouri Department of Conservation website and publications.



Mulberry Times

By Vanessa Laatsch



It's another dry month in N.E. Missouri. If there's no increase in precipitation, the yield of foods necessary to keep our wildlife fed this winter may be scant. As I was driving through wooded lanes with another Master Naturalist today, I noticed the acorns developing, buckeyes, black cherries, mulberries, hickory and walnuts. I saw black raspberries and blackberries trying to fruit, and in the damper lowlands, they are looking quite promising. Perhaps the drought is important to help maintain nature's balance, but there will still be plenty of foods to insure survival for our most industrious wildlife.

I've been studying wild edibles. Samuel Thayer has written a couple excellent books on Natures Garden. I've learned that the American Lotus is a threat to my pond, and they need to be destroyed. But at the same time, the ripe lotus seeds promise a tasty breakfast type cereal if ground and cooked like corn meal. So what do I do? Kill the aggressive growers, or wait a while and make breakfast? I definitely have a dilemma. I'm also learning that the fruit of Autumn Olive is edible. Unfortunately it's easily confused with Buffalo Berries and Tartarian Honeysuckle. (Neither is toxic) High in antioxidant lycopene, Autumn Olive has definite health benefits. But they are easily confused, so practicing identification with a trained expert is an excellent idea.

In the past, I've seen Mayapples in my forest. I had no idea they were edible. Later this year, I will be keeping an eye out for this sweet treat. However, just a quick reminder, plants resemble other plants, often so closely it may be difficult to discern with an untrained eye. So practice identification with more than one book source, and more than one expert. And never use the "name" of the plant as your guide, because names may differ from region to region. Use the scientific name to avoid error.

It's a beautiful world we have just outside our doors. Even in drought, our forests and prairies continue to thrive, reproduce, and provide for the wildlife in its midst. No wonder you are a Master Naturalist.

Vanessa Laatsch

BY THE NUMBERS

(rounded to nearest whole hour)

2023

SERVICE PROJECTS

Volunteer Service Projects Total Hours = 2459

ADVANCED TRAINING

Advanced Training Total Hours = 464

Recognition for achieving Initial Certifications!

- * Tracy Fuller
- * Barb Holmer
- * Molly Herrington
- * Dena Ellis
- * Meg Garey



Congratulations on 2023 Recertifications!

- | | |
|--------------------|------------------|
| * Dennis Foss | * Barry Casey |
| * Sylvia Spencer | * Ken Daniels |
| * Lynn Gibson | * Dennis Honkomp |
| * Kristy Trevathan | * Carolyn Trower |
| * George Wisdom | |



Special Congratulations to—

For achieving his *Pewter Milestone* pins for 500 volunteer hours

◆ George Wisdom

Finding Your Niche as a Naturalist

By Carolyn Trower



Sylvia Spencer, a member of the Mississippi Hills Chapter Master Naturalist, recently took on the role of Naturalist at Mark Twain State Park in Florida.

Sylvia Spencer works around her job as a radiology and lab technician at Blessing Clinic in Hannibal, and beginning in March of this year she averages three days a week, mostly weekends, giving nature presentations to campers. As well as family camping groups, Sylvia also does programs for bigger camps like church and 4-H camps.

Her duties also include giving programs for groups that tour the Museum and field trip groups that go on nature hikes.

“Everyone has been so welcoming. I still get nervous but when I get there, I don’t want to go home. I love teaching.”

On one museum tour she used this quote from Mark Twain, “Not a day’s work all my life, what I have done because it has been play. If it had been work I should not have done it.”

“That’s me,” she said. “I love this job.”

Sylvia uses the 21 sites at the Mark Twain State Park, giving programs at Buzzard’s Roost, various campgrounds, and by the beach. She likes her programs to be interactive and has helped campers make campsite ice cream, fish in Tom Sawyer Lake, and “get down and dirty” with earthworms. She has led them on hikes to find mushrooms and turkeys. Campers have learned archery and helped clean the trails of litter. Future activities will include some face painting and a fall program on the freshwater jellyfish found in the lake.

Sylvia says, “My goal is to give them a reason – why do I care? The more you relate to nature, the more you care about it.”

Sylvia Spencer is proof that finding a job in nature is rewarding, even, or maybe especially, after 25 years of working a regular job.

