



May 2017, Volume 11, Issue 02

Your key to discovering the *Natural Missouri*



From
Our President

Happy Spring!

Once again we are reminded that nature is in control. Each year we see the unfolding beauty of all the new growth and the excitement of birds migrating and getting ready to reproduce.

At times we also feel helpless as we watch rivers get their revenge for all the restrictions on them. Our garden at the St. Charles Boathouse has again gone under water. It is an amazing tribute to not only those who faithfully take care of that garden but to the resilience of the plants that come back each year and flourish until next time.

We could all take an example from them as we try to build our resilience in an unpredictable world.

Many activities are available in our chapter to spread our wings and contribute to our earth and benefit its people. If you are having any trouble finding your spot, give me a call and we'll connect you to something that makes you excited and happy.

Alberta

Alberta McGilligan
President, Confluence Chapter



*2017 Volunteer
Service Pin
Bumblebee.*

2017 Great Backyard Bird Count

This year more than 214,000 birders from 140 countries observed almost 6,000 species of birds over four days in February during the Great Backyard Bird Count (GBBC).

This citizen science project has proven to be the most popular worldwide project. Members of the Confluence Chapter added their piece of history at Leslie's house for the 8th year in a row, observing birds from windows on every side of the house.

On a Sunday morning they identified nineteen species and around 100+ birds before chowing down on a smorgasbord brunch.

*(A meeting without eating
is cheating.)*



A partnership of the [Missouri Department of Conservation](#) and [University of Missouri Extension](#)
To engage Missourians in the stewardship of our state's natural resources through science-based education
and volunteer community service.
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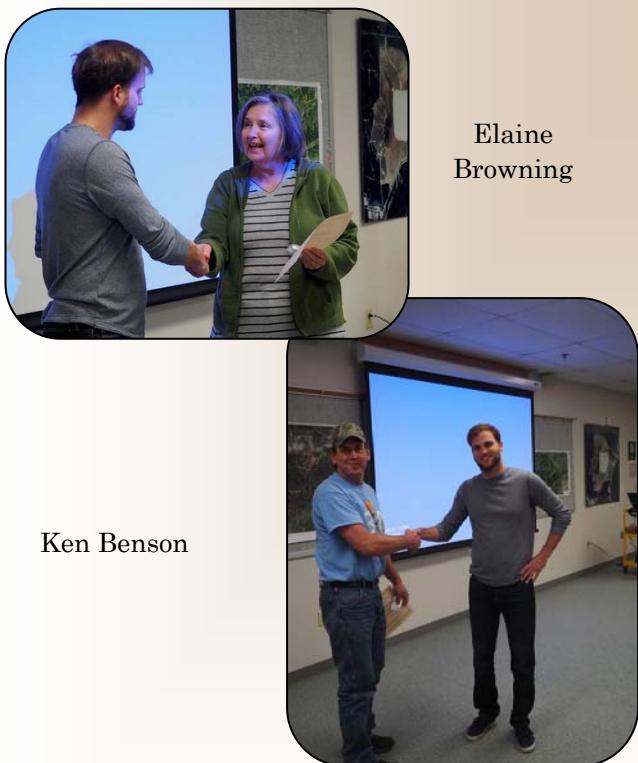
Milestones, Certifications, Annual Pins, and Other Recognitions

March 2017

- Pins for 500 volunteer hours were awarded to Larry Markley and Malcolm Royse.



- New members Debora Weaver, Elaine Browning, and Ken Benson were awarded with their certificates and nametags.



April 2017

- Bumble Bee pins were awarded to Tom Nagle and Martha Hessler.



May 2017

- Bumble Bee pin was awarded to Lee Walters



Lee Walters

Connie Campbell and Carmen Santos were recognized by the St Charles County Parks as 2016 Outstanding Volunteers. Bekin Youngblood from St. Charles Parks presented the awards.



Local St. Charles Nature Artist Exhibits Paintings at Busch Conservation Area through August 2017



Leslie Limberg
shares her unique vision on nature with an exhibit of oil paintings MDC's St. Louis Regional Office at the August A. Busch Memorial Conservation Area in St. Charles.



Our own artist and St. Charles County resident

Go Leslie!





It was May 1 and colder than it was in February, but we had birds at **Spring Bend!**

We have three nests of eggs... two each full of six chickadee eggs and one with four bluebird eggs.

