



Your Key to Discovering the *Natural Missouri*

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From
Our President

These last few months have been such a challenge.

While the year began as usual, it quickly took a turn to the weird. None of us have faced this kind of sudden change in our daily lives before. Virtual meetings, social distancing, wearing face masks when we go to the store for groceries. For the most part, I believe we are handling it quite well. We remain in our homes and in our neighborhoods.

Although our activities have all been officially halted, some have been quietly working at what we love most—going into nature. The silver lining is that nature hasn't noticed that we've shut down. If anything, nature is thriving more than ever.

Gradually, things will reopen. We will get back to our stream team activities, our native

gardens, and we will have a greater appreciation of what we do because of our time away from it.

Whoever thought that we would be looking forward to doing a honeysuckle hack with such enthusiasm?

As master naturalists our focus has not dimmed. Our meetings will resume, and our many projects will gain momentum.

Things may look different for awhile, but our mission remains.

*We are all stewards
of our environment.*

Martha

Martha Hessler
President, Confluence Chapter



Photo Credit: Yasunori Koide, Wikimedia commons

Bah humbug to so-called murder hornets

Missouri Master Naturalist
2020 Certification Pin



Northern Long-eared Bat
Myotis septentrionalis



Vespa mandarinia
Asian giant hornet

MU Extension faculty want to put a halt to the hysteria about the

"murder hornets." The Asian giant hornet is not present in the Midwest, nor is it typically aggressive toward people. Learn the real story about this interesting insect. Read more...

<https://extension2.missouri.edu/news/bah-humbug-to-so-called-murder-hornets-4546>



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To engage Missourians in the stewardship of our state's natural resources through science-based education
and volunteer community service.

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A Tree Story



MN Jerry
Lindhorst

One day when I was a pre-teenager, it came to me how I could become more manly. I put on my cowboy hat, jeans and strutted down the block to the end of the parkway in my neighborhood. I stepped under a different looking tree that had big leaves.

As most of my western heroes smoked cigarettes or cigars, I searched under the tree until I found a dark brown string-bean appearing object that to a young boy's overly imaginative mind, resembled a long cigar. I spread my feet apart in a don't-mess-with-me pose and reached into my jean's pocket to pull out a pack of matches that I had borrowed from my dad. Looking around to make sure no one was watching, I placed the lighted match to the end of my cigar. The foul-smelling cigar remained brown, but I turned green.



Three years ago, a strange looking tree popped up on the side of one of the rain gardens in my backyard. I got out my tree book, but could not identify it. So, I got out my axe and gave it a good lick.

Two years later, this same tree miraculously returned and now had two trunks. It began growing so rapidly it reminded me of the fable Jack and the Beanstalk. I still could not identify it, so I called our esteemed editor Carmen Santos.

"Don't cut that tree down," Carmen demanded. "It's a beautiful tree and you're lucky to have it." She was right. It is a ***Catalpa speciosa***, commonly known as the northern catalpa, hardy catalpa, western catalpa, catawba-tree, or to the young boy, a cigar tree. It is a species of *Catalpa* native to Illinois and throughout the mid-western United States.

The tree will have white, showy flowers.

It grows 40 to 60 feet tall, with a narrow, open, irregularly rounded crown and spreading branches.

The long, dark brown seed pods that grow on many branches persist through the winter and then fall to the ground.

However, don't worry, this much older, somewhat wiser man will not attempt to smoke those seed pods, preferring to leave them for the young-at-heart.



Trees are the earth's
endless effort
to speak
to the listening
heaven.

Rabindranath Tagore,
Fireflies, 1928

Which Milkweeds Do Monarch Butterflies Prefer?



Not all milkweeds are created equal when it comes to species of the native flowering plants that monarch butterflies prefer most.

That's the conclusion of a team of Agricultural Research Service (ARS) and university scientists who monitored the egg-laying preferences of female monarch butterflies.

Their research supports a broader national effort to reverse this iconic insect's declining numbers through milkweed habitat restoration projects.

According to Rick Hellmich, an entomologist with the ARS Corn Insects and Crop Genetics Research Unit in Ames, Iowa, milkweed plants, primarily from the genus *Asclepias*, are the only food source of the monarch's distinctive striped larvae (caterpillars).

Natural chemicals the caterpillars ingest from milkweed also protect them and the adult butterflies they'll later become from predation.

