

Your key to discovering the *Natural Missouri*



From
 Our President

Have you made any New Year's Resolutions?

Lots of time we resolve to do things that will make us better looking, healthier, etc. How about this year resolving to enjoy outdoor time volunteering? It will make you happy, healthy and benefit the world. What could be better?

We will have some new opportunities coming up, and of course, all our continuing projects. Plenty to do for all and if you want a special focus that we are not

meeting, look around and propose a project with those interests.

I am happy to see such good attendance at our monthly meetings and thank you for making the effort. Our Advance Training is interesting and the meetings lively, full of information, and I hope, inspirational.

So, think Spring activities in your mind and soon actually do them in the outdoors.

Let me know if you can't figure out what works best for you and I'll see if I can help.

Alberta

Alberta McGilligan
 President, Confluence Chapter

It's spring fever.
 That is what the name of it is.
 And when you've got it, you want—
 oh, you don't quite know
 what it is you do want,
 but it just fairly makes your heart ache,
 you want it so!

~Mark Twain, Tom Sawyer




2017 Volunteer
 Service Pin
 Bumblebee

A member of the genus *Bombus*, part of *Apidae*, one of the bee families, this genus is the only extant group in the tribe *Bombini*, though a few extinct related genera are known from fossils. Over 250 species of bumblebees are known. They are found primarily in higher altitudes or latitudes in the Northern Hemisphere, although they are also found in South America where a few lowland tropical species have been identified. European bumblebees have also been introduced to New Zealand and Tasmania. The brood parasitic or cuckoo bumblebees have sometimes been classified as a subgenus or genus, *Psithyrus*, but are now usually treated as members of *Bombus*.

wikipedia.org
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Milestones, Certifications, Annual Pins, and Other Recognitions

Paul Robbins Announced or Presented the Following Awards:

Dec 2016

A special shout out to volunteers who tallied the top five volunteer hours for 2016:

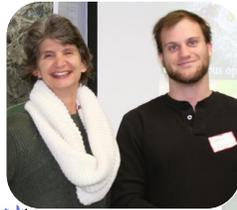
- 👉 Bob Lee—1,549 hours
- 👉 Tom Nagle—623.5 hours
- 👉 Bob Coffing—339 hours
- 👉 Malcolm Royse—314 hours
- 👉 Alberta McGilligan—290 hours.



Paul Robbins issued pins for those who achieved the 250 volunteer hour point: Bob Siemer, Lee Holloway, Nancy Newcomer, Steve McCarthy, Pat McCoy, Don Moyer, and Malcolm Royse.

For 500 hours: Scott Barnes, Gail Gagnon, and Pat McCoy.

For 2500 hours: Leslie Limberg



The Christmas Cardinal



Allison Volk

Jan 2017

2016 pins were issued to Pat McCoy, Rich Riestler, Don Moyer, Bob Coffing, Leslie Limberg, Ann Finklang, Jerry Lindhorst, Larry Markley, Rob Merriman, Glenn Bish, Lee Holloway, Jane McCarthy, Donna Bourisaw, and Pam Walsh.



Photos by MN Lee Phillion

MO Mushrooms

MN Allison Volk

Mushrooms can still be found in the winter here in Missouri. They look beautiful against the dark fallen logs and naked tree branches. Here is a list of just a few that can be found in our woods.

- Oyster mushrooms (*Pleurotus ostreatus*)
- Late fall oyster (*Panellus serotinus*)
- Velvet Foot (*Flammulina velutipes*)
- Turkey tail (*Trametes versicolor*)
- False turkey tail (*Stream ostrea*)
- Wood ear (*Auricular auricle*)

The first picture shows either the turkey tail or false turkey tail. The underside was not checked for proper ID. The turkey tail has many medical properties while the false turkey tail does not. One main difference between the two is the turkey tail is a polyspore while the

false is a crust fungus. The turkey tail will have very closely spaced spores on the underside that are usually white, where the false turkey tail will be flat and off white underneath. Google Winter Mushrooms in Missouri for a complete listing.