**Welcome
Tyler!**

Tyler Blake, is the northeast region’s new recreational use specialist. He will be stationed out of Kirksville, covering both NE and Central region. We had an opportunity to meet Tyler when he helped train a few of us on wildflower identification before the spring wildflower walk at Steyermark last year in 2022.

His previous natural history biologist experience is certain to come in handy as he works on connecting people with nature through outdoor recreation. Tyler was also at our June meeting with Chad Smith. It will be a pleasure to work with Tyler on future projects!



ADVISOROR'S CORNER

Our World Explorer Returns!

by
Kathi Moore



In the last month, I had the opportunity to explore the ruins of an abbey, built hundreds of years before the birth of the United States. It was both awe-inspiring and humbling. But it made me realize how young our nation is.

While Travis and I traversed both Ireland and England, we paid very close attention to the flora and fauna of this distant land. We would look at a plant and say “back home that is...” an oak, a maple or holly. Or we would declare “Hey! that looks like ...” a nuthatch, swan, or chickadee. We even found plants that are invasive species here, in their native habits there.

As we recounted our adventures, discussions, and excitement about what we saw to our oldest, we

were called “nerds.” We were able to see so much of Missouri in the hills and habitats. It is very odd, how we ventured far away but could see so much of home. We may not have known exactly what each species was, but because we understood our native wildlife habitats and niches, we understood how the species all worked together in the ecosystems across the pond.

Why am I sharing this? Because I hope that as you deepen your knowledge about Missouri flora and fauna, and you delve into understanding interconnectedness of all things, you can start to see how the whole world is connected.

Sincerely,
Kathi - a nature nerd



OUR PRAIRIES

Seven Prairies Per Year For Seven Years

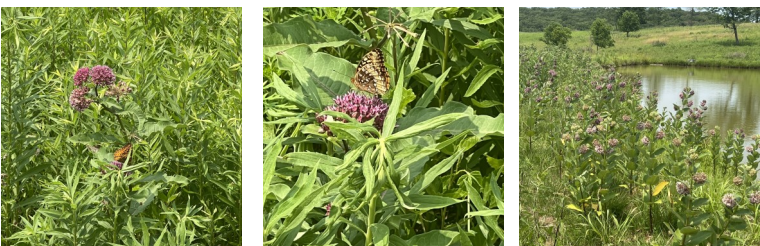
Sowing the Seeds of Success...

When you start down the road of prairie reconstruction or pollinator garden planting, you wonder if you will ever see the rewards of the hard work that was put into the effort. The traditional saying is, “the first year you weep, the second it creeps and the third year it leaps.” We have a few pictures to prove that indeed one day you too may enjoy the fruits of everyone’s labor!



Alan Miller has performed frequent prescribed burns on his prairie over the last few years.

Master Naturalists assisting with a burn in April of this year.



Pictures taken in June on Miller Prairie show the return of what appears to be Swamp milkweed which has brought in the pollinators.



Ann Humphreys’ prairie planting was done as part of the Capstone project for the Class of 2021.

Master Naturalist Interns assist with seeding in 2021.



Recently taken pictures of Humphreys Prairie show the beautiful progress of blooms in her prairie planting.

Missouri Master Naturalists at Work



Bethel Colony Spring Market

We had many compliments from other participants and parents for being there to involve the children in nature.



Palmyra Junior High Field Day held in April



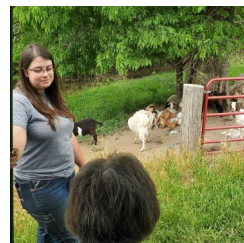
Annual Turkey Hunt for disabled persons held at Mark Twain Lake.. Volunteers assisted 15 disabled individuals in this special hunt.



Steyermark Spring Hike with Dr. Coelho, Kristy Treathan and Pam Whiston leading morning and afternoon hikes.



Forrest Keeling Field trip was a learning experience for all Master Naturalists that attended.



Missouri Master Naturalists at Work *Continued*



Dedication of the Burr oak planted on the campus of Culver-Stockton College in honor of Master Naturalist John Bursewicz.



Great Garden Conference ...

