



From
Our President

I thank Carmen for allowing me to write a few words in the newsletter.

The first is to commend all of the members who are constantly serving the community in many different types of endeavors. Our Volunteer Committee Chair, Alberta McGilligan, has and is doing a wonderful job reaching out to members with diverse opportunities in many categories so that each member can determine what is available in each of the interests of the membership.

As found on the Chapter website, please capitalize on as many opportunities as you can to see what piques your interest and maybe you will decide to be more involved in a particular facet of nature. There is always a need.

I also want to thank all the people who continue to support the needs of the membership and

the administration of the Chapter. I am so humbled and proud of all of you. When I attend Missouri Master Naturalist leadership meetings, when the Confluence Chapter name is spoken, it is spoken with admiration by others. Jenna, our new MDC leader, told me that she has heard of the wonderful membership and our accomplishments. I can only state that in the 4+ years that I've been a member, I whole heartedly concur.

I will support each of you as needed and if you have a question or there is a challenge, I encourage you to contact me. What I am hoping is that members continue to share information either with me, or with Carmen to be inserted into the newsletter. I encourage that photos be taken (use smart phone cameras) and a short commentary on who, where and what opportunities were provided.

Speaking of which, the exemplary job that Carmen continues to provide with the newsletter is providing information for not only our membership, but the newsletter is shared with non-Confluence Missouri Master Naturalists and feedback is what I will look forward from them. When I was Vice-president, I utilized the information in these quarterly newsletters to provide Chapter endeavors for my yearly report. What is significant about

that, is that the yearly report is used to inform higher entities in MDC of what you all are doing. It also helps members who want to know what other members are doing. We can't be in multiple places or be at each event.

There is so much more that I can add, but I'll leave that for subsequent issues.

Stephen

Stephen Baldwin
President, Confluence Chapter



2023
MN Certification Pin
American Burying Beetle

Nicrophorus americanus, also known as the American burying beetle or giant carrion beetle, is a threatened species of beetle endemic to North America. It belongs to the order Coleoptera and the family Silphidae. The decline of the American burying beetle has been attributed to habitat loss, alteration, and degradation.





Awards and Recognitions



MU Extension Council of St. Charles County Council

Tom Nagle, Gary West-er, and Amanda Templer are excited and honored to have been elected to the MU Extension Council (St. Charles County). Thank you to all who voted and supported us in this endeavor. We are looking forward to serving our community in this capacity and working with the MU Extension Specialists to provide exceptional county educational programming.



MMN Confluence Library

MMN Scott Barnes graciously donated approximately 45 natural resource titles that have become the basis for the Confluence Lending Library. These titles are currently being housed at the MU Extension Office at 260 Brown Road, St. Peters. Amanda Templer has agreed to handle circulation duties and has covered and added card pockets in order to check titles out to those that are interested. The library database will be added to the MMN-

Confluence website and/or Amanda can be contacted directly for the list.

Request a title that you are interested in by sending her an email prior to the monthly meeting and she will bring the book to the meeting.

Books can be checked out a month at a time and can be returned to Amanda at the following meeting. Amandatempler1971@gmail.com
(Arrangements can be made on a case-by-case basis, if you are unable to attend monthly meetings.)

UPCOMING EVENTS

MONARCH MADNESS

Save the date of Saturday Sept 16!

Monarch Madness returns to Weldon Springs Interpretive Center. After three years of COVID induced cancellations, we're bringing back the event with an even stronger emphasis on education. I certainly hope we can retain GRG's strong sponsorship for the event. I'll be sending out an email to all the previous sponsors with hopes that they will continue to support this fun event.



American Burying Beetle (*Nicrophorus americanus*) From Endangered to Threatened

The U.S. Fish and Wildlife Service, reclassified (downlisted) the American burying beetle (*Nicrophorus americanus*) from endangered to threatened on the Federal List of Endangered and Threatened Wildlife.

This determination was based on a thorough review of the best available scientific and commercial information, which indicated that the threats to this species have been reduced to the point that it is not currently in danger of

extinction throughout all or a significant portion of its range, but that it is likely to become so within the foreseeable future. The USFWS also finalized a rule under the authority of section 4(d) of the Act that provides measures that are necessary and advisable to provide for the conservation of the American burying beetle.

This rule was effective November 16, 2020. This final rule and supporting documents are available on the internet at [2020-19810.pdf \(govinfo.gov\)](https://www.regulations.gov) (<http://www.regulations.gov> under Docket No. FWS-R2-ES-2018-0029). Comments and materials received, as well as supporting documentation used in preparing this rule, are available for public inspection at <http://www.regulations.gov>.

The American burying beetle was listed as endangered, and USFWS finalized its reclassification (downlisting) as threatened because they have determined it is not currently in danger of extinction and therefore, does not meet the definition of an endangered species, but is still affected by current and ongoing threats to the extent that the species

meets the definition of a threatened species under the Act.