Over the past 2 decades, however, monarch numbers east of the Rockies have fallen by 80 to 90 percent. The decline is partly attributed to shrinking milkweed habitat, especially in the Midwest. Every year, monarch butterflies make a multi-generational migration to and from overwintering sites in mountain regions of Central Mexico. They arrive at their summer breeding grounds—the Midwest—in late spring and increase their population size over two to three gener-

ations before returning to Mexico.

Restoration efforts call for reestablishing milkweed populations in these important summer breeding areas. However, there's been no systematic study of which milkweed species the butterfly prefers most—an important consideration in maximizing the effectiveness of conservation efforts, notes Hellmich.

To find out, he collaborated with researchers from Iowa State University (ISU) on a multi-year field study that evaluated the attractiveness of nine milkweed species common to Iowa, a state that's centrally located in the butterfly's midwestern breeding range.

In addition to determining which milkweed species averaged the greatest number of eggs deposited by female monarchs, the researchers calculated the survival rates of caterpillars that hatched from the eggs and pupated. Throughout, the team kept data on plant height, number of blooms, and pod size as potential indicators of attractiveness to the butterflies.

Below are highlights of the team's findings, led by ISU scientist Victoria Pocius, and reported in the journal *Frontiers in Ecology and Evolution*:

Female monarchs will lay eggs on all nine milkweed species, but they prefer some over others.

- ◆ Swamp milkweed (*Asclepias incarnata*) and common milkweed (*A. syriaca*) averaged the highest number of eggs.
- ◆ Monarch caterpillars hatching from eggs laid on tall green milkweed (*A. hirtella*) and prairie milkweed (*A. sullivantii*) had the lowest survival rates.
- ◆ The height and number of blooms on the milkweed plants across all nine species weren't factors influencing the female butterflies' egg-laying preferences.

The findings indicate that while female monarchs do make choices, they don't specialize in reproducing on a single milkweed species. What's more, their egg-laying preference can change according to the time of season, the prevalence and habitat of the milk-



weed species they encounter, and the plants' robustness and maturity.

For these reasons, the researchers caution against focusing restoration efforts on a single preferred species, like swamp milkweed. Instead, conservators should also consider supplementary plantings of other species—especially in habitat areas subject to variable climates or soil types.

Article by Jan Suszkiw, USDA ARS Office of Communications.



Did you know that bumblebees hate pumpkin pollen?

A recent Cornell study, "Pollen Defenses Negatively Impact Foraging & Fitness in a Generalist Bee," found squash & pumpkin pollen have defense qualities harmful to bumblebees.



Master Naturalists in Action



MN Paul Crombie



Private property in Marthasville, Warren County.

Several fields were converted to pollinator habitat under MDC cost-share contract. We upgraded to the monarch seed list with more milkweed and asters. This field has been struggling for the past three years with extensive fescue regeneration. MDC recommends burning mid April in order to slow the fescue. This year conditions were good enough to burn. A follow-up spraying is in order along with an early fall burn/spray and more burning next spring. There's a lot of expensive seed in that field. This old farm was worked and grazed extensively over the past 150 years so diversity is low.

Here's a wide angle of the highway network.



Post burn walk-over after a good rain revealed a highway system. The long road runs adjacent to a mowed path and takes mouse truckers full length of field. There are spurs and side roads. There are also "homes" along the trails that sit about 4" off the trail. As this was not burned in a couple years the traces are worn into a depth of about a two kilometer-like an old buffalo Indian trace.



This Covid-19 reminded me of a poem I wrote circa 1969 about a tick bite.
Why a poem about a tick?
Hey... it was the sixties!



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The Tick

The tick... gorged and grazing
in my groin is thick.
It's my blood he sucked
when he tucked
His nasty head under my skin
to my chagrin.
"Stop sucking,"
I cried as I picked at the tick.
But he was no pleaser,
so I went for the tweezer.

"Oof!" said the tick upon extrication.

"I wasn't yet done
with this current predation."
A talking tick? I was taken aback.
And I had at the moment
no counterattack.
"It's a trick," I said quickly,
"And I'm not so dumb
as to hold a trick tick
twixt my finger and thumb.

Now when you flick a thick tick,
you'd better take heed.
Read a good book on tick-flicking,
tick-picking, and tick-talking.
And use it for reference
when you go tick stalking.



MN Lee Phillion



More Naturalists in Action

This April on a 90 degree Wednesday afternoon, master naturalists monitored amphibians at the Daniel Boone Hays property.

One vernal pool in particular that we call Walnut Grove was jammed packed, like crammed 360 degrees with egg masses.