Casey Prairie tour

Pale purple coneflower flowers, butterfly milkweed, yarrow, pinks, beard tongue, purple and common milkweed, Ohio horsemint, and yellow sweet clover welcomed numerous regal fritillary, swallowtail and human visitors despite the lack of rain.

Thank you to all of our dedicated volunteers and to all of you who have contributed photos!

Program on Trees at Veterans Elementary: their importance and identifying them using leaf shape, bark, berries and cones.



Master Naturalist volunteers helped with fishing activities at the annual Kid's Fishing Day at Mark Twain Lake. It was reported that everyone caught a fish!



We also prepared the materials for and assisted with building bluebird houses. This is always a popular activity and 22 happy children left with their new bird houses at this year's event.



Summer Safety program at Veterans Elementary. Kids were great and the weather cooperated so we could be outside. Sun Safety, Ticks and Mosquitos, Venomous Snakes and Poison Ivy and Lookalikes were the covered topics



Goose-banding with Missouri Department of Conservation.



UPCOMING EVENTS

—Volunteer Opportunities—

Watch for Emails and Check our Calendars for Updates and New Events

◆ August 5, 2023 Wild and Wacky, Hannibal MO 9am-Noon

Wild and Wacky Art Adventure will be Saturday, August 5, 2023 from 9 am until noon at Central Park in Hannibal. We will set up at 8 am, and a few volunteers are also needed for this. This year's theme is "Dinosaurs", and the children will be drawing dinosaur scenery at our booth, making leaf rubbings and learning about fossils. For those who have not been before, we will be under a tent so quite shady. Several volunteers are needed so please contact Theresa Casey or Kristy Trevathan if you'd like to help. One of our trainees is assisting with fossils since she has a reliable "source"... Continental Cement. Thanks, Sara Lubecke!!

◆ September 15, 2023 Summer Safety, Pike County MO 9am-2:30pm

This year's Summer Safety program will be at the Pike County Fairgrounds on September 15 from 9 am - 2:30 pm. The Pike County Young Farmers Association sponsors the event every year for 4th graders in Pike County. Mississippi Hills Master Naturalists will inform students on Venomous vs. Non-venomous Snakes, Poison Ivy and Look-alike Plants, Sun Safety, and Ticks and Mosquitos. We can always use a few more volunteers.

◆ July and August Dates, MDC Exit Bat Counts, Multiple Locations

MDC is looking for volunteers to help with exit count surveys of Indiana bats on MDC conservation areas. The surveys are part of a larger effort evaluating Indiana bat response to timber management. Dates have been tentatively planned for Saturdays and Sundays when they will need volunteers:

◆ 7/22/2023	Charlie Heath	Clark	◆ 7/30/2023	Rebel's Cove	Putnam
◆ 7/23/2023	Hidden Hollow	Macon	◆ 8/5/2023	Indian Hills	Scotland
◆ 7/29/2023	Mineral Hills	Putnam	◆ 8/6/2023	Atlanta	Macon

If you are interested in volunteering, contact Casey J. Wagon with Natural Resources and Environmental Sciences, University of Illinois at Urbana-Champaign:

Phone: 575-635-1207; Email: cwagon2@illinois.edu or wagoncasey@yahoo.com

Please let Meg Garey know if you've signed up for this volunteer work.

◆ November 11-12, 2023, MDC: CWD Mandatory Sampling Volunteer Opportunity

MDC is recruiting volunteers from the Department's staff and Master Naturalist volunteer programs to help November 11-12 at chronic wasting disease (CWD) mandatory sampling stations. This volunteer opportunity offers you the chance to assist with one of the Department's highest priorities. It's a big job and MDC needs your help!

You can volunteer to work Saturday or the full November 11-12 weekend at one of the stations. Each day requires you to work a 7:30 a.m. – 8 p.m. shift. All sampling stations are outdoors. You need to have appropriate outerwear for the weather conditions. Lunch and dinner are provided. If needed, lodging and travel expenses will be covered by the Department. Department staff will provide required training for all positions prior to sampling weekend. Positions include greeter, cutter, and recorder.

For more information contact Syd Hime at syd.hime@mdc.mo.gov or 573-522-4115 ext. 3370

Please let Meg Garey know if you've signed up for this volunteer work.