Increasing temperatures due to changing climate are projected to impact American burying beetle populations within the foreseeable future. Likewise, the USFWS projects future impacts to American burying beetle populations due to land use change associated with urbanization and agricultural activities. They are promulgating/issuing a section 4(d) rule to provide measures necessary and advisable to provide for the conservation of the American burying beetle. The 4(d) rule prohibits all intentional take of the American burying beetle and specifically tailor the incidental take prohibitions and exceptions under section 9(a)(1) of the Act as a means to provide protective mechanisms to State and Federal partners, as well as private landowners, so that they may continue with certain activities that are not anticipated to cause direct injury or mortality to American burying beetles and that will facilitate the conservation and recovery of the species.

[2020-19810.pdf \(govinfo.gov\)](https://www.regulations.gov)





Sorghum: The Unlikely Food Source for Pollinators

Sorghum bicolor, a pollen-rich grass species cultivated for grain and forage, which looks similar to corn, can be an important food source for pollinators and other beneficial insects during times when pollen and nectar are scarce.

Researchers from the U.S. Department of Agriculture (USDA)'s [Agricultural Research Service \(ARS\)](#) and [Oklahoma State University \(OSU\)](#) Division of Agricultural Sciences and Natural Resources found that sorghum, commonly called milo, served as a pollen food source for bees, hoverflies, and earwigs.

Additionally, when sorghum is infested with sorghum aphids — which are known to feed on all types of sorghum — large amounts of honeydew are produced as waste. This sugary by-product could be an alternative to nectar for pollinators and predatory insects, including flies, bees, wasps, and ants.

"Sorghum is not listed as a plant recommended to homeowners to feed pollinators despite frequent bee sightings," said [Karen Harris-Shultz](#), a research geneticist at the [ARS Crop Genetics and Breeding Research Unit](#) in Tifton, Georgia.

"However, we found that sorghum had unintended ecological benefits. It can be a potential landscape plant for homeowners and a food source for pollinators during times of pollen and nectar shortage."

According to Harris-Shultz, people are encouraged to plant nectar-rich crops with different flowering seasons but are rarely recommended to plant wind-pollinated plants, including grasses, for supporting pollinator populations.

The study's findings show

promise that grass species like sorghum can be an alternative crop for pollinators during times when other crops are not available for foraging.

According to Wyatt Hoback, a professor of entomology at OSU, pollinators are declining globally, having the potential to jeopardize the human food supply and plant diversity. An alternative crop like sorghum could provide additional food for pollinators and inadvertently benefit predatory insects.

"Pollinators need sugar resources to maintain flight and other activities, and they need pollen to have protein for raising offspring," said Hoback.

The [recent study](#) was published in *Insects* by Harris-Shultz (ARS), Hoback (OSU), Scott Armstrong (ARS), Michael Caballero (OSU), and Joseph Knoll (ARS).

More:

Now, gardeners are raising food-grade sorghums to mill into fresh, gluten-free flour for baking breads, pastas and other edibles, or brewing the grains for beer and other spirits. Growers are also raising cane, so to speak: Sweet sorghum, sometimes called cane sorghum, yields a mild syrup similar in consistency to molasses. Others are growing broom types to make dried floral arrangements or to cut into brooms.

In the garden, plant sorghum by hand, 1½ inches deep, in clumps of four seeds per hole. Space the holes 18 to 24 inches apart. Four seeds should yield about three uniform stalks and heads, enough to make a few dried arrangements if you're growing them for ornamental use.

For grain production, plant one seed every 4 inches on 30-inch spaced rows.

See also:

[Sorghum in the Garden | AGCO FarmLife \(myfarmlife.com\)](#)



The Confluence Chapter Welcomes Our New President Stephen Baldwin

Stephen graduated from Southeast MO State University with a BS in Education—Biology with a in chemistry.

His first job after graduation was as a Respiratory Therapist for two years. Then an opening occurred for a High School Science Teacher. He taught 5 years. Subjects taught: Ecology, Flora and Fauna of Missouri, Botany, Geology and general Biology. During this time, he started his graduate studies in Biology.

Although teaching was a thrill, he needed more personal development. He was contemplating continuing his passion in biology by going for his PhD, but decided instead to become an electrical engineer. He received his diploma from the University of MO Rolla, and was hired as an engineer with McDonnell Douglas which then merged and became Boeing. He worked on various projects for a VERY interesting career that most engineers are envious of.

During this time, through night school, he received his Masters in Business Administration degree. This helped him in his growth at Boeing, becoming a Project Manager which required not only engineering skills, but managing budgets, finances, etc.

After 33 years, he retired from that to work on projects with his passion: nature (and aviation with the Commemorative Air Force).

During those 33 years as an engineer, he continued to study many aspects of nature and ecology.