We also had our first babies of the year. These birds are feathered and beautiful and are about one week old. Daddy bird was not a bit happy with me taking a picture of his offspring!

MN Connie Campbell



THE NEVER SAY DIE GARDEN! OUR BOAT HOUSE GARDEN PROJECT IS UNDER WATER!



Pictures of Boat House in the flood taken by drone by Sam Leonard



"Rain Garden?" installed at the Lewis and Clark boathouse, just where we thought it should be! Spring Flood 2017
By MN Allison Volk

WARNING

Master Naturalist
Gerald Lindhorst

Ticks and chiggers will be really bad this year, according to media reports. Not Fake News!

Wear light colored clothing when out in the fields/gardens/streams, use spray and wear high boots. Check yourself before getting into your car. Stay alert.

Species, found in MO and related disease:

American Dog Tick: Spreads Tularemia and Rocky Mountain spotted fever.



Photo Jerry Kirkhart CCA 2.0

Blacklegged Tick (Deer Tick): Spreads Lyme disease, anaplasmosis, babesiosis, and Powassan disease.



Photo by Scott Bauer. Public domain

Brown Dog Tick: Spreads Rocky Mountain spotted fever (in southwest US).



Brown dog tick male and female

Lone Star Tick: Spreads Ehrlichiosis, tularemia and STARI



Photo: CDC, US Centers for Disease Control; public domain

Gulf Coast Tick (in southern MO): Spreads Rickettsia parkeri/rickettsiosis



Gulf Coast ticks Adult male (left) and female (right). Photo by Jeffrey C. Hertz, UF

For more information on ticks, TBDs, tick control recommendations and state resources:
www.ncipmc.org/action/alerts/

OR

cdc.gov/ticks/index.html;
tickencounter.org/;
tickencounter.org/tickspotters;
mainelyticks.com/index.html;
lymediseaseassociation.org/;
epa.gov/insect-repellents





Master Naturalists in Action

Wetlands for Kids, April 1, 2017 (9:00 a.m.–2:00 p.m.) at Busch Wildlife CA, was a huge success with approximately 2,000 participants and many volunteers.



Connie Campbell and Tom Holt leading the pack at the NEC 4/19/2017



Hike at Don Robinson State Park April 2017



Quail Ridge Prairie Demo Garden
We are on our way!





DID YOU KNOW THAT THE WINGS OF A MONARCH HOLD A SECRET?

One of the greatest puzzles in ecology is the mystery of migration, and it is in the process of being solved for monarch butterflies. The milkweed leaves that caterpillars eat contain a distinct chemical signature from the soil and water that is absorbed into the plant, and ultimately into the monarch wings as they develop into adult butterflies. By analyzing their wings, scientists can map where butterflies found in Mexico were born.

A recently published study provides another layer of data to our understanding of the monarch migration phenomenon. By analyzing stable hydrogen and carbon isotopes (similar to fingerprints) and geospatial modeling, researchers were able to more accurately pinpoint where the monarchs that overwinter in Mexico are born.

The researchers collected more than 1,000 monarchs from the overwintering sites in Mexico from 1976 to 2014. The butterfly samples show different levels of these stable isotopes. By comparing these levels to known geographic variation, they have estimated the birthplace of each butterfly.

Key findings of the study are: The Midwest is still the primary contributor, but the contribution may be smaller than previously thought. Monarch origins have not shifted over time due to habitat loss. Climate patterns influence the proportion of monarchs from different regions.

As additional pieces are added to the monarch's migration puzzle, it's clear that everyone can help with monarch and pollinator conservation, no matter where you are on the map.



Both male and female monarchs were just spotted for the first time this spring at Mingo NWR! The U.S. Fish and Wildlife Service is helping lead the charge to protect monarchs and pollinator habitat across the country.
<https://www.fws.gov/savethemonarch>
 Photo: Monarch Butterfly by Debbie Koenigs/



Baby northern mocking bird.
 Photo courtesy of Steve Gifford.