—Advanced Training Opportunities—

—Speakers at meetings—

- ◆ Will Robinson: "Invasive Species Control and Management"
- ◆ Dr. Ginger Miller: "Tasty Tree Treats"
- ◆ Jordan James Meyer: "Bats of Missouri"

—Conferences—

- ◆ September 16, 2023 9am-1pm Prescribed Burn Workshop, M.W. Boudreaux Memorial Visitor Center Mark Twain Lake Register on MDC Events Website. On-line training must be completed prior to September 16th in-person workshop. See MDC Events for more information.



Volunteer Opportunity Calendar for July, August, September 2023

Event Date	Event Time	Event Title
7/14/2023	07:30 pm - 09:30 pm	Parks / Conservation Areas :: Hannibal Parks :: Hannibal Parks & Rec Interpretive Programs :: Night Hike
7/15/2023	10:00 am - 12 noon	Chapter Education & Interpretation Projects :: Master Naturalist Led Group Hikes :: Cameron Cave Discovery Tour
7/20/2023	07:30 pm - 09:30 pm	Parks / Conservation Areas :: Hannibal Parks :: Hannibal Parks & Rec Interpretive Programs :: Night Hike
7/25/2023	07:00 pm - 08:00 pm	Program Support :: Chapter Meeting :: (07) July
7/29/2023	07:00 am - 12 noon	Parks / Conservation Areas :: Mark Twain State Park :: Fishing at Tom Sawyer Lake
8/5/2023	08:00 am - 12:30 pm	Chapter Education & Interpretation Projects :: Hannibal Arts Council :: Wild & Wacky
8/19/2023	09:00 am - 12 noon	Chapter Education & Interpretation Projects :: Master Naturalist Led Group Hikes :: Kayaking on Salt River below Mark Twain Lake Dam
8/22/2023	07:00 pm - 08:00 pm	Program Support :: Chapter Meeting :: (08) August
8/29/2023	05:30 pm - 09:00 pm	Program Support :: Special Chapter Events :: Core Training Graduation
9/12/2023	06:00 pm - 07:30 pm	Program Support :: Executive Board :: Board Meeting
9/15/2023	09:00 am - 02:30 pm	Chapter Education & Interpretation Projects :: Pike County Farm Safety Day
9/16/2023	09:00 am - 12 noon	Chapter Education & Interpretation Projects :: Master Naturalist Led Group Hikes :: TBD
9/26/2023	07:00 pm - 08:00 pm	Program Support :: Chapter Meeting :: (09) September

Monthly Meetings
 Monthly Chapter Meetings are held on the 4th Tuesday of every month

Bi-monthly Board Meetings
 are held on the 2nd Tuesday of every other month

Are you planning a Volunteer Event where you will need a Master Naturalist Banner, signage or an Educational Display Board? Are you looking for ideas about what to display or where to get it? Check out the available materials list and who to contact on our website: [Project Resources](#)

August 26, 2023 Is the “Landlearning Family Field Day” Eolia, MO

This is the second presentation of excellent conservation practices put in place. It is well worth your time to tour these field to see the actual difference that occurs with better land management.



We will share more details as the information becomes available!



Advanced Training Calendar for July, August, September 2023



Event Date	Event Time	Event Title
7/18/2023	05:30 pm - 09:00 pm	Core Training Class (09) :: Forest Ecology and Tree Identification--- Nature Journaling
7/18/2023	05:00 pm - 05:30 pm	Missouri Department of Conservation: Virtual Hike: The Sights & Sounds of Powder Valley
7/20/2023	12 noon - 01:00 pm	Deep Roots webinars - Native Plants at Noon
7/20/2023	06:30 pm - 07:00 pm	Invasive Species: Virtual Invasive Species Series: Bush Honeysuckle
7/25/2023	06:00 pm - 07:00 pm	Chapter Meeting--Will Robinson: Invasive Species Control and Management
7/25/2023	05:30 pm - 09:00 pm	Core Training Class (10) :: Wildlife Regulation as a Management Tool ---Conservation K-9 program
7/27/2023	11:00 am - 12 noon	Reptiles: Snakes of Missouri Webinar
7/31/2023	06:00 pm - 07:00 pm	MDC: Birds: VIRTUAL: Hummers of Summer
8/1/2023	05:30 pm - 09:00 pm	Core Training Class (11) :: Missouri Geology and the Lincoln Fold and Hero's of Conservation
8/2/2023	04:00 pm - 05:00 pm	MDF: Grow Native! Master Class: Native Grasses and Sedges: Smart Choices for Native Landscape Design
8/3/2023	12 noon - 01:00 pm	Deep Roots webinars - Lunch and Learn
8/3/2023	06:30 pm - 07:30 pm	Insects: Making Friends with Fritillaries Virtual Program
8/5/2023	10:00 am - 12 noon	MPF: Free Native Pasture Tour --Highlights Productive Prairie Forage
8/8/2023	05:30 pm - 09:00 pm	Core Training Class (12) :: Mark Twain Fisheries Projects and Big River Ecosystems and Navigation
8/8/2023	07:00 pm - 08:00 pm	MDC: Habitats: Introduction to Missouri's Caves and Caving
8/15/2023	05:30 pm - 09:00 pm	Core Training Class (13) :: Wetland Ecology and Reptiles and Chapter Website navigation and time keeping