We welcome Stephen and know he is going to be a great president and asset to our chapter.





Why I'll Never Be a Birder

By MN Steve
McCarthy



My father often predicted I would become a "ditch digger", usually when he thought I wasn't studying or working hard enough. His oft-stated prediction didn't come to pass, partly because the occupation of ditch digger gradually became obsolete.

In much the same spirit, I know that I'll never be a birder. When I was taking the Master Naturalist training classes, we did a bird walk at Riverlands with an Audubon member. He started out instructing people to "get out your binoculars", and casting a disapproving eye in my direction, "or your little opera glasses".

And when you're a bona fide birder, you have a spotting scope. Apparently your birding acumen is proportional to the size of your optical equipment, in the order of: little opera glasses < birding binoculars < spotting scope.

During the nesting season, I help check the bluebird boxes at Spring Bend with others who are real birders. They always have their birding binoculars handy. They stop and look if they see birds flying nearby. And they also are good at identifying plants that we pass, which I am not. I do have one ability that the others lack, though. I am tall enough to open the tops of the bird boxes and look in without the aid of a mirror. That's

something that none of the others can do!

One time I volunteered for Eagle Days, on the Chain of Rocks Bridge. You can't beat standing on a bridge in January when it's 30 degrees and the wind is blowing 20 mph! The eagles don't seem to mind, though.

Remember the Hitchcock movie, "The Birds"? In one scene the heroine, Tippi Hedren, is trying to describe the birds that recently attacked her. She says on the phone, "It was crows, or blackbirds. Is there a difference?" And an ornithologist just happens to be standing nearby, an eccentric-looking old woman with a beret and smoking a cigarette. "There most certainly is a difference!" she exclaims disdainfully. Not the most flattering portrayal of a birder!

Jane and I went to the Wakodahatchee wetlands near Boca Raton, Florida recently. There was a man there with big binoculars and a camera with a huge telephoto lens. He talked at length about cormorants and then anhingas, similar-looking black wetland birds.

A bird was sitting on the railing nearby, flapping its feathers to dry. I took a picture and later showed it to a birder friend. I said that the bird was an anhinga. My friend said, no it's not, anhingas have pointed beaks. That's a cormorant. After expanding the picture, I saw that he was right, and I

was wrong (as often happens)!

After a recent trip to Louisiana, I had told the same person that I had seen an ivory billed woodpecker there along a bayou. He didn't believe me that time, either.

Sometimes, as they say, it's better to be lucky than good. Or maybe it's better to be lucky than a real birder. Jane and I went to the Grand Canyon. Every day we walked the trails along the south rim, hoping to see California Condors. We never saw any. On the last day we were there, we were about to get in our car to leave, and we decided to try it one more time. And we saw several condors at different points on the trail, as well as a ledge directly below us!

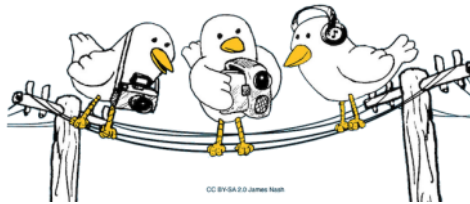
Another time I went on a bird walk at Creve Coeur Park. We hadn't been walking long when the people ahead of me all took out their binoculars and looked into a nearby tree. I was giddy with anticipation! I was looking forward to seeing a bald eagle, or pileated woodpecker, or turkeys, all of which I had seen there previously. But it turned out they were all focused on a Robin! I see those every day in my back yard!

And it was probably the slowest walk I have ever had in the woods. It took over an hour to walk about a mile. Birders must have the patience of Job. I know that I don't!

I don't own a Sibley Guide. Instead I have a Golden Press "Birds of North America", probably more suitable for kids—my daughter loved it, and bought one for her own kids.

On a cold Saturday morning at dawn, come birders with binoculars drawn. Their artillery aimed treeward, To identify that rare bird.

Little opera glasses give no such reward.



The Earth's water cycle, carbon cycle, and nutrient cycle depend on a healthy soil sponge, which is created and maintained by the ongoing work of other species.

By restoring and nurturing the soil sponge, humanity has a unique opportunity to unify and come into balance with all life, particularly the world's essential workers: Plants, fungi, bacteria, worms, insects, and other often unseen underground workers.

These beings together create the soil sponge, the basic infrastructure or living matrix that makes life on land possible.

Author Unknown





*Mary, Mary,
Quite Contrary
Oh, Yes! My Garden!*

MN Mary Meinhardt

*What's a Gardener to do when
"All the trees are brown,
and the Sky is gray"?*

Perhaps something a bit more productive than "California Dreamin"? Here are some of the things I'm thinking about these days ...

Planning for Wildlife Gardening in 2023, right here in St. Charles County, MO!