Ohhh Heavenly days! This was a record find. Yellow Violets and Wild Sweet William led the way through the leafless forest .

Amphibian Project lead Steve Teson was utterly besotted with joy—unrecognizable, as he and his wife Debbie (a school teacher as well) spotted over nine masses of eggs & larvae. They dipped nets, inspected and counted larvae in all stages of growth. Most masses had hundreds of Spotted Salamander eggs. It was Christmas again in April. We also found and heard many species of frogs—Leopard, Cricket, Tree and most likely Wood Frogs.

Monitoring will continue for several months. Contact Steve if you'd like to tag along.



Adult central newt. A rare find but they are in the ponds.

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On sunny days after a rain, you may see butterflies gathering around the edges of mud puddles. What could they be doing?

Mud Puddles Contain Salt and Minerals. Butterflies get most of their nutrition from flower nectar. Though rich in sugar, nectar lacks some important nutrients the butterflies need for reproduction. For those, butterflies visit puddles.

By sipping moisture from mud puddles, butterflies take in salts and minerals from the soil. This behavior is called puddling, and is mostly seen in male butterflies.

That's because males incorporate those extra salts and minerals into their sperm. When butterflies mate, the nutrients are transferred to the female through the spermatophore. These extra salts and minerals improve the viability of the female's eggs, increasing the couple's chances of passing on their genes to another generation.

Mud puddling by butterflies catches our attention because they often form large aggregations, with dozens of brilliantly colored butterflies gathered in one location. Puddling aggregations occur frequently among swallowtails and pierids.

Herbivorous insects like butterflies and moths don't get enough dietary sodium from plants alone, so they actively seek other sources of sodium

and other minerals. While mineral-rich mud is a common source for sodium-seeking butterflies, they can also procure salt from animal dung, urine, and sweat, as well as from carcasses. Butterflies and other insects that get nutrients from dung tend to prefer the dung of carnivores, which contains more sodium than that of herbivores.

Sodium is important for both male and female butterflies. Females lose sodium when they lay eggs, and males lose sodium in the spermatophore, which they transfer to the female during mating. Sodium loss is much more severe, it seems, for the males than for the females. The first time it mates, a male butterfly may give away a third of its sodium to its reproductive partner. Since the females receive sodium from their male partners during mating, their sodium procurement needs aren't as great.

Because males need sodium, but give so much of it away during mating, puddling behavior is much more common in males than in females.

Butterflies aren't the only insects you'll find gathering in mud puddles. Many moths use mud to make up their sodium deficits, too. Mud puddling behavior is common among leafhoppers, too. Moths and leafhoppers tend to visit mud puddles at night, when we are less likely to observe their behavior.

Written by Hadley, Debbie. "Why Do Butterflies Gather Around Puddles?" ThoughtCo, Feb. 11, 2020, [thoughtco.com/why-do-butterflies-gather-around-puddles-1968178](https://www.thoughtco.com/why-do-butterflies-gather-around-puddles-1968178). Used by permission



Photo by MN Beth Zona
Confluence Chapter



3. Leslie examining the stage of the larvae.



Checking the temperature of the pond while Steve carefully dips his net trying to find amphibians and their eggs.



More Naturalists in Action



MN Phil Rahn

Our beloved Ferris Park, one of Ballwin's five community parks, is home to many attractions, including a soccer field, two playgrounds, a pavilion, a comfort station, and various nature trails.

It's also home to a somewhat hidden garden, located directly on the left hand side as you enter the long drive towards the park.

In the spring and summer, you'll find the garden blooming with colors of red, blue, yellow, purple, and pink. However, it provides more than just the perfect backdrop for a stunning family photo ... it also serves as a safe haven for monarch butterflies, bees, hummingbirds, and every other pollinator species.

We have retired biologist and 22-year Ballwin resident Phil Rahn, to thank for that. For the past six years, Phil has been a member of the Missouri Master Naturalists, a volunteer organization sponsored by the University of Missouri Extension Program and the Missouri Department of Conservation.

The organization creates programs and projects focused on educating the general public, especially school-aged children, on the natural world and conservation efforts. More specifically, Phil belongs to the Confluence chapter based out of St. Charles, one of three chapters in the St. Louis area belonging to the organization.

"All pollinator populations are on the decline because of habitat loss



and urbanization. So one of our projects as a chapter is to increase their habitats," explained Phil. "Since I live in Ballwin, I wanted to do something here. I called the Parks and Recreation department, set up a meeting, and presented what we had in mind."

