



November 2015, Volume 9, Issue 04

Your key to discovering the *Natural Missouri*



From Our President

I hope you have gotten an opportunity to spend some time out of doors to enjoy the beautiful fall colors and temperatures. Each year I forget how beautiful the world becomes as the trees change their colors and prepare to rest. I think that is the joy of seasons because every spring and fall I am surprised and delighted by the show nature gives us. And each year I think it is the best one yet.

This is also the time of the year when we begin to look back and recognize all work you have done this year.

The Missourians for Monarchs have made a statewide name for themselves and put the Confluence Chapter of the Missouri Master Naturalists on the map. Thanks to the leadership team for the countless number of hours given to that effort.

Bob Coffing received his pin for 5000 hours of service. Quite an accomplishment. Carol Morgan will be leaving as Secretary. Thanks Carol for a wonderful job keeping and distributing our meeting minutes.

Each year we need to thank Carmen Santos for the absolutely beautiful job she does on the Newsletter. Pat Bur-

rell-Stanley will be replaced as the Membership Chair by Bill Brighoff. Thanks Pat for a job well done. Martha Schermann will be replaced as AT Chair by Jim Middleton. Thanks Martha for the good job getting us interesting speakers.

A special thanks also to Leslie Limberg who made a financial contribution to the chapter this year and helped me adjust to the presidency with lots of background help. I think we should crown her Mother of the Chapter. Thanks also to the many others that I can't name for your diligence and steady work on our many projects.

So welcome to our new members, enjoy the Holidays, take a little rest and be ready to jump into volunteering in the spring.

Alberta

Alberta McGilligan
President, Confluence Chapter



Missouri Master Naturalist
2015 Annual
Certification Pin

Prothonotary Warbler
Protonotaria citrea

Pictures: O'Fallon, MO — Nov 2013



Confluence Chapter
St Charles County, Missouri



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



August:



Jerry Lindhorst congratulated Pam Walsh on completing the certification requirements.

- The gold/diamond pin for 5000 hours of volunteer work was presented to Bob Coffing. Members congratulated Bob and celebrated with a cake in his honor.



Yearly pins were awarded to Glenn Bish, Ann Finklang, and Rich Riester.

September:

Jerry Lindhorst congratulated Pat McCoy and Donna Bourisaw on completing the certification requirements. Yearly pins were awarded to Donna Bourisaw, Valerie Geile, Peg Meyers, Kathy Murray and Ann Russell.



Pewter pins for 500 hours were awarded to Sarah Berglund, Phil Rahn and Carol Morgan



Yearly pins were awarded to Lee Holloway, Jean Harmon, and Jane McCarthy.



Bronze pins for 250 hours of volunteer work were awarded to Don Moyer and Lee Walters .

October:



A gold pin was awarded to Cliff Parmer for completion of 1000 volunteer hours.



Bob Lee getting the Achievement Award from Betty Grace, Grow Native! Committee Chair



On November 4, 2015 Grow Native! (<http://grownative.org/>) recognized Bob Lee with the

2015 Ambassador Award

The honor recognizes Bob "For creating the Missourians for Monarchs initiative, which involved joining forces with Missouri Master Gardeners and Federated Garden Clubs, and becoming a unified, statewide army of people to plant milkweeds, educate on how to grow them, stress the importance of milkweed and native nectar plants, collect seed, and distribute plants statewide."



Happy Tenth Anniversary Confluence

By MN Ann Finklang

Ten years ago, in the late summer of 2005, the first class of Master Naturalist in the St Charles Area began their training. These pioneers chose the name Confluence for our chapter.



Boat House



They started working on their first project: the transformation of the St Charles Boat House into a showcase area of



native plants to help educate the visitors. The birds, butterflies, bees, lady bugs and many more creatures that welcomed the finished project continue to add to the enjoyment of the area.