Photo by MN Allison Volk



Photo: <http://creativecommons.org/licenses/by-sa/3.0/>

WOOD FROG

Lithobates sylvaticus

Wood frogs can freeze almost completely. When temperatures warm up, they thaw out and life goes on. Take a look! <http://bit.ly/2gu6qFu>

Wood frogs are well suited to a cold climate. They spend winters burrowed in the leaves that fell the previous fall.

They stop breathing, their hearts stop beating, and ice crystals form within

their hibernating bodies. A special antifreeze they produce keeps liquids from freezing inside their cells and killing them. Their

fertilized eggs are not harmed by freezing either. Egg development simply stops until the water warms again. The wood frog is the only frog found north of the Arctic Circle. Another fun fact: wood frog tadpoles can tell their brothers and sisters from other tadpoles.



<https://nature.mdc.mo.gov/discover-nature/field-guide/wood-frog>
http://www.dnr.state.mn.us/reptiles_amphibians/frogs_toads/truefrogs/wood.html

Photo: Wood frog courtesy of Brett Amy Thelen/Creative Commons. <https://flic.kr/p/e2KU5K>





Allison's Eagles

EAGLES & KNOW

Allison Volk, Confluence Chapter

Allison spoke to our group about a nest of Northern eagles she has been observing since 2012 when she discovered it on her property at Innsbrook, MO.

She became familiar with their pattern of behavior over the last several years as she watched and studied the adult female and male eagle protecting the nest while two eggs were incubating.

The eggs subsequently hatched and she began studying the two baby eagles as they grew and learned to fly.

Some takeaway points from Allison's interesting talk:

- ◇ The lifespan of an eagle in the wild is approximately twenty to twenty-five years.
- ◇ Eagles generally mate for life.
- ◇ The incubation period for eagles' eggs are thirty-five days, and the first six to eight weeks are crucial.

Thank you Allison for an outstanding presentation!



Rusty Patched Bumble Bee (*Bombus affinis*) Status: Endangered

The effective date for the final rule to list the rusty patched bumble bee as endangered has been delayed to March 21, 2017. A rule making this change was published in the Federal Register on February 10, 2017.

The endangered designation means that the rusty patched bumble bee is in danger of becoming extinct throughout all or a portion of its range.

Just twenty years ago, the rusty patched bumble bee was a common sight, so ordinary that it went almost unnoticed as it moved from flower to flower, collecting nectar and pollen. But it's now balancing precariously on the brink of extinction and has become the first-ever bumble bee in the United States—and the first bee of any kind in the contiguous forty-eight states—to be declared endangered.

What you can do!

Grow flowers, including flowering trees and shrubs. Have a mix with something in bloom from early spring through fall. Include native milkweeds for monarch butterflies.

Bumble bees and many other pollinators (bees, moths and butterflies) need a safe place to build their nests and over-winter. Leave some areas of your yard unmowed in summer and unraked in fall, in your garden and flower beds leave some standing plant stems in winter.

Provide a pesticide free environment.

Once common and abundant across twenty-eight states from Connecticut to South Dakota, the District of Columbia and two Canadian provinces, the rusty patched bumble bee has experienced a swift and dramatic decline since the late 1990s. Abundance of the rusty patched bumble bee has plummeted by 87%, leaving only a few small, scattered populations in thirteen states and one province.

<https://www.fws.gov/midwest/endangered/insects/rpbb/index.html>



New Ocelot Den Found!

Biologists find the first den in 20 years on Laguna Atascosa National Wildlife Refuge

2016 was an encouraging year for the endangered ocelots of south Texas! Several females with kittens were documented by remote cameras placed in strategic locations where ocelots live and reproduce. This along with the substantial efforts made by TX DOT to provide wildlife crossings made this recent discovery even more exciting.

http://www.valleymorningstar.com/premium/article_d32fe680-b84a-11e6-8d33-3fcde48f7d46.html
https://www.fws.gov/refuge/laguna_atascosa/wildlife_and_habitat/ocelot.html



One of nature's most social and playful creatures,

River Otters

have big personalities and even bigger appetites. Often seen in groups, they can be observed hunting and frolicking year round at the recently re-named Loess Bluffs National Wildlife Refuge in Missouri (Formerly the Squaw Creek National Wildlife Refuge).

In winter, you might even catch them sliding across the ice on their bellies.