During the spring and summer, wildlife refuges, parks, zoos and veterinary clinics across the country are presented with a problem. People working in their yards, walking on trails or visiting other outdoor sites find a baby bird that cannot yet fly. It seems apparent that there are no adult birds tending to the youngster, so people immediately assume that the fledgling needs help. So they scoop up the bird, put it in a cardboard box, and take it to the nearest facility they can think of to save the youngster. Sadly, this act of kindness probably does more harm than good.

The vast majority of baby birds brought to these facilities are fledglings. This means that the babies have grown to the point at which they are just too big for their nest and need room to move around, flap their wings, and learn to fly.

If the babies leave the nest and disperse into the surrounding vegetation, they can avoid predators. The parent birds keep track of the babies using certain types of calls. When the baby responds, the adults bring food to the baby.

If they can hop and flutter about on their own, leave them alone. This principle applies to other animals including deer fawns, baby rabbits, raccoons and opossums.

To search for a licensed wildlife rehabilitator near you, click [HERE](#) or visit:

<http://www.humanesociety.org/animals/resources/tips/find-a-wildlife-rehabilitator.html> (copy and paste to your browser)

Licensed wildlife rehabilitators are dedicated to wildlife. Most do this out of the goodness of their hearts on a shoestring budget and donations are gladly accepted.

Remember, the best thing you can do for the birds is to not interfere with Mother Nature; she will take care of them. Tell your children not to touch them, and if your children bring you a baby bird, help them return it to where it was found.

Beautiful and Hungry!



By MN Connie Campbell



By MN Ann Finklang



By MN Joe Veras



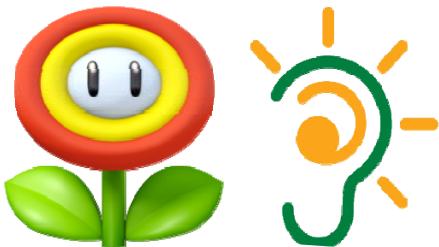
For the entire article visit: <https://www.fws.gov/midwest/news/MonarchOrigins.html>





Plants Can Hear Water. Could Noise Pollution Interfere?

by Brandon Keim



There's a transformation underway in how people think about plants: not just as inanimate biological objects, but as capable of perceptions and actions that resemble the intelligent behaviors of animals. Studies have described plants communicating with each other, using light and scent to see and hear, even appearing to remember weather patterns or being eaten. The latest addition to this blooming area of literature: *plants can detect the sound of water and use it to guide the growth of their roots*.

In a study published in the journal *Oecologia*, researchers led by Monica Gagliano, a biologist at the University of Western Australia, describe how common peas—often used as a model organism in plant studies—respond to vibrations produced by water flowing through a pipe.

In the latest study, her team turned its attention to how plants seek water even in the absence of a soil moisture gradient.

To investigate it, the researchers built planters shaped like upside-down Ys, with a plant at the top and pots at the bottom of each arm. They then ran a series of experiments measuring how plants grew when water was piped beneath one arm, even though the soil remained dry, and when the sound of water was played on a speaker. The plants' roots grew toward the noise, "suggesting that acoustic gradients enable roots to broadly detect a water source at a distance," write the researchers.

The results fit with other findings of plants using acoustic cues generated by neighboring plants, herbivores, and buzzing pollinators. They could help explain how some trees seem to discriminate between different water source, and also their uncanny ability to seek out sewer pipes—something that causes many millions of dollars worth of damage every year and is often combated with heavy-duty herbicide use. "An alternative and environmentally sustainable way to overcome problems associated with root invasions," offer Gagliano and colleagues, "may be as simple as utilizing soundproof materials in the construction of sewer pipeline."

Their findings also raise new questions about the problem of noise pollution, which is usually conceived in terms of its detrimental effects on the ability of animals to hear and communicate. "If plants' abilities to perceive and respond to the surrounding soundscape are also affected by noise, as our findings suggest, what are the ecological ramifications of acoustic pollution on their natural communities?" ask the researchers. "The scope of our understanding on the matter needs to be extended to include plants."

Source: Gagliano M. "Tuned in: plant roots use sound to locate water." *Oecologia*. 2017. And Anthropocene Magazine Used by permission.

<http://www.anthropocenemagazine.org/2017/04/plants-hear-water/>

Did you know that a single opossum can eat thousands of ticks? This is great news considering ticks tend to emerge early after mild winters.