It can be exciting, exciting, exciting! Unfortunately, January 1 through about March 12 is the prime time to sow seeds of wildflowers needing a cold-moist stratification period to aid in germination. Most of our wildflowers need 30 to 60 days of a cold-moist treatment but if you haven't yet done outside sowing, you can stratify the seeds for the required period in a plastic bag with moist sand in your refrigerator (which typically stays between 34 to 42



degrees) for the allotted days.

I love to go for "pretty", but there's more and more encouragement to plant some of the KEYSTONE plants in large swaths (very pretty). Planting close together and in layers eliminates the need for mulch and helps pollinators conserve energy.

Investing in some "green", since I'm a bit tired of all the brown of winter.

Unfortunately, Missouri has only two native evergreen trees, the Shortleaf Pine (*Pinus echinata*), which needs a glade like environment and usually occurs in the dry, sandy or rocky upland areas in the Ozark region, and the Eastern Red Cedar (*Juniperus virginiana*), which also needs well draining soils.

I have a few Red Cedar trees, and am now looking at Switchcane (*Arundinaria gigantea*), which is a very underutilized evergreen shrub that can provide winter cover for wildlife. I haven't tried it yet, but this may be the year for an experiment in my garden. I have a few areas of an adjoining public playground that I would like to hide from my view in winter, but realize I may be running the risk of it taking over.

The plant grows most vigorously by underground runners in the springtime and can be cut to the desired height rather than allowed to reach its normal 6 to 8 to even 15 feet in height. I'm going to be sure to set parameters for it early on since it is noted to invade other shrubs and perennials if not watched and mowed. In addition to providing great privacy and wildlife cover in sun or shade, it may flower and produce edible grain which was previously used by Native Americans and relished by wildlife. [Winter Garden Workhorse: Switchcane - Powell Gardens, Kansas City's botanical garden](#)

Ordering new plants: Now is a great time to think about ordering new natives for your wildlife garden.

Most nurseries wait until planting time to send your natives so you don't have to worry that you'll get them too soon. Ordering from local nurseries is important, but I also order at times from those further north to exploit the plants' potential cold hardiness and ability to adapt to clay. I frequently use Missouri WildFlowers Nursery ([Welcome to Missouri Wildflowers Nursery \(3dcartstores.com\)](#)), Prairie Moon Nursery ([Prairie Moon Nursery](#)) and Prairie Nursery ([Native Plants | Prairie Nursery](#)), all of which will send catalogs upon request and have great ideas for sun, shade, wet and dry areas.

Bringing a bit of nature inside.

It's a great time to bring a twig or two of our early flowering shrubs or trees inside. Ozark Witch Hazel (*Hamamelis vernalis*) is already blooming, but sprigs of cherry, willow, red maple, serviceberry, redbud and dogwood can be cut and treated much like the non-native forsythia. A great "how to" article can be found at [Forcing spring flowering trees and shrubs to bloom indoors - MSU Extension](#).

Planting shrubs and trees.

It will be a while before we can actually plant perennials and annuals but native shrubs and trees can be planted anytime you can dig a hole big enough for the plant. I really, really want a little sassafras tree and have it from an expert that you can put sand in a sunny place and a sassafras start will magically appear. I'm going to try that although I am limited in the amount of sun that I have.

Spring clean-up.

WAIT! "Hold Your Horses", I am told. They say to put off any vegetative clean-up for as long as you can, even though you'll soon be wanting to jump right in there to make your gardens "presentable". Ideally, according to SavvyGardening.com, you should wait until the daytime temperatures are consistently above 50 degrees Fahrenheit for at least seven consecutive days. The Xerces Society provides additional guidance which may be difficult to follow (after tax day and about tomato planting time). [For Pollinators' Sakes, Don't Spring into Garden Cleanup Too Soon! | Xerces Society](#)

Whenever you get out there, the BIG MESSAGE is that there are little critters still sleeping among the leaves and in the stalks. If you live in town, you might want to follow the routine noted by the Corner



Pollinator Garden and Wildlife Habitat: Pollinator garden spring clean-up – The Corner Pollinator Garden and Wildlife Habitat

They remove the leaves and cut down stems to 15 inches only on the edges of their garden beds being careful not to compact the still wet soil in the garden. As native plants start peeking up, they move or remove leaves to shrubby areas to reveal growing plants, but never chop the leaves nor send them away in the trash. If you have ground nesting bees, you might want to brush leaves aside but be aware that the bees also use leaf litter while they slowly wake up.

Here's a fun quote from the Xerces Society:

"Each spring we beg gardeners and homeowners to press "pause" and find other ways to occupy their weekends. Instead of disturbing critical habitat, read a book, do a jigsaw puzzle, do your taxes, tidy up the garage or clean your gutters. While you may be eager to get outside and play in the garden—there will be time enough to toil in the soil before you know it." [For Pollinators' Sakes, Don't Spring into Garden Cleanup Too Soon! | Xerces Society](#)

And the Very Good News is that Spring is Almost Here!