Photo courtesy of Kenny Bahr





How Reindeer and Caribou Help Cool the Arctic

by Brandon Keim



Just imagine: What if millions of people moved to the Arctic and devoted their lives to engineering a landscape that could help offset the global impacts of climate change?

Something kind of like that is already happening. Reindeer, say scientists, may alter Arctic landscapes in profound and climate-helpful ways. Their foraging habits change the tundra's surface so that it reflects rather than absorbs sunlight.

In other words, reindeer—or caribou, as they're known in North America—apply sunscreen to an overheating planet. "Reindeer have a potential cooling effect on climate," write researchers led by ecologists Mariska te Beest and Johan Olofsson of Sweden's Umeå University.

At their study site in far northern Norway, where Sámi herders manage vast semi-wild reindeer herds, the researchers fenced tundra plots to permit different grazing intensities. There they measured vegetation change, albedo (a technical word for reflectivity), and near-surface temperatures over the course of a summer.

Where reindeer grazed on

shrubs, grasses grew in their place. Grasses, being comparatively thin and light-colored, absorb far less energy than dark, broad-leaved shrubs. The resulting difference in albedo was so dramatic that, at high grazing densities, reindeer reduced local heating by an amount equivalent to what's expected from the doubling of Earth's carbon dioxide levels.

It remains to be determined just how much of that potential effect reindeer and caribou can provide. After all, they range in thousands-strong herds across much of the Arctic—and if vegetation only needs to be munched every few years, rather than every summer, the area affected would be vast.

This would be welcome news for the Arctic, where a proliferation of warmth-loving shrubs has raised concerns about feedback loops similar to what's observed in the Arctic Ocean; in that case, melting sea ice reveals dark waters that heat up and accelerate the melt. And the effects might be global: scientists have theorized that Arctic heating affects mid-latitude regions by disrupting the jet stream, that vast river of air which flows from west to east around the northern hemisphere and shapes our weather patterns. That disruption generates extended temperate-zone heat waves and cold snaps.

Lots of Arctic reindeer and caribou, then, could mean better weather elsewhere. Unfortunately, their populations are in sharp decline, having shrunk by one-third since the 1990s. The reasons are not fully understood, but an expanded human footprint—especially mining and fuel-extraction operations that disrupt migration routes and degrade important habitat—isn't helping.

"In order to supply the ecosystem service," said Olofsson,

"reindeer and caribou need to have good conditions."

Source: "Reindeer grazing increases summer albedo by reducing shrub abundance in Arctic tundra." Environmental Research Letters, 2016.

Image: National Park Service <http://www.anthropocenemagazine.org/2017/01/reindeer-caribou-climate-change/>

How to Attract Fireflies

Fireflies (also called lightning bugs) are actually beetles, not flies. There are 2000 species found worldwide.



They are predators and grow up to one inch long. The average adult life span in the wild: about one month.

The firefly is able to produce bioluminescence with chemicals in its body, luciferin and luciferase.

Firefly larvae glow in order to warn potential predators that they taste bad. The adults of most species use this light to attract mates.

Each species has a different pattern of flashes, though some do not emit light at all and use pheromones to attract mates.

Vegetation also preserves soil moisture, which is necessary for the slugs, snails, and worms firefly larvae eat.

Provide a diversity of habitats to attract a diverse firefly population.

- ❖ Pesticides—Reduce or eliminate pesticides.
- ❖ Habitats—Fireflies come out at dusk or nightfall in woods or wetlands mainly during the summer.
- ❖ Shrubbery—Allow edges of your yard to grow up into shrubby areas or plant vegetation that shades the soil and contributes to preserving soil moisture.
- ❖ Lighting—Turn off all the artificial outdoor lights around the house: flood lights, porch lights, garage lights.

Photo by Bruce Marlin, Creative Commons Attribution-Share Alike 2.5 Generic License.





Milkweed

Perennial Plant of the Year
The 2017 perennial plant of the year,
and other milkweeds you should know.