This project as well as all our projects emphasize our motto: *To engage Missourians in the stewardship of our state's natural resources through science-based education and community service.*

Through the years Confluence members participated in many projects. Among these are the Snail survey at LaBarque Creek, Bryophytes surveys; MO First State Capitol Garden; Stream Team #3612; Projects at Spring Bend and Brommelsiek Park; projects at Rockwoods Reservation Area, the August A Busch Butterfly Garden, the Prairie Demo and Rain Gardens at Quail Ridge Park; Rain Garden at Indian Creek Camp; projects at Don Robinson State and Matson Hill Parks; wildflower garden at Weldon Springs; and garden at Babbler State Park. We also have ongoing Blue Bird monitoring and participate in the MDC Wetlands for Kids Project. Our chapter continues to add new projects all the time. The chapter built the Nature Explore Classroom located at Towne Park. This Classroom continues on today with dedicated Confluence members participating in outreach programs conducting instructional tours highlighting history and nature for thousands of students in the St Charles County area.



Towne Park



Wetlands for
Kids

Through the Master Naturalist Confluence Chapter member's enthusiasm and volunteer hours the chapter has grown both in size and projects—many more than I can list here. The members of the Confluence continue to participate each year in Eagle Days, planting of seedlings at Forest ReLeaf; Wet Land for Kids; Maple Sugar festival; survey of frogs; prairie seeding; prescribe burns in various parks; to name a few.

Another very important aspect in the history of the Confluence Chapter is the educational opportunities for all our members. Each month the advance training chairperson brings outstanding speakers and topics to our meetings. We have learned about Forest Park owls; Cache River Preserve in Southern Illinois; Missouri Mussels; Nature Journaling; bluebirds, rain gardens and native plants and how to transform your own backyard; common rocks and minerals; Dutch oven cooking and the opportunity to sample the cooking; reptiles; geology of Missouri; bats and numerous other topics enhancing our lives.

We share a common interest in nature and in volunteering to help protect, preserve and restore Missouri's natural heritage. 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.

Let's take 'our hats off' to all the members of the 2005 class especially the ones still active today! Leslie Limberg; Lee Phillion, Bob Siemer; and Tom Holt (*Tom was transferred out of state for his job for several years. He has recently returned to the St Charles area and we are happy to welcome back one of our members from the class of 2005.*)



The knowledge and comradery of the Confluence chapter influences our lives. Members that are no longer able to be active in our chapter were enriched by the experiences and knowledge they obtained as a Master Naturalist.



WHAT'S SO SPECIAL ABOUT MONARCHS?

Submitted by MN Lee Phillion

While monarchs are typical of insects in the order Lepidoptera in their metamorphosis (they go through egg, larva, pupa and adult), they are unique in their annual migration. The monarch butterflies that spend winter in the Oyamel fir forests of Mexico are the last generation of a cycle that begins anew every spring. These old, and possibly bedraggled butterflies migrated to Mexico—from perhaps thousands of miles from where they hatched—in the fall. How did they know where to go? (Researchers are working on that, and information gained from citizen science monitoring is playing a big role.)



Typically, in March, these monarchs, who may be eight months old, begin migrating north—laying eggs in northern Mexico and southern U.S. before they die.

Here's the kicker. Butterflies lay their eggs only on appropriate host plants, and for monarchs, it's MILKWEED. Over a two to five week period, a female monarch will lay around 700 eggs (usually one egg per milkweed plant). A good place to look for monarch eggs is on the bottom of a milkweed leaf that's near the top of the plant.

It takes about a month to go from egg to adult. Monarchs from these eggs and subsequent generations born in the U.S. live only about one month (unlike those who overwinter who may live up to eight months). Monarchs born in summer have only one job, and that is to lay eggs. Females can start laying eggs just four to five days after they emerge as adults.

Although millions of eggs are laid, very few produce adults due to predation by invertebrates during the early instars. That's why rearing monarchs is beneficial. Every caterpillar that makes it to adulthood contributes to population restoration!

As the monarch migration progresses northward, up to five generations will be born in the U.S. The last-born generation in late summer or early fall may be the result of eggs laid as far north as northern Minnesota or southern Canada. This generation of monarchs is both physically and behaviorally unique.

Unlike summer-born generations of monarchs who can reproduce after four or five days, this last-born generation is in what scientists call "reproductive diapause." This means they will not mate or lay eggs until the following spring! It's their job to fly all the way to winter roosting sites back in Mexico. Some will fly up to 3000 miles to reach their destination.