Photo: Opossum at Patoka National Wildlife Refuge courtesy of Steve Gifford <https://flic.kr/p/dWyq3Y>
U.S. Fish and Wildlife Service Midwest Region

Mississippi Mud Turtle *Kinosternon subrubrum hippocrepis*



The MS Mud Turtle is small, dark turtle with yellow stripes along the side of the head and neck, occurring in the swamps of southeastern Missouri. The upper shell is normally dark brown or black. The lower shell is normally yellow with a rich mottling of brown. There are usually two wide and irregular yellow stripes along each side of the head and neck. The tail of the male ends in a claw-like tip. Mud turtles give off an offensive, musky odor when captured.

Restricted to the counties of the Mississippi Lowlands of southeastern Missouri. Missouri's mud turtles are quite separated geographically. The population appears to be stable in our state, but the few remaining natural habitats of this species — the Bootheel's cypress swamps, oxbow lakes, and sloughs — must be preserved.

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Highly intelligent and resourceful, raccoons are one of the most widespread mammals in North America. They have adapted to live in forests, mountain areas, coastal marshes and even urban centers.



In Native American legends, they are known as tricksters and mischief-makers. Their characteristic masks and dexterous paws make them seem cute and approachable, but never forget that they are wild animals.

Photo by Gary Miller, U.S. Fish and Wildlife Service.





FROM THE WILD AND NATURAL SIDE



It's the best time of year! The first baby bison of spring was recently spotted at Neal Smith National

Wildlife Refuge in Iowa.

Calves are orange-red in color and can walk within 3 hours of birth. Before long, nursery groups of calves will romp around together, but never far from their mothers' watchful eyes. Check out more bison facts:

<http://on.doi.gov/1Oc7VXg>

Photo by Doreen Van Ryswyk, U.S. Fish and Wildlife Service.

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This mama crayfish has been busy carrying her babies around!! What is interesting is that the eggs are typically laid in March and April when spring starts to warm up, and the mothers carry their young in May and June. This mother is already carrying her babies in March,



which shows how unusually warm our winter and spring has been. Breeding can occur again in July. The young crayfish mature in their second year of life. Missouri has been blessed with at least thirty-two species of crayfish, more than most neighboring states! The majority of the different species are found in the Ozarks Region (eighteen species). Photo: Female crayfish by USFWS.

Old Man Plover Returns

Right on time

At fifteen years old, BO:X,g, also known as Old Man Plover, is the oldest Great Lakes piping plover to return to its

breeding grounds.

Old Man Plover, a Great Lakes piping plover also known as BO:X,g (his color band combination), has made it back to his breeding site once again at Sleeping Bear Dunes National Lakeshore on Lake Michigan. BO:X,g is, by any standards, an old bird. At fifteen years old, he has lived **three times longer than the average age for a piping plover**. BO:X,g shows a remarkable fidelity not only to breeding and wintering sites but also to migration timing.



Photo courtesy of Alice Van Zoeren

This is the third year in a row that BO:X,g has arrived at his breeding grounds site exactly on April 13.

Not only do people enjoy learning the individual story of this one remarkable bird, but by marking him and being able to keep track of him all of these years, scientists and wildlife managers have gained valuable knowledge about the natural history of Great Lakes Piping Plovers that will aid in the recovery of this beautiful and unique part of the Great Lake's Natural Heritage.



Photo by MO MN Allison Volk

This is Allison's empty cocoon of a Polyphemus moth. The crumpled up moth emerged, expanded and dried its wings, and flew off in the night. Birch is one of that moth's favorite larval food plants.

http://entnemdept.ufl.edu/creatures/MISC/MOTHS/polyphemus_moth.htm

Antheraea polyphemus (dorsal view). Photograph by Donald W. Hall, University of Florida.



Adult male polyphemus moth,

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Whether you love 'em or hate 'em, dandelions provide one of the earliest food sources for bumble bees emerging in the spring. Consider leaving a few around to help these important pollinators.

Photo: Bumble bee on a dandelion courtesy of Connor Walsh/Creative Commons.
<https://flic.kr/p/6jCoCd>



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May is Backyard Wildlife Month, and while not everyone with a yard can play host to eagles, bobcats, and other "charismatic megafauna," we can all make our gardens welcoming for butterflies, flower flies, bees, dragonflies, and myriad other small but vital wildlife.