We've always known that milkweeds are fantastic plants. Now, the Perennial Plant Association recognizes this with its "Perennial Plant of the Year." The designation has become well known among growers, landscapers, gardeners, and others who eagerly await the announcement each year. Selection often launches the chosen plant into the mainstream, making it more widely available. While the association has often favored non-native ornamentals, for 2017 they have selected a native milkweed, commonly known as butterfly weed (*Asclepias tuberosa*).



Easily grown in average, dry to medium, well-drained soils in full sun. Drought tolerant. Does well in poor, dry soils. New growth tends to emerge late in the spring. Plants are easily grown from seed, but are somewhat slow to establish and may take 2-3 years to produce flowers. Mature plants may freely self-seed in the landscape if seed pods are not removed prior to splitting open. Butterfly weed does not transplant well due to its deep taproot and is probably best left undisturbed once established.

It is a Missouri native perennial which occurs in dry/rocky open woods, glades, prairies, fields and roadsides throughout the State. It typically grows in a clump to 1-3' tall and features clusters (umbels) of bright orange to yellow-orange flowers atop upright to reclining, hairy stems with narrow, lance-shaped leaves. Unlike many of the other milkweeds, this species does not have milky-sapped stems. Flowers give way to prominent, spindle-shaped seed pods (3-6" long) which split open when ripe releasing numerous silky-tailed seeds for dispersal by the wind. Seed pods are valued in dried flower arrangements. Their bloom period is from late spring throughout the summer. Flowers are a nectar source for many butterflies and leaves are a food source for monarch butterfly larvae (caterpillars). It is also commonly called pleurisy root in refer-



ence to a prior medicinal use of the plant roots to treat lung inflammations.

Genus name honors the Greek god Asklepios, the god of medicine.

Specific epithet means *tuberosa* in reference to the roots.

<http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?kempercode=b490>
<http://www.xerces.org/blog/the-2017-perennial-plant-of-the-year-and-other-milkweeds-you-should-know/>

My Ever Changing Classroom



Master Naturalist
Scott Barnes
Confluence Chapter

Since I started planting native plants in my home garden it has become a private classroom for me and an endless place of learning and enjoyment that I never expected.

This past year I got to enjoy the caterpillars of the White-Lined Sphinx moth (*Hyles Lineata*) in numbers. The adult moth is attracted to my Moonflower vine for nectar. This vine has a large white flower that opens in the evening and closes up and dies as the sun rises. When the moon is out it reflects the light from the flower which makes it very visible. The moth lays her eggs on (I assume) my Missouri primrose since I have never



been able to find the eggs yet, and see the caterpillars eating my primrose after they have hatched. The caterpillars are extremely large compared to most other caterpillars and are easy to spot with their unusual vivid colors and size. The pictures of the caterpillar are from my yard but were taken in bright sunlight in the middle of the day, not the best time for pictures.



The *Oenothera missouriensis* (now called *Oenothera macrocarpa*) and the showy *Oenothera speciosa* are the two primroses I have planted in my yard and are perennials that come back every year. They have other host plants that you can plant for them also. The Moonflower vine is an annual vine that I collect the seed from, and start from seed in the spring. If anyone is interested in the moonflower seed just let me know as I always have extra seed.

The two vines I plant each spring from seed as extra nectar sources are the Hyacinth bean and the Moonflower vine. Both vines do very well with flowering until the first few hard frosts.



Missouri evening primrose
Oenothera macrocarpa





*With a Helping Hand
From Tequila Makers
a Bat Comes Back From the Brink*

U.S. wildlife officials say the lesser long-nosed bat can come off the endangered species list. A key ingredient in a popular spirit helped spur the recovery.

A nectar-loving bat from the southwestern United States and Mexico whose population was tanking has made a remarkable comeback nearly 30 years in the making, and some of the credit goes to an unusual source: tequila producers.

Once endangered and down to fewer than 1,000 bats in 1988, the lesser long-nosed bat is now some 200,000 strong, according to the U.S. Fish and Wildlife Service (USFWS).

The agency now thinks the bat, whose range runs from southern Mexico up to southern New Mexico and Arizona, no longer needs to be protected under the U.S. Endangered Species Act and has proposed taking it off that list of struggling animals.