*Flowers...
adorn our lanes, fields
and fells, and...
smile upon us and cheer
and bless us
in our country
rambles...
the lovely blossoms...
kiss the clear brooks
and mountain wells...

~James Rigg, "Preface,
"Wild Flower Lyrics and
Other Poems, 1897*





Whether you call them **fireflies** or lightning bugs, over 150 different species of these mystical beetles make their home in North America - and every single one of them is declining—threatened by several key factors: habitat loss /degradation, climate change, insecticides, and light pollution.

Native plants are key in providing habitat. Fireflies like moisture—add natives

suited to wet soil such as those near streams and lakes, woodland edges, and even ditches. Tall native grasses often thrive in wetter soils; the grass blades provide narrow hiding places and long launch pads to take flight. From a short, broad-leaved native wildflower to the canopy of a tall native tree, fireflies need this diversity of height to take shelter and safely lay their eggs. Native plants in turn enrich the soil with leaf litter, inviting the soft-bodied insects that firefly larvae feed on.

A native plant list made from research was done by [Xerces Society](#) and [Fire-Fly.org](#). Please visit these websites for more inspiration.

More at:
[Fireflies - Gardening Solutions - University of Florida, Institute of Food and Agricultural Sciences \(ufl.edu\)](#)

and

[Fireflies \(Lightning Bugs\) | Missouri Department of Conservation \(mo.gov\)](#)



Photo by Steve Ausmus

Venom is associated with being harmful, but red imported fire ants are using their venom for its medicinal benefits by sharing the toxic substance with their nestmates, according to a study published in the *Journal of Insect Physiology*.

Agricultural Research Service (ARS) scientists from the agency's Biological Control of Pests Research Unit and Southern Insect Management Research Unit in Stoneville, Mississippi, discovered a new way that fire ants use their venom to prevent diseases in their colonies.

"Venom works as a broad spectrum antibiotic and plays an important role in the fire ant social community by suppressing pathogen growth," said Jian Chen, research en-

tomologist at the Biological Control of Pests Research Unit.

For fire ants, venom has different functions. Fire ants use venomous stings against intruders and immobilize their prey. Fire ants also take advantage of their venom's antimicrobial properties in disease control by using it as an external surface disinfectant. Foraging ants come into contact with various pathogens in the environment. These pathogens threaten ants; especially when they share food with their nestmates.

"One way to reduce exposure to infection through food is to distribute antibiotics into the digestive system of all individual ants," said Chen. "Venom is an internal antibiotic in fire ants' digestive systems."

To use venom as an internal antibiotic, fire ants share it by feeding the substance to their nestmates, including larvae and adults. In the study, researchers found nitrogenous organic compounds of venom, known as alkaloids, in crops and midguts of larvae. This finding indicates that trophallaxis, the transfer of food from mouth-to-mouth or mouth-to-anus feeding, must be involved in the transfer of venom since larvae do not produce alkaloids and depend on worker ants to be fed.

According to Chen, larvae serve as a "communal stomach" for the colony and are the most vulnerable to infection. To keep colonies alive, fire ants must protect the larvae.

Researchers also found that female alates (winged ants) shed their wings after a mating flight, burrow into the soil, and start new colonies. The new queen then provides venom alkaloids to her first batch of larvae in the colony. Then minor ant workers (the first batch of workers in a fire ant colony) emerge and then take over the role of providing venom to the larvae in the colony. The minor ant workers eventually die out, and the normal ant workers then become the colony's venom donors. Thus, venom sharing occurs in every stage of colony development.

As a social insect, in addition to individual immunity, fire ants have evolved social immunity based on the interaction among nestmates. This study indicates that venom sharing by feeding may be an essential component of fire and social immunity. This research will help scientists better understand the ways ants work together to avoid epidemics.





All About KEYSTONE Plants

MN Mary Meinhardt

"Keystone plants are native plants critical to the food web and necessary for many wildlife species to complete their life cycle. Without keystone plants in the landscape, butterflies, native bees, and birds will not thrive. Ninety-six percent (96%) of our terrestrial birds rely on insects supported by keystone plants." [NWF GFW Plant List Ecoregion9.indd](#)

Perhaps you've heard about "Keystone Plants" and wondered just what that meant for you, the nature enthusiast? In all likelihood you've heard of Doug Tallamy, attended a webinar or two or seen a video of him extolling the properties of the mighty oaks that provide close to 500 species of insects tasty leaves on which to grow. These caterpillars in turn, provide the protein needed by baby birds (350 to 570 caterpillars daily or 6,000 to 9,000 caterpillars to feed a clutch of four chickadees while they are in the nest for 16 to 18 days!). And the oaks aren't the only native plants that do this important work. A quick search for "Keystone Plants of Missouri" will yield a number of sites that list the important plant families and how many different lepidoptera (butterfly and moth) species they will support.