During the fall migration, these adult monarchs require energy to make the long flight. That's why planting fall blooming nectar plants is important.

Some useful information about monarch butterflies can be found at these websites:

- Monarch Joint Venture - <http://monarchjointventure.org/>
- Monarch Watch - <http://www.monarchwatch.org/>
- Xerces Society - <http://www.xerces.org/>
- US Fish and Wildlife Service - <http://www.fws.gov/savethemonarch/>
- <http://confedmo.org/the-life-and-times-of-a-monarch-butterfly/>





Tri-Chapter Field Day



By MN Patsy Hodge,
Miramigoua Chapter

On October 3 we had a Tri-chapter Field Day at Shaw Nature Reserve. This picture includes Confluence Chapter members Bill Brighoff and Sam Hodge. The Day at SNR was sponsored by Miramigoua Chapter and involved all three area chapters. Bill and Sam are featured here in a Native Plant Landscape Design class taught by Jay Doty. This class studied a recently cleared invasive species area at Shaw and imagined on paper how this area could be best restored to be an example of using native plants in the design. Bill is on the far left and Sam is part of the



class that accepted the challenge. Alberta McGilligan taught a class on seed collecting. Sixty-three people participated in the full day event earning advanced training and/or volunteer service hours with over 25 classes to choose from.

Trip-Chapter events like this bring our groups together to mingle and strengthen all area chapters.



You never know what you'll see and what you'll miss at Okefenokee National Wildlife Refuge in Georgia.

Exploring the wilds of this unique swamp takes patience. Walk carefully, paddle slowly and look everywhere. Historically damaged, the refuge is on the road to recovery and home to endangered alligators and tortoises. Loud Sandhill Cranes are easy to find, but you might have to look hard to see **Eastern screech owls** like these cute owlets. Photo by Graham McGeorge (www.sharetheexperience.org). Check out more awesome refuge images at <http://on.doi.gov/1L4ck9> and <http://on.doi.gov/1L4ck9www.sharetheexperience.org>. Check out more awesome refuge images at <http://on.doi.gov/1L4ck9w>

Show Me the Milkweed, Missouri!

MN Lee Phillion

Nine months ago, Bob Lee asked a few fellow Confluence Chapter members to join him in an effort to promote collaboration among the Master Gardener, Master Naturalist and Garden Clubs in Missouri to expand monarch habitat across the state. Bob knew that monarch butterflies were in trouble, and he felt that monarchs were a charismatic species able to generate interest in preserving and expanding habitat.

The group set up Gmail, Facebook and Blog accounts as "Missourians for Monarchs," a generous graphic designer donated a logo, the Confluence Chapter donated \$500 to print homemade brochures and purchase seed, and the group of plucky volunteers set off to help preserve the monarch migration.

Around that time, the U.S. Fish and Wildlife Service (USF&W) launched a national campaign aimed at saving the monarch butterfly—with quite a bit more funding and a quite a bit larger scope. Shortly thereafter, the White House issued a national pollinator health strategy, part of which addressed the plight of the monarch butterfly, and set a goal to increase the population of monarchs to 225 million butterflies by 2020—up from fewer than 60 million in 2014.

How? Primarily by planting milkweed and nectar habitat throughout the Monarch's breeding and migration flyway, an area that includes the entire state of Missouri.

By mid-year, monarchs had become the poster child for pollinator decline, and one couldn't swing a butterfly net without hitting somebody concerned about those little lepidopterans.

Today, Missourians for Monarchs collaborates and communicates with over 300 partners: private landowners, state and national interest groups, educators, and more than 50 Master Naturalist, Master Gardener, and Garden Club chapters across Missouri.

Our Facebook Page, started by Sarah Berglund and now managed by Gail Gagnon, averages several thousand views, likes and shares every week. Our articles about monarchs have appeared in the Missouri Prairie Journal and Missouri Wildlife, and several other publications, and our partners have been featured on the MDC Facebook page for habitat achievements.

With MDC, we have published a co-branded popular planting guide for backyard gardens. (Contact Bob Lee or Lee Phillion for copies.)