After seeing the space set aside in Ferris Park, Phil knew it was the perfect place.

On May 30, 2017, Phil and a group of volunteers spent all morning planting wild-flower seedlings, paid for by a grant secured by the organization. Now, almost three years later, the Ferris



Park Pollinator Garden, which is still solely maintained by Phil, is constantly growing and evolving.

"The hardest part of the whole project was getting the garden established. The first year was a really dry year, so I had to water it constantly. The Ballwin Parks Department provided wood chips for the planting beds after they were established," Phil said. "The Parks Maintenance team mows the grass pathways in the garden, keeping it looking nice. Now, it's just a little bit of weed control and maintenance for me. During the summer, I mostly just monitor it, check on the plants, observe, and take notes on what I see."

This is something Phil urges the community to participate in as well. There are over 20 different species of pollinator plants in the garden, which are planted in sections. The beds in each section have signs identifying what they are.

"I encourage people to actually walk through the garden at different times of the year, because it changes so much. You can walk down there and spend time looking at it, making notes on how many bees and monarch butterflies you can find," Phil said.

For those who want to participate in the preservation of nature, but don't necessarily want to commit to joining an organization, don't fret. Phil provides a simple, yet fun way, to contribute... plant a garden!

"This is a very easy thing for homeowners to do. You don't need to

do it on the Ferris Park Garden scale, but it's very easy to find plants because they're available at lots of places.



All you need to do is find a place in your backyard that has good sunlight and plant a few plants here and there," said Phil. "If more and more people did that, the pollinators would have more habitats to go to."

Phil's main goal is simply to increase public awareness. He enjoys "being out in nature, giving back, and contributing to the renewal of habitat that's been lost." He's constantly looking for places to plant and encourages all to do the same.

From an article published in the May issue of "Ballwin Life" a quarterly magazine.

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Alison and Stephen monitored the Quail Ridge Bluebirds Project. It went well. There is a lively breeding ground of bluebirds with about half the eggs produced hatched, with the other eggs being incubated by the females.

Here is Alison with her preventative virus mask on monitoring a box.

Master Naturalists
Stephen Baldwin and Alison Robbins



From Our Members The Language of Spring



MN Paul Crombie
Great Waterleaf, *Hydrophyllum
appendiculatum*



Clematis fremontii.

Leather flower or Fremont's leather flower. Somewhat rare in Missouri. We had these growing wild on a glade on

our farm in Jefferson county before I even knew what a glade was. I brought three with us to Warren county 20 years ago were it is not native. Can't help myself.

MN Elaine Browning: May Flowers and a "Creature" in Her Garden ...



Clematis



Columbine



Primrose



Golden Alexander



Anemone canadensis



Gray Tree Frog



MN Paul Crombie

Jack in the Pulpit—Found it growing out of a rock ledge deep in a jungle. Hey!, guess where seeds would have dropped?

Yep...straight down so I looked and I'm standing on one just like it— it has three Jack's not quite open.



I am puzzled by the catkin picture. The reddish color drew my attention.

Frank Dvorak,
MS Hills Chapter

Stump garden. A honey locust that was cut about 15 years ago still has an important purpose. Paul Crombie



Two photos of spotted salamander eggs. One, newly laid the other one two weeks old.

My ponds have a good amount of leopard frog eggs, early spring seems to be a good start for amphibians.

MN Steve Teson

From Our Members ... More Spring Beauties



Bloodroot
MN Leslie Limberg



Rue Anemone—
Paul Crombie



Celandine Poppy: I planted about 50 last fall. My son is tearing out a garden. Tough native colonizers . Paul Crombie



Violets
MN Leslie Limberg



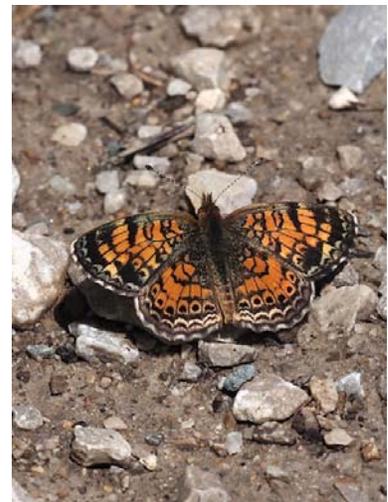
House wren moving the stick around to get into the house
MN Allison Volk



Native Hyacinth
MN Scott Barnes



Zebra swallowtail
From Hays Amphibian Monitoring Project
Photo by MN Allison Volk



Pearl Crescent Butterfly
From Hays Amphibian Monitoring Project
Photo by MN Allison Volk



Researchers Put Cornstarch to Use Fighting Pests

By Jan Suszkiw, ARS



The mosquito Aedes aegypti can spread several diseases as it travels from person to person. Only the females feed on blood. This mosquito is just starting to feed on a person's arm

Add yet another use for cornstarch—besides thickening soups and gravies, making adhesives, soothing skin and removing stains.