Since each different bug, insect and caterpillar has evolved to be able to grow on only a few different host plants, it is important for the homeowner to be aware of the plants and trees that will support the most bugs and caterpillars, which in turn, support the most birds and wildlife. According to Dr. Tallamy, oaks take the prize and are worthy of a place in your yard even if they only survive there for a few years, since they act as host plants from the very beginning of their lives. Visit Home Grown National Park (<https://homegrownnationalpark.org>) to view a short video by Doug Tallamy about the need to convert your property to a place that supports caterpillars.

In addition to the oaks (supporting 436 species), much can be said for the cherries, (supporting 340 species), willows (289 species), and maples (238 species). Any of these trees can provide lots of caterpillars. Be very careful, however, of the cultivars propagated for our pleasure, rather than for their usefulness to wild-

life. Breeding for small size may not negatively affect a host plant, but breeding for a dark purple leaf color has been proven to turn even a life giving Common Ninebark (*Physocarpus opulifolius*) into a food desert for the insects that usually use it's naturally green leaves (beetles, aphids bugs and caterpillars of several moths).

Doug Tallamy and his team at the University of Delaware have identified that "14% of native plants (the keystones) support 90% of the butterfly and moth species. The research of horticulturalist Jarrod Fowler has shown that 15%-60% of North American native bee species are pollen specific and only eat pollen from 40% of native plants. [Keystone Plants by Ecoregion \(nwf.org\)](#). Wouldn't you want to identify those wonderful plants and let them grow in your yard?

One of the best sites to visit when learning about these important plants is Keystone Plants by Ecoregion, from the National Wildlife Federation: <https://www.nwf.org/Garden-for-Wildlife/About/Native-Plants/keystone-plants-by-ecoregion> . If you have a really sunny back yard, you might go to the Central Plains , EcoRegion 9 map [NWF GFW Plant List Ecoregion9.indd](#) to investigate plant families that are important in a prairie setting. Similarly, if you have a shady yard, you might go to the large green area entitled Eastern Temperate Forests, EcoRegion 8 to begin your study. [NWF GFW Plant List Ecoregion8.indd](#)

If you go to either of these Level I Eco-Region pages, you will be able to sort out those 14% of plants that do the heavy lifting in shade and sunshine.

There are actually two types of Keystone plants: 1) host plants that feed young caterpillars of approximately 90 % of the butterflies and moths and 2) plants that feed specialized bees who only eat pollen from specific plants. The Good News is that you do not have to decide on which to emphasize in your yard because some of our native plants serve as both. For an example, in a prairie setting (Eco-Region 9), the Peach Leaf Willow (*Salix amygdaloides*) and Sandbar Willow (*Salix interior*) individually support 214 species of lepidoptera AND also support 20 pollen specialist bees. In a woodland setting, (Eastern Temperate

Forrest Eco-Region 8), the Prairie Willow (*Salix humilis*) and Black Willow (*Salix nigra*) serve 289 lepidoptera and 14 specialist bees. Impressive, huh?

Another example of those hard working Keystone plants: Blue Wood Aster (*Symphotrichum cordifolium*) and Smooth Aster (*Symphotrichum laeve*) might grow best in a woodland setting (Eco-Region 8) where they support 100 lepidoptera and 33 specialist bees. Their cousins of prairie origin (Eco-Region 9) is the White Heath Aster (*Symphotrichum ericoides*) and White Prairie Aster (*Symphotrichum falcatum*) which support 7 lepidoptera and 43 pollen specialists. And guess what! We can plant all four plants in the same yard provided that there are hot and dry prairie conditions on a well draining hillside and another place where those shade loving plants can get relief from the hottest part of the day.

If you want more information which separates the two types of keystone plants, the Keystone Plant website also lists the top 30 Keystone Plant Genera for Butterfly and Moth Caterpillars, as well as the Top 30 Native Host Plants for the Pollen Specialist Bee.

Be aware, though, just because you see the plants listed on the Level 1 Eco-Region map, you will still have to do a bit of research to make sure you have the right conditions for the native you want to plant. Soil moisture, soil composition, and ph also have a great influence on a plant's survivability.

If you can plant any of these Keystone plants, know that you are doing a great service to Mother Earth and all her children.



Picture: Smooth Blue Aster
Public Domain





From Our Members



From MN Sandy Oldfield
Barred Owl
Seen at on The Hill in St
Louis City, in her sister's
backyard.