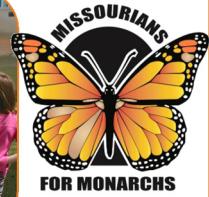
Collectively, our partners delivered more than one hundred presentations about monarchs and habitat across the state. Confluence member Bob Siemer and Anne Early of the Great Rivers Chapter led the pack co-presenting to 17 groups (reaching almost 800 people) in 2014 and 2015.

Bob Lee and others represented Missourians for Monarchs at half a dozen events, one of which was "Monarch Madness" held at the Weldon Spring Interpretive Center in September. Missourians for Monarchs, along with MDC and the Weldon Spring Interpretive Center, sponsored the event. Thanks to the many Confluence volunteers who made it a success.

We made inroads into research, too, thanks to Lee Walters, who shared his milkweed and caterpillars with a student from Holt High School in Wentzville for an advanced science project, and we are partnering with UMSL on a project to promote neighborhood gardens.



A really big thank you goes to our partner Missouri Prairie Foundation (MPF). Their grant-writing skill allowed Missourians for Monarchs to give more than 2,000 free milkweed and nectar plants to partners across the state.



In July, Bob Lee was invited to be a member of the Missouri State Monarch Steering Committee, which is comprised of state agencies, foundations, agriculture interests, and representatives from the utilities and transportation sector. Now in the early stages of organizing, this group has the potential to turn many acres of land into suitable monarch habitat.

Most importantly, thousands of square feet of new monarch/pollinator habitat have been planted across Missouri. And, thanks to grants from MDC and the National Fish and Wildlife Foundation, along with the enthusiasm of our partners, 2016 promises to be a great year for habitat expansion in Missouri. We will keep you posted as events unfold.

If you would like to become actively involved with Missourians for Monarchs in any capacity (outreach, communications, seeds/propagation, records, administration), please contact Bob Lee at 314-496-5332 or email rlee010@earthlink.net.



Confluence member Tom Nagle collected Curly Ironweed seeds in the St. Charles County Park with another Missourians for Monarchs volunteer Heidi Moore.



Wildlife Protection Keeping It Simple: Easy Ways to Help Wildlife Along Roads

"Electric Crosswalk"
Cuts Elk Roadkill by 96 Percent



The nation's most advanced game crossing system is animal-activated, and it has reduced elk-vehicle collisions by 96% along a 3-mile section of SR 260 in central Arizona.

Fences heightened to an average 7.5 feet direct elk toward the Preacher Canyon bridge and two underpasses. At one end of the section where fencing ends and an underpass can't be built, Arizona Departments of Transportation and Game and Fish worked with their partners and consultants to design a "wildlife crosswalk" using thermal imaging cameras and ElectroBraid fencing. Military-grade tracking software captures large-animal movement in the right of way and determines if the animal is large enough to pose a threat to motorists. If so, flashing signs warn drivers elk are about to cross the road. Since the signs flash 500 feet from the end of the fence and since they signal game crossing before it happens, drivers have plenty of time to slow down. The system has turned the signs on 97% of the time, and most drivers have braked and reduced their speed. What's more, the project cost taxpayers less than one sixth the cost of a large-animal underpass. Bruce Eilerts, (602) 712-7398 or beilerts@dot.state.az.us

Understanding the Importance of Snags in Forest Ecology

U.S. Fish and Wildlife Service—fws.gov

Our forests are full of life, even when they are dead. It may seem kind of gross to think about death and decay on a beautiful fall day, but with Halloween on the wind and kids donning their spooky costumes, it's the perfect time to talk about one of nature's best kept secrets of the undead world... snags.



Within forested ecosystems, one dying tree can translate to new life and new opportunities for a host of living things. For a forest plant, for instance, a dying tree releases all sorts of resources

and makes room for new and different plants to grow. More light may now filter down through the canopy, which spurs germination and other processes. As the tree decomposes, the nutrients once stored within the tree are released and made

available to plants that were once its competitors.

For wildlife, these standing dead trees, commonly known as snags, now present a unique structure and potential food source. In turn, ants, beetles, and other wood-boring invertebrates that excavate and live within these snags, become a meal for many birds. Cavity nesters, such as the *pileated woodpecker* (http://www.allaboutbirds.org/guide/Pileated_Woodpecker/id), might view snags not only as a food source, but also as a place to take up residence and nest.