Agricultural Research Service (ARS) scientists in Peoria, Illinois, are now using the versatile commodity to make products that can fight insect pests, prevent disease and decay and impart water resistance to surfaces. Underpinning that effort is the team's use of patented procedures for converting cornstarch into a new class of material known as amylose inclusion complex (AIC)—an advance aimed at increasing the commodity's value even more.

Products created from the AIC include emulsions using essential oils from garlic, asafoetida (a type of spice) and other plants to control mosquito larvae in aquatic habitats. The emulsions are toxic to mosquito larvae but not the environment, which makes them promising botanical alternatives to synthetic insecticides, noted one of the ARS scientists, Ephantus Muturi, who is with the National Center for Agricultural Utilization Research (NCAUR) in Peoria.

Muturi said the emulsions en-

veloped droplets of the oils, stabilizing them and protecting them from extremes of heat or oxidation that can reduce their potency when applied to mosquito larvae habitats, like storm water catch basins and old tires. The emulsions also allow the oil droplets to disperse in water, contrary to their natural tendency. This, in turn, increases the likelihood of their contacting and killing the larvae, improving control of the young pests.

In laboratory trials, exposure to the essential oil emulsions killed the larvae of yellow fever mosquitoes (*Aedes aegypti*) in 24 hours. The number that died upon exposure was dependent on the type of oil and formulation used, noted Muturi, who reported the findings in the October 2019 issue of the journal *Insects* together with NCAUR colleagues William Hay, Robert Behle and Gordon Selling.

Ultimately, the team envisions using the essential oil emulsions as part of an integrated approach to controlling mosquitoes and preventing the diseases they can spread, such as West Nile virus, yellow fever, dengue and Zika.

On another front, Hay, Behle and their colleagues are examining cornstarch-based emulsions that could put the kibosh on wood-damaging termites and rot-causing fungi, including species that cause stored potato losses of up to 25 percent annually.

Other products include films and coatings that regulate gas exchange or impart water repellency to paper and other cellulosic materials, as well as glass. Like the emulsions, they too were derived from the AIC. Selling and ARS chemist George Fanta used current industrial techniques such as steam-jet cooking to produce the AIC from high-amylose cornstarch, fatty acid salts, and other biobased ingredients.

The team's efforts support a broader push at Peoria to develop new, value-added uses for Midwestern crops like corn that will help diminish the reliance on petroleum-based goods and the environmental "footprint" their use can leave behind.



Travelling can be a stressful experience—whether it be to a vacation spot or business destination. The stress of travel also extends to piglets, such as when they're weaned from their mothers and transported to nursery barns.

Now, instead of using dietary antibiotics to help the piglets cope and avoid illness, scientists with the Agricultural Research Service (ARS) are investigating a naturally occurring amino acid known as L-glutamine.

https://www.ars.usda.gov/oc/images/photos/featuredphoto/mar20/piglet/?utm_medium=email&utm_source=govdelivery

(I could not resist the pictures.)

☺





*Almonds, Wildflowers,
Bees,
Oh My!*



Some almond growers have started planting wildflowers on the edges of managed fields as a way to help bees do their jobs in the face of pollinator pressures. There are, however concerns that the wildflowers may pull valuable pollination services away from the almond crops.

New research reveals that almond growers can put this particular concern aside.

The study notes that planting wildflowers next to almond orchards does not cause fewer honey bees to visit the orchard. This finding is important because it shows wildflower plantings can help keep bee populations healthy while also not harming almond crops.

“The high honey bee visitation rates to the flower plantings suggest benefits of wildflower plantings for honey bees,” said Ola Lundin of the University of California, Davis, one of the researchers and an author on the paper. “Such benefits may include the ability to support or increase bee population sizes before and after almond bloom and increased resistance to harmful effects of pesticides and pathogens through a more diverse diet.”

<https://nifa.usda.gov/announcement/almonds-wildflowers-bees-oh-my>



Native plant garden mixes attract pollinators and beneficial insects. Image courtesy of Miranda Kersten NMSU.