Plants for Pollinators: Tickseed

Tickseed (aka coreopsis) supports butterflies and a diversity of native bees. These colorful flowers are a great addition to your pollinator garden and for use in meadow restoration projects, especially as a nurse crop to provide bloom in the early seasons while other plants get established.



Photos: O'Fallon Public Works Native Wildflowers Gardens (By Carmen)



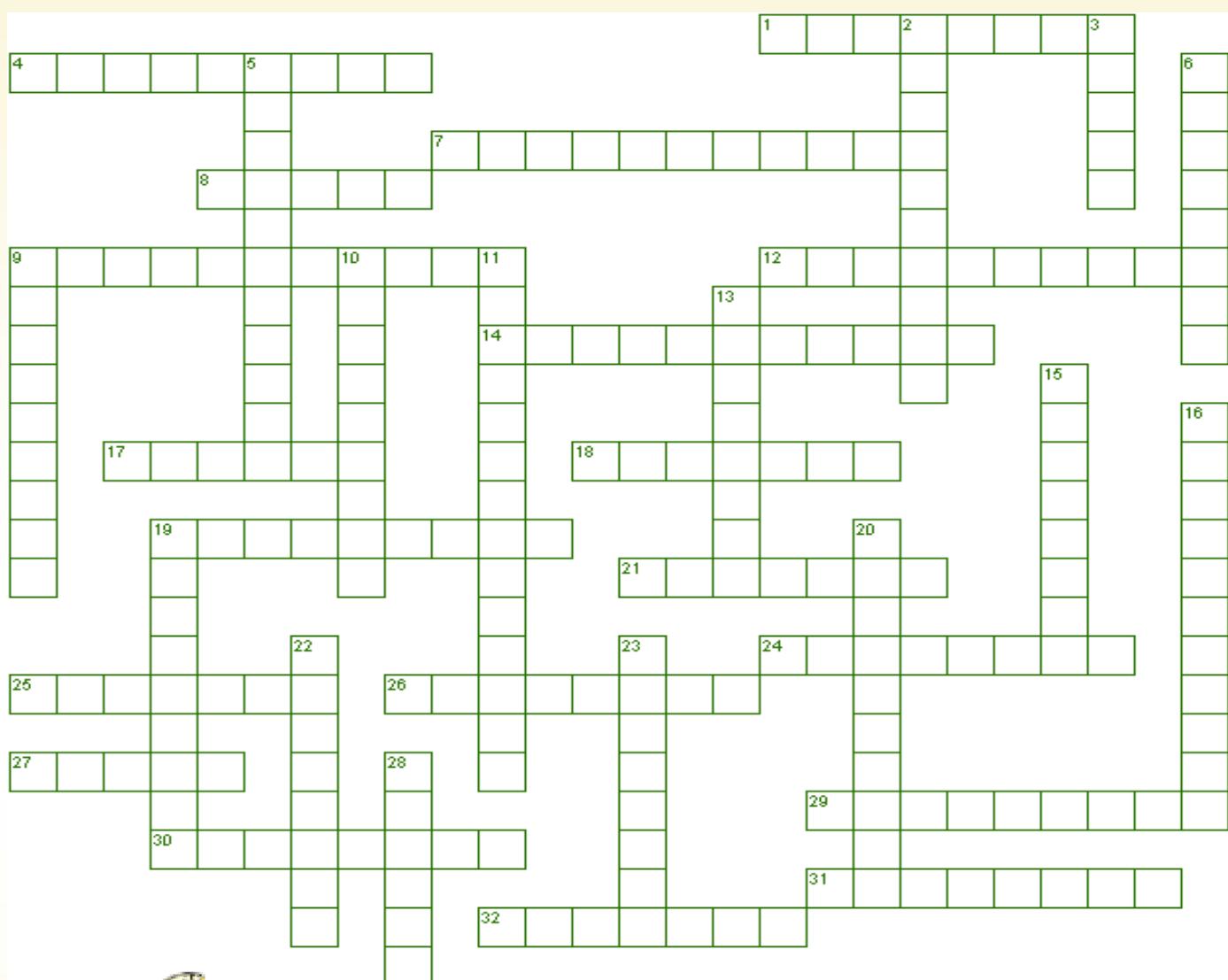


Native Perennials Crossword

Designed by Dr. Leonard Perry, University of Vermont

Growing natural gardens and incorporating native perennials to the U.S. into perennial gardens has become popular.