The life of a snag only grows more extensive as it ages. Once cavity nesters like woodpeckers are finished nesting in snags, the cavities can be utilized by all sorts other wildlife, such as many species of birds and bats. While the positive attributes of standing dead trees might seem like a happy accident for wildlife, some birds such as eastern bluebirds and wood ducks depend on them. They did not evolve with artificial nesting boxes on the landscape, they evolved with dead and dying trees.

"At the time a tree dies, it has only partially fulfilled its potential ecological function," writes Dr. Jerry Franklin, a leading forest ecologist from the University of Washington.

This is an extensive article on the subject of snags. Visit http://www.fws.gov/midwest/news/Snags.html?utm_source=feedburner&utm_medium=email&utm_campaign=Feed%3A+FwsMidwestNewsroom+%28Midwest+News%29 for the complete article.

Henry's Pond Part II—Quail Ridge Park

Where, OH! Where is the haunting (among other bad things) water primrose?

(Composite of three pictures taken **23 Sep 2015** at 10:05 am)





Meet Our Members

Steve and Jane McCarthy Class of 2013

By MN Lee Phillion



As an elementary school teacher for 34 years in the Hazelwood School District, Jane McCarthy was well acquainted with the outdoor classroom offerings of Missouri Department of Conservation. Growing up on a small farm in St. Louis County, she had developed a love of gardening and animals that she wanted to pass on to her students.

Master Naturalist Bluebird Project 2015 Spring Bend and Quail Ridge



By MN Mindy Batsch, Project Lead

Monitoring Results: A tally of the 2015 season for Quail Ridge and Spring Bend are as follows:

Spring Bend had 14 Bluebirds fledge and Quail Ridge had 65 Bluebirds and 15 Tree Swallows. A total 21 clutches.

I would like to thank the following monitors for all their hard work and the great job they do in making this project successful:

Connie Campbell,
Jerry Lindhorst,
Jayme Gribble, Donna Johnson, Joe Veras, and Tom



Upon retirement, Jane put her teaching skills and interest in nature to work at the Missouri Botanical Garden's education department, where she has volunteered for the last seven years.

In 2013, prompted by her cousin, Kathy Murray, a Confluence Chapter member since 2012, Jane began her MN training—and convinced her husband Steve, who worked at Anheuser-Busch, to enroll, too.

Steve, who began his chemistry career in a clinical laboratory analyzing "bodily fluids," retired last year, after 30 years with the brewery's Technical Center. (In joining the brewery, he moved *upstream* to -pre-bodily fluid.)

Steve is no stranger to the out-of-doors or to volunteering. You will find him at Forest ReLeaf's CommuniTree Gardens nursery on Wednesdays, and he is also an active Stream Team monitor. In addition, he is a volunteer for "Bike Works" in Soulard, where he repairs and restores donated bicycles that will go to youngsters in need.



Riding his bicycle is Steve's favorite sports activity, but he's best known as the *Master Naturalist who has run 18 marathons in nine years*. That includes the biggies, the New York Marathon and the Chicago Marathon. Steve typically does two marathons a year, and plans to run the Indianapolis Marathon in November. "I figure as long as I'm training for one marathon, it makes sense to do two to get the most value from the long training runs," quipped Steve.

Steve and Jane typically include a bit of sightseeing at the more interesting marathon venues. New Orleans is a favorite, and they spent a week in NYC when Steve ran that marathon in 2014.

Married 17 years, Steve and Jane have three children and three grandchildren, and they all live nearby. When Jane isn't volunteering, or doing yoga, she works part time at the Hilton Hotel's athletic club in Chesterfield. Together, the McCarthys enjoy traveling and baseball.

Bumblebee Bat



The Bumblebee Bat, endemic to Western Thailand and Burma, is the smallest known species of bat in the world. They average 1.3 inches (33 millimeters) in length and only 2 grams in weight. Their primary diet consists of small insects. They are currently listed as: Vulnerable; but that is expected to change to Endangered. Only a few small colonies are known to still exist.