This pileated woodpecker makes frequent visits to MN Jean Harmon's suet feeder.
Photo by MN Jean Harmon

The pileated woodpecker (*Dryocopus pileatus*) is a large, mostly black woodpecker native to North America. An insectivore, it inhabits deciduous forests in eastern North America, the Great Lakes, the boreal forests of Canada, and parts of the Pacific Coast. It is the largest confirmed extant woodpecker species in North America, with the possible exception of the ivory-billed woodpecker, which the U.S. Fish and Wildlife Service has proposed be reclassified as extinct. It is also the third largest species of woodpecker in the world, after the great slaty woodpecker and the black woodpecker. "Pileated" refers to the bird's prominent red crest, from the Latin *pileatus* meaning "capped". Wikipedia



Eagle days
Riverlands, 2-9-2023
Left to right MN
Karin Foster
Sandy Oldfield
Alison Robbins
Connie Campbell



Baby is Cold

Outside!

MN Allison Volk



This photo by R. Walker

The Confluence Chapter Bluebird Monitoring

Team needs help!

One or two can partner and can be more fun!

If you are adept at construction projects, please read on...

We need to repair birdboxes and/or replace roofing. It's basic repair. We have 4 trails & approx. 50 boxes, some of which periodically need simple repair in Fall or early Spring. 10+ boxes need new roofing asap.

Contact Leslie - 636-856-3041

and email: llimberg@ol.com





Master Naturalists in Action

A Real Spring Fling MN Leslie Limberg

What do you get with a Hays-Matson Hill Spring Salamander Monitoring? (Besides infinite animal tracks in the mud) Master Naturalists, of course!—Martha, both Alinders, Joann Keay, Amanda, Leslie, & the one and only Professor MN Steve Teson.

Ohhh, add to that: a torn up armadillo carcass, 2 Yellow Bellied Newts, a sorry Spotted Salamander, Leopard frogs, miniature Bullfrogs (no legs yet), Spring Peepers, Cricket frogs, and of course laughter, curiosity, and the education of a lifetime.

And LARGE EGG SACKS! Gobs of them with little tiny baby black toads in them... Adorable! along with Dragonfly larvae, Diving Beetles, and a million tadpoles.

This was our religious experience... tongues wagging out, sizing up ancient Sycamores, champion Walnut and Burr Oak trees touched by Missouri's own Daniel Boone Family.

(By the way, we have been invited to volunteer at the Daniel Boone Home)

Ohhh!, and Turkey Vultures, Hawk calls, Bracket Fungus and bones!

Pictures and link to article by MN Joanne Keay. Tyson Research Center and their vernal ponds, salamander studies and some cool pictures at: [Secret lives of salamanders - The Source - Washington University in St. Louis \(wustl.edu\)](https://source.wustl.edu/2023/03/secret-lives-of-salamanders/)



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We had fun working Eagle Days at the Audubon Center at Riverland. These are some of the eagles. What impressive birds!

Bald, Harpy (from S. America) and Golden Eagles



The Three Muscateers, oops, these three Master Naturalists spent the afternoon at Litzsinger Road Ecology Center. Beth Zona, Cliff Parmer, and Pat Walsh spent a beautiful, relatively warm January afternoon with a group of third graders exploring the woods, prairie, and creek.

The center is located on Litzsinger Rd. and is only accessible to school groups.

Volunteering at Litzsinger fulfills the Master Naturalists' goal of education and what better way to do it than spending a day with children.

What makes it a great place for outdoor education? The groups are small, at most 5-6 students. There are three areas, woods, creek, and prairie that are on actual trails, so it's a real adventure for the students. There is a loose lesson plan to guide you through the time. You can choose whatever age you prefer from preschool to high school. You can pick the times that work best for you and can plan ahead by using the calendar online. Some of us sign up for an entire day, or two sessions because it's a long drive, but there is a break of about an hour to have lunch or run an errand. Be ready to go no matter the weather. I especially like that because it makes the students realize they can get outside even if the weather isn't perfect.

Litzsinger is part of the Botanical Garden, so there are some perks there. There is a short training, but that can count as AT. If interested contact Leslie Memula, leslie@lrec.net or Julie Radin, julie@lrec.net.

We'd love to see you there!
Submitted by MN Beth Zona



MN Frank Dvorak during the Forest Re-Leaf first regular work session preparing the nursery for the growing season. These plastic barrels are used for collecting rain water.



"What good is the warmth of summer, without the cold of winter to give it sweetness"



John Steinbeck
Submitted by MN Elaine Browning





Water 2050



USDA, ARS Scientists Chart Course of Water Management

As much water as there is in the world, only about one-half of 1% of it is drinkable. To illustrate, if the world's water supply was condensed to 26 gallons (about 100 liters), fresh water would amount to only one-half of a teaspoon. What's worse, that half-teaspoon appears to be leaking.

The Agricultural Research Service (ARS) is leading a team of over 40 scientists to identify and formulate a plan to address the most significant challenges to the world's water resources and agricultural production by the year 2050.