Determining Combination of Native Flowers to Attract Different Pollinators

Pollinator insects play a critical role in the agricultural world. Without their natural transference of pollen from plant to plant while obtaining nutrients, many types of vegetables and fruit for human consumption would not exist. More than 80 percent of plants are pollinated by animals, mainly insects.

One area in which people can help support pollinator populations is by growing native flowering plants, from which the pollinators obtain protein and lipids from the pollen and carbohydrates and amino acids from the nectar.

Researchers at New Mexico State University’s (NMSU) College of Agricultural, Consumer and Environmental Sciences are studying the activity of insects, both pollinator and beneficial, around native plants to determine what mix of flowering cultivars will attract the different insect types. This study is supported by USDA’s National Institute of Food and Agriculture Extension Implementation Program grant.

When planning a pollinator garden, it is important to include plants that flower at different times of the season. Read the full NMSU article.

https://newscenter.nmsu.edu/Articles/view/14155/nmsu-determining-combination-of-native-flowers-to-attract-different-pollinators?utm_content=&utm_medium=email&utm_name=&utm_source=govdelivery&utm_term=



MAIN STREET ST. CHARLES NATIVE WILDFLOWERS PROJECT

Photos by MN Allison Volk



The hard work of the Saint Charles Main Street Garden crew is paying off.





Thank You!

- ◆ Thank you Martha Hessler for facilitating our Zoom meetings....a steep learning curve—Done!
- ◆ Thank you (again) Bob Lee for your singular skill in creating a new book for homeowners: *Using Natives in Your Home Landscape*
- ◆ Thank you Tom Holt for your "stick-to-it leadership" with our Monarch stewardship & providing for pollinators with Colleen
- ◆ Thank you Don Moyer and our budding Blue birder Steve McCarthy for your noble attempt at Veterans Tribute Park.
- ◆ Thank you Sandy Oldfield and your sister for hauling your Dad out of the nursing home & giving him LIFE
- ◆ Thank you Scott Barnes for your nature wisdom & loyalty to our Confluence Chapter
THESE PAST 15 YEARS



Our Leadership

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- Vice President—Stephen Baldwin
- Secretary—Steve McCarthy
- Treasurer—Alison Robbins
- Advanced Training—Deborah Moulton
- Volunteer Coordinator—Alberta McGilligan
- Membership Services— Tom Holt
- Web Site—Rick Gray and Rob Merriman
- Photography—Dave Lemoine
- Newsletter—Carmen Santos, Peg Meyer, Leslie Limberg and Elaine Browning

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- Babler State Park—Alberta McGilligan and Bob Coffing
- Quail Ridge Prairie Demo and Rain Garden—Carmen Santos
- Bluebird Monitoring—Connie Campbell and Leslie Limberg

- Nature Explore Classroom Education—Connie Campbell
- O'Fallon Public Works Project—Carmen Santos
- Monarchs & Pollinators Network—Bob Lee and Tom Holt
- Birding Club—Gail Gagnon
- Main Street Garden Martha Hessler and Tom Nagle
- Wild Bird Rehabilitation Sue Stevens
- Daniel Boone Hays—Bob Coffing
- Matson Hill Park—Bob Coffing
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- Amphibian Monitoring—Steve Teson
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- Native Flower Potting & Distribution Alberta McGilligan

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Scott Barnes,
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Jerry Lindhorst
Leslie Limberg
Cliff Parmer
Alberta McGilligan



*Hope is the thing with feathers
That perches in the soul,
And sings the tune without the words,
And never stops at all,
And sweetest in the gale is heard;
And sore must be the storm
That could abash the little bird
That kept so many warm.
I've heard it in the chilliest land,
And on the strangest sea;
Yet, never, in extremity,
It asked a crumb of me.*

Emily Dickinson

The Confluence Chapter was founded in 2005 as the fifth Master Naturalist chapter in Missouri.

The chapter was formed by twenty-four individuals from St. Charles County, St. Louis County, and St. Louis City after completing the Missouri Master Naturalist™ training program. We share a common interest in nature and in volunteering to help protect, preserve and restore Missouri's natural heritage. Most of our members live in the region west of the Missouri-Mississippi Confluence and from both north and south of the Missouri River.

We operate according to the bylaws and operating handbook of the Missouri Master Naturalist Program developed by the Missouri Department of Conservation and University of Missouri Extension. Visit us at <http://www.mmnconfluence.org/>