Here's some Bat Trivia for You:

- ➲ Bats can eat their body weight in insects before the sun comes up. Yum!
- ➲ What's scarier than bats? A world without bats. We've lost millions to white-nose syndrome.
- ➲ How can you help? Build a bat house and support public lands that provide healthy habitats for bats. Check out more cool bat facts at: <http://on.doi.gov/1iifb4k>



Northern Catalpa Tree Sphinx



Infestations of the catalpa sphinx occur sporadically; they come and go and often seem to be highly localized. Certain trees appear to be preferred and are attacked regularly while others of the same catalpa species seem to escape attack; the reason for this is unknown. Caterpillars may be abundant for one, two, or three years, then scarce for several. Natural enemies such as parasites and predators, take a heavy toll of eggs and larvae, and are largely responsible for maintaining populations at low levels. One of the most common and important parasites is a small wasp that attacks the larva.

The female wasp deposits eggs through the skin of the caterpillar. Wasp larvae feed and develop inside, then emerge to the outside and spin conspicuous



white, silken cocoons on the caterpillar skin. Parasitized catalpa worms do not survive to adulthood.

The catalpa tree, with its broad, dense crown and showy flowers, is prized by many as a shade or ornamental tree. Catalpa worms can essentially destroy this ornamental value. In this circumstance, the catalpa sphinx is a destructive, unwanted pest. However, there is another viewpoint.

Catalpa worms are prized for fish bait. To many fishermen their presence is welcomed, even encouraged. Catalpa foliage is the only food of the catalpa worm, and it is likely that many catalpa trees are planted and maintained as much or more for production of fish bait as for any other purpose. Whether the catalpa sphinx is destructive or beneficial is a matter of point of view.

Parasitic wasps are also called braconid wasps because they belong to the Braconidae insect family. These beneficial insects, help control plant pests by parasitizing them. Although the catalpa worm is a host to numerous braconid species, its primary predator is *Cotesia congregatus* (synonym *Apanteles congregatus*). A female wasp deposits her eggs inside the body of a catalpa worm, where they hatch into larvae that feed on the worm's insides. When the larvae are ready to pupate, they eat their way out of

the worm and spin tiny cocoons that they attach to the worm's back. Surprisingly, even though the larvae have eaten internal worm tissue, the caterpillar is usually still alive when the cocoons are attached to its back. Its demise is inevitable, though, and the wasps that hatch from the cocoons seek new catalpa worms into which they deposit their eggs.



Parasitic wasp *Cotesia congregata*

<https://commons.wikimedia.org/wiki/User:Polinizador>

<http://ag.auburn.edu/enpl/bulletins/catalpasphinx/catalpasphinx.htm>

[https://commons.wikimedia.org/wiki/File:Ceratomia_catalpae_sjh.JPG](https://commons.wikimedia.org/wiki/File:Ceratomia_catalpae_sjh.JPG#/media/File:Ceratomia_catalpae_sjh.JPG)

Worms from Carmen's Catalpa trees.

What Is Hydrilla?



Photo by V. Ramey, University of Florida

Hydrilla (*Hydrilla verticillata*) is a federally listed noxious weed that can be detrimental to our aquatic resources. It is a submerged aquatic plant that can quickly choke out many aquatic habitats by forming dense mats. It is native to the Indian sub-continent and was introduced to the United States in the early 1950s, more than likely through the aquarium trade. Today, hydrilla has spread from Florida to Maine on the Eastern Seaboard and is even found in the state of Washington. Currently, at least 29 states including Missouri are dealing with introduced populations of hydrilla.

Hydrilla was first discovered in Missouri in 2012 in northeastern Greene County. It has since been found in Dallas, Warren, and St. Louis counties. Inspections and outreach efforts have been integral to finding the other locations.

No aquatic habitat is immune from being impacted by hydrilla. It can grow in a variety of freshwater conditions including streams, drainage ditches, and large reservoirs. Hydrilla needs very little light and grows in areas that are inhospitable for many native aquatic

plants. In clear water, hydrilla has been found in areas over 30 feet deep.

Fragmentation is the primary means for spread and it only takes one small piece of plant to enter a waterbody to start a new stand. Other common modes of spread include plant fragments "hitching a ride" on boat trailers, fishing gear, waterfowl, and wildlife. Hydrilla can even be introduced into another waterbody by moving fish and plants from hydrilla-infested waterbodies. Aquarium dumping is another common method of introduction, especially in urban areas.