How did the down-and-almost-out bat finally bounce back? With help from multiple sources north and south of the U.S. border. Across decades, citizen-scientists in Arizona kept watch on the animals and provided valuable information on the timing of their migrations, while U.S. federal agencies protected the bats' roosts and hunting areas, most of which were on

protected lands.

Meanwhile, tequila producers in Mexico have given a boost to the bats after changing the way they harvest the key ingredient in their popular spirit, the blue agave (*Agave tequilana*).



The blue agave plant spends its life building up sugar and gearing up to blossom, just one time, creating giant stalks—clear-as-day invitations for top pollinators like the lesser long-nosed bat. In turn, the bat dines on the nectar and then pollinates other blue agave in its travels. The agave, for its part, dies after flowering.

The trouble was, tequila producers were harvesting the blue agave just before it flowered, when sugar levels were at their best. For new plants, they used the clones that sprout at the agave's base.

Because the agave plants never bloomed, they never became food for the nectar-hungry bat. The agave are part of a "nectar corridor" the bats use when migrating from

southern Mexico to northern Mexico and the U.S. Southwest.

The blooming times of agave, saguaro and giant cacti keep the bats supplied with nectar continuously throughout migration.

Over time, bat researchers from the University of New Mexico, worked to convince the producers that it might be best to let the flowering happen instead of replanting from clones.

Once farmers began to use a portion of their land for flowering blue agave, the hungry bats swooped in, which aided their recovery. What's more, some savvy producers have even begun marketing "bat-friendly" tequila. As for the bats behind the marketing strategy? They were removed from Mexico's own endangered species list in 2015.

The USFWS delisting proposal is open for comments until March 7 of this year. If the lesser long-nosed bat is delisted, it will still be closely monitored for at least another five years.

<https://www.gpo.gov/fdsys/pkg/FR-2017-01-06/pdf/2016-31408.pdf>



Agave tequilana

*Plant for Pollinators
Anise Hyssop
Agastache foeniculum*



Easily grown in average, dry to medium moisture, well-drained soils in full sun to part shade. Best in full sun. Performs well in moist soils, but good soil drainage is essential. Plants tolerate dry soils, particularly once established.

Deadhead spent flowers to promote additional bloom. Plants will spread by rhizomes and will

easily self seed in optimum growing conditions.

Noteworthy Characteristics *Agastache foeniculum*, commonly known as anise hyssop, is an upright, clump-forming perennial of the mint family that is native to parts of the upper Midwest and Great Plains (Wisconsin to Ontario west to British Columbia and south to Colorado).

It is typically found in prairies, dry upland forested areas, plains and fields. It grows to 2-4' tall. It is noted for its mid to late summer bloom of lavender to purple flowers in terminal spikes and its anise-scented foliage. Square stems are clad with ovate to broad-lanceolate dull green leaves (to 4" long) with toothed margins.

Flowers appear in many-flowered verticillasters (false whorls) which are densely packed into showy, cylindrical, terminal flower spikes (3-6" long). Gaps sometimes appear along the flower

spike. Individual, tiny, tubular, two-lipped flowers (each to 1/3" long) have no fragrance.

Flowers are attractive to bees (good nectar plant), hummingbirds and butterflies. Aromatic leaves can be used to make herbal teas or jellies. Seeds can be added to cookies or muffins. Dried leaves can be added to potpourris.

Genus name comes from the Greek words *agan* meaning very much and *stachys* meaning an ear of wheat in reference to the flower spikes.



Specific epithet comes from a Latin meaning hay.





National Pest Alert Regional IPM Centers, USDA

Ticks and Tick-Borne Diseases

Ticks and tick-borne diseases (TBD) pose a major public health concern nationally. Eleven of the seventeen tick-borne diseases in the U.S. are known to infect humans. Lyme disease accounts for over 90% of all reported human vector-borne disease, with an estimated 300,000 cases annually. TBDs are most often spread by the bite of ticks.

Most tick life cycles include four stages: egg, six-legged larva, eight-legged nymph and adult. Each life stage varies in size and color for each tick species. Ticks need a blood meal at every life stage after hatching to survive and grow. Ticks can feed on mammals, birds, reptiles, and amphibians. Most ticks prefer a different host animal at each life stage. Ticks are most active in the spring, summer and fall, however, the adults of some species are active in the winter.