The following are some good choices. Fill in the genus, common names given as clues.



Across

- 1—squirrel corn (eximia sp.)
- 4—perennial sunflower
- 7—burnet
- 8—phlox
- 9—obedient plant
- 12—false lupine (Carolina sp.)
- 14—green and gold
- 17—baneberry
- 18—blue stars
- 19—butterfly flower
- 21—blazing star
- 24—jack in the pulpit
- 25—pink turtlehead
- 26—helen's flower
- 27—bugleweed
- 29—black-eyed daisy

Down

- 2—hemp agrimony
- 3—michaelmas daisy
- 5—spurge (procumbens sp.)
- 6—stoke's aster
- 9—bearded tongue
- 10—coneflower
- 11—bearberry
- 13—bolton's aster
- 15—trillium
- 16—meadowsweet
- 19—columbine
- 22—bugbane

- 22—cranesbill (maculatum sp.)
- 23—foamflower (cordifolia sp.)
- 28—marsh marigold

Click [solution](#) or visit
<http://pss.uvm.edu/ppp/cwnativesol.htm>
Dr. Leonard Perry leonard.perry@uvm.edu





- ♥ Elaine Browning for her gardening WORK!
- ♥ Ken Benson for representing us so professionally at Schulze Woodland in Washington
- ♥ Tom Nagle for his work at the Boathouse Spring clean out
- ♥ Lee Walters for his raptor stewardship
- ♥ Mark Williams, Deb Grupe, Jean Harmon & Sue Stevens for their songbird stewardship
- ♥ The Quail Ridge and O'Fallon Projects volunteers for a GREAT job. The gardens show their hard work—Joe Veras, Ann Finklang, Jane Porter, Leslie Limberg, Elaine Browning
- ♥ Jim Middleton for his outstanding work while leading our Advance Training.

As recent floodwaters recede and cleanups begin on these affected areas, be prepared if you come across potentially hazardous containers moved by flooding.

Remember if you run across anything potentially hazardous, please **LEAVE IT ALONE**, and use the Missouri Department of Natural Resources (DNR) [Reporting Form!](#)
<http://dnr.mo.gov/container-form.htm>

Expanding Our Understanding of Pesticide Impacts on Invertebrates

To make it easier for you to stay abreast of the latest research on the impacts of pesticides on bees, butterflies, and other invertebrates, the Xerces Society has launched a new website. The Impacts of Pesticides on Invertebrates database (www.pesticideimpacts.org) is a collection of summaries of recent research articles; it does not include the articles themselves, but does provide links to the publications.



The Confluence Chapter was founded in 2005 as the fifth Master Naturalist chapter in Missouri. The chapter was formed by 24 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/>

Our Leadership

- President—Alberta McGilligan
- Vice President—Tom Nagle
- Secretary—Martha Hessler
- Treasurer—Alison Robbins
- Advanced Training—Deborah Moulton
- Volunteer Coordinator—Glenn Bish
- Membership Services—Allison Volk
- Communications—Leslie Limberg
Web Site—Rick Gray
Photography—Don Moyer
Newsletter—Carmen Santos
Peg Meyer and Elaine Browning

Advisors

- University of Missouri Extension,
Rich Hoormann,
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Colleen.Scott@mdc.mo.gov

Project Leaders:

- Daniel Boone Hays—Bob Coffing
- Matson Hill Park—Bob Coffing
- Cuivre River and Don Robinson State Park—Bob Coffing
- Confluence Chapter Stream Team #3612—Cliff Parmer
- Babler State Park—Alberta McGilligan and Bob Coffing
- Lewis & Clark Boathouse and Nature Center— Leslie Limberg
- Quail Ridge Prairie Demo and Rain Garden—Carmen Santos
- Bluebird Monitoring - Mindy Batsch
- Nature Explore Classroom Education— Connie Campbell
- O'Fallon Public Works Project— Carmen Santos
- 2014 Capstone Project at Rotary Park— Bob Lee and Gail Gagnon.
- Rabbit Habitat—Nancy Newcomer
- Missourians for Monarchs—Bob Lee
- Birding Club—Gail Gagnon