By: Leslie J. Mehrhoff, University of Connecticut, Bugwood.org

Hydrilla also uses tubers and turions for propagation. Tubers are subterranean potato-like structures that are produced by the plant. Under ideal conditions, approximately 6,000 tubers can be produced per square meter. Depending on the variety of hydrilla, the tubers can stay viable in the soil for at least four years or up to 10 years. Turions are overwintering buds that fall and lay on the surface of the sediment and survive about eight months, providing another avenue for producing new plants the following spring. Hydrilla does produce seeds, but they play a minimal role in new plant generation. The persistence of this invasive plant's tubers and multiple methods of propagation have given the plant the "Perfect Weed" label.

Hydrilla displaces the local aquatic plant community, interferes with boating and fishing, clogs water intake systems, and adversely changes the dynamics of fish populations. This plant is not only detrimental to small ponds and lakes; it can impact our float streams and large reservoirs. If allowed to spread, it will harm Missouri's economy through hindering fishing and other recreational uses of our large reservoirs and streams. Drinking water and power generation can also be impacted if their water supply sources become infested with hydrilla.

Hydrilla has been linked to Avian Vacuolar Myelinopathy, or AVM, by being a host plant to a cyanobacterium that produces a novel neurotoxin linked to the disease. In areas where AVM was prevalent, removal of hydrilla plants eliminated AVM deaths in waterfowl and raptors.

In Missouri, be on the lookout for hydrilla from July through October. It disappears during the winter months and then re-emerges in early May. By early July the plants are readily visible and will continue to grow and top out at the water's surface through late October or early November.

Once established, hydrilla is difficult to eradicate. This means **PREVENTION IS CRUCIAL**. Please take the following precautions to prevent the spread of hydrilla: **Clean:** When leaving a body of water, remove all mud, plants, fish or animals before transporting your equipment. Thoroughly clean all fishing gear, including boats and trailers, after each trip. **Drain:** Eliminate any water from your equipment before leaving the area that you visited. Always drain water from boats, motors, live wells, etc. **Dry:** Dry anything that comes in contact with water.

If you see the plant, please contact your local Missouri Department of Conservation office. For further information about hydrilla, please visit <http://mdc.mo.gov/discover-nature/field-guide/hydrilla>.

MO Stream Team Fact Sheet #26



- Carol Morgan, our outgoing Secretary, who has been a stellar chapter leader for many years
- Pat Burrell-Standley, our outgoing Membership Services Chair
- Glenn Bish for his continuing dedication to Volunteer Services Chairman
- Tom Nagle for stepping up for another year as Vice President
- Martha Hessler for taking on writing fast as our new Secretary
- MNs Alberta McGilligan, Ann Finklang, Lee Phillion, Patsy Hodge (Miramigoua Chapter), Mindy Matsch, Nancy Newcomer, and Don Moyer (our photographer) for their contribution to our newsletter.

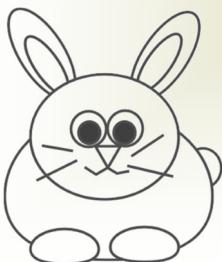
WELCOME new members!
Ken Benson, Sue Stevens, and
Gary Wester

THE BUNNY BULLETIN

Some great photos provided the MoHRS.

Notice the how close the location of the brush pile in the first picture (there is room for all).

—Nancy Newcomer
nwcmr@yahoo.com



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—Carol Morgan
- Treasurer—Peg Meyer
- Advanced Training—Martha Schermann
- Volunteer Coordinator—Glen Bish
- Membership Services—Pat Burrell-Standley
- Communications—Leslie Limberg
 Web Site—Rick Gray
 Photography—Don Moyer
 Newsletter—Carmen Santos

Advisors

- University of Missouri Extension, Nathan Brandt, brandtn@missouri.edu,
- MDC, Colleen Scott, 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
- Lewis & Clark Boathouse and Nature Center— Leslie Limberg
- Weldon Spring Prairie Demo Garden— 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— Larry Berglund and Bob Lee
- Birding Club—Gail Gagnon