Watch for new training that is added on the website.

If you find additional training not on the calendar, please send to Kristy Trevathan and Tracy Fuller so that it can be added.

If you aren't sure whether the new training qualifies please ask!

THANKS!!

Most training requires advanced registration. If you want to sign up for a training session, please use the appropriate link below.

FOR MDC: <https://mdc.mo.gov/events>

FOR MPF: <https://moprairie.org/events/>

For other advanced training, follow the instructions in the email sent by Vanessa or Kristy. If you aren't sure, please ask! Someone will be happy to help you get signed up.



We're searching for articles for our next newsletter.

What would you like to read about or to learn more about?

Have you read a good book lately? Would you like to share an article?

Contact Janet Golian for more information, to share your ideas or to provide feedback for our newsletter.

The deadline for contributing to the next newsletter is September 30, 2023.

Advanced Training Calendar for July, August, September 2023 *Continued*

Event Date	Event Time	Event Title
8/15/2023	05:00 pm - 05:30 pm	Missouri Department of Conservation: Virtual Hike: The Sights & Sounds of Powder Valley
8/15/2023	12 noon - 01:00 pm	Outdoor Skills: Reading the River Webinar
8/17/2023	12 noon - 01:00 pm	Deep Roots webinars - Native Plants at Noon
8/22/2023	06:00 pm - 07:00 pm	Chapter Meeting--Dr. Ginger Miller, MDC Entomologist "Tasty Tree Treats"
8/22/2023	05:30 pm - 09:00 pm	Core Training Class (14) :: Insect Biology, Ecology, and Identification ---Taste teas
8/25/2023	02:00 pm - 03:00 pm	Missouri Department of Conservation: Fishing Skills: Getting Hooked on Catfishing
8/25/2023	09:00 am - 01:30 pm	Prescribed Burn Workshop:
8/26/2023	10:00 am - 11:00 am	MDC:Native Plants: What's Blooming?
8/29/2023	05:30 pm - 09:00 pm	Core Training Class (15) :: Graduation
8/29/2023	05:00 pm - 05:30 pm	Missouri Department of Conservation: Discover Nature: Virtual Hike the Sights and Sounds of Powder Valley
8/29/2023	05:00 pm - 05:30 pm	Missouri Department of Conservation: Reptiles: Creature Feature: Kingsnakes.
9/7/2023	12 noon - 01:00 pm	Deep Roots webinars - Lunch and Learn
9/16/2023	09:00 am - 01:00 pm	Prescribed Burn Workshop
9/21/2023	12 noon - 01:00 pm	Deep Roots webinars - Native Plants at Noon
9/26/2023	06:00 pm - 07:00 pm	Chapter Meeting--Jordan James Meyer: Bats of Missouri

If you are an existing member who attended a Core Training Class and want to count it as AT, you MUST contact Anne Coleman!

Now is a great time to enter your hours!

Please visit—<https://www.hills.missourimasternaturalist.org/>

Enter your hours for Advanced Training and Volunteer Service or send your Hours to Anne Coleman. Please let her know if you need assistance.

Tracking hours helps you towards Certification and credits our Chapter for your hard work and conservation efforts.

THANK YOU!