The Spread of Disease: Most ticks wait passively on vegetation for host animals to move by. If a host passes by close enough, the tick will latch on. Ticks spread germs that cause disease through the process of feeding:

- ❖ Once the tick finds a feeding spot, it grasps the skin and cuts into the surface.
- ❖ The tick inserts its feeding tube to suck blood slowly for several days. If the host animal has a TBD, the tick will ingest the germs with the blood.
- ❖ Large amounts of saliva from the tick enters the skin of the host animal during the feeding process. If the tick is carrying germs that will cause a TBD, the germs may be passed on to the host animal in the tick's saliva.
- ❖ Usually, ticks have to be feeding for several hours before any infections are spread to the host. This timeframe varies by tick species and the type of germ. An infectious dose of the Lyme disease germ can be passed on usually after 24 hours whereas the Rocky Mountain spotted fever germ can be spread as soon as 4–6 hours and Powassan encephalitis virus can be passed on in as little as fifteen minutes after tick attachment.
- ❖ After feeding, most ticks will drop off and prepare for the next life stage. At its next feeding, a tick that picked up germs in a blood meal can then spread disease to a new host.

Tick-borne Disease Symptoms: Many TBDs share symptoms. The most common symptoms of tick-related illnesses are: Fever/chills, Severe headache, Muscle and joint pain, Nausea, Cognitive defects, Sleep disturbances, Rash.

Tick-borne Disease Prevention: Ticks dry out in heat and thrive in damp, humid environments. Yard care practices including removing leaf litter and mowing the lawn can help reduce tick habitat. Keeping children's play areas away from wooded edges, and moving to areas with short grass and sunshine reduce the chances of a tick encounter.

Personal protection strategies to reduce the chances of coming in contact with ticks include avoiding tick-dense areas, wearing permethrin-treated clothing and applying tick repellent.

Insect repellents containing DEET or picaridin can be sprayed on skin, but wearing tick repellent clothing is most effective. A dryer on high heat can kill lingering ticks on clothing in 5–10 minutes.

The best strategy to reduce the number of people who get TBDs is to perform daily tick checks and remove a tick before it has the chance to spread disease-causing germs.

Tick Removal: Pointy tweezers are best for removing ticks by grabbing the tick as close to the skin as possible and pulling upwards with a slow, steady motion. On-line resources like TickSpotter are available for tick identification and risk assessment. TickReport.com can be used for tick testing to determine if the tick is infected.

Species, found in MO, and related disease:

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



American Dog Tick
Jerry Kirkhart
CCA 2.0

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



Black legged tick Photo by Scott Bauer. Public domain

❖ Brown Dog Tick. Spreads Rocky Mountain spotted fever (in southwestern US).



Brown dog tick male and female

❖ 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

❖ Lone Star Tick. Spreads Ehrlichiosis, tularemia and STARI



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

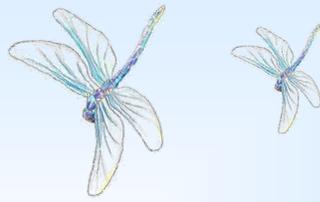
For more information on ticks, TBDs, tick control recommendations and state resources: www.ncipmc.org/action/alerts/

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





Thank You!



- A special thank you to Allison Volk for membership services, and to Gail Gagnon for the Bird Classes and our Facebook page.
- Sue Stevens and Gail Gagnon for spearheading stewardship of birds
- Bob Lee for being the Champion of Monarch Butterflies and their myriad friends.
- Ken Benson for stepping forward for our chapter and volunteering with Schultz Preserve in Washington, MO.
- Secretary Martha Hessler for excellence in listening and writing.
- Bob Coffing who befriended Don Robinson and is so dedicated to carry forward Don's legacy.
 - Elaine Browning and Peggy Meyer and her Posse for an outstanding job proofreading our newsletter.

From Our Members:

Eagle Days, 2017 by Master Naturalist Ken Benson.



Our Leadership



- President—Alberta McGilligan
- Vice President—Tom Nagle
- Secretary—Martha Hessler
- Treasurer—Alison Robbins
- Advanced Training—Jim Middleton
- 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

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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



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/>