Water Vision 2050 takes aim at the greatest threats to water availability and sustainable agriculture, including climate change and the increasing global population, and puts forward recommendations for critical research and water management actions.

See the entire article at:

[Tellus | | USDA-ARS](#)

https://scienceblogs.com/files/significantfigures/files/2013/06/America_rivers.jpg



*...rivers when they go wandering down to the sea
usually leave their mountain purity behind them.*

~John C. Van Dyke, *The Desert*, 1901

Winter Wanderings ...

MN Frank Dvorak

Winter hikes offer a change in scenery and wildlife. Yesterday, I saw a bright colored Eastern Bluebird on a fence post, in sharp contrast with the gray sky. It flew away before I could retrieve my phone from underneath layers of clothes.

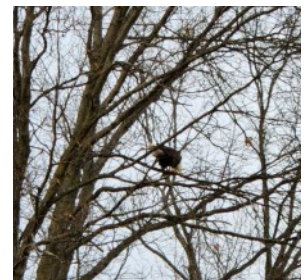
Today I noticed a very large bird skimming the treetops, then finding a branch to perch on. As it turned to land, it flashed its white tail. It was an eagle! At Veterans Tribute Park along Kisker Road. I continued my walk and followed the path leading toward the tree where *The Eagle Had Landed*. Now I dug out my phone to be ready to take a picture.



I kept watching the tree as I came closer. I could see a dark smudge among the branches, that resolved into a bird. Now I was close enough to see the white head and tail of the eagle as it shifted around. I took a few pictures then continued walking. I left the path for a closer look. The eagle was eating something it had caught and carried up to its perch in the tree.

I was pleased to have noticed the eagle today. It is good to look around and observe while out for a walk.

Now I am back home and examining my photos. The bird is obviously a bald eagle. I see a fuzzy outline of the eagle's catch. I think it caught a fish. There is an outline of a fish tail behind the branch. Or is it my imagination?





*In Loving Memory of
 M.N. Jerry Lindhorst and M.N. Joe Veras
 Dedicated Master Naturalists Pioneers
 Forever with us in our memories ...*



*Gone From My Sight
 by Henry Van Dyke*

I am standing upon the seashore.
 A ship, at my side,
 spreads her white sails
 to the moving breeze
 and starts for the blue ocean.

She is an object of beauty and strength.

I stand and watch her until, at length,
 she hangs like a speck of white cloud
 just where the sea and sky
 come to mingle with each other.

Then, someone at my side says, "There, she is gone"
 Gone where?
 Gone from my sight. That is all.
 She is just as large in mast, hull and spar
 as she was when she left my side.

And, she is just as able
 to bear her load of living freight
 to her destined port.

Her diminished size is in me—not in her.
 And, just at the moment when someone says,
 "There, she is gone,"
 there are other eyes watching her coming,
 and other voices ready to take up the glad shout,
 "Here she comes!"

And that is dying ...

Henry Van Dyke was born on November 10, 1852
 American short-story writer, poet, and essayist, 1852-1933

*"Use the talents you possess, for the woods would be
 very silent if no birds sang except the best."
 Henry Van Dyke*

Our Leadership

- President—Stephen Baldwin
- Vice President—Martha Hessler
- Secretary—
- Treasurer—Beth Zona
- Advanced Training—Deborah Moulton
- Volunteer Coordinator—
Alberta McGilligan
- Membership Services— Tom Holt
- Facebook Page—Gail Gagnon
- Newsletter—Carmen Santos,
Leslie Limberg, Elaine Browning, and
Mary Meinhardt



Project Leaders:

- Confluence Chapter Stream Team
#3612—Gary Wester
- Babler State Park—Alberta McGilligan
- Quail Ridge Prairie Demo
and Rain Garden—Leslie Limberg
- Bluebird Monitoring—Connie Campbell
and Leslie Limberg
- Nature Explore Classroom Education—
Connie Campbell
- O'Fallon Public Works Project—Frank
Dvorak
- Monarchs & Pollinators Network—
Bob Lee and Tom Holt
- Birding Club—Gail Gagnon
- Main Street Garden
Martha Hessler and Tom Nagle
- Daniel Boone Hays Seeding—
Phil Rahn —Bob Coffing
- Matson Hill Park—Bob Coffing
- Cuivre River and Don Robinson State
Park—Bob Coffing
- Outdoor Classroom, Frontier Middle
School—Jeanice and Jerry Kaiser

- Amphibian Monitoring—Steve Teson
- Native Seed Collection & Distribution
Phil Rahn and Leslie Limberg
- Native Flower Potting & Distribution
Alberta McGilligan
- Rockwoods Reservation Native
Garden—Karin Foster and
Nancy Newcomer
- Belleview Farms—Alberta McGilligan
- Progress South Middle School Garden
Clean Up - Leslie Limberg
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Connie McCormack
 Scott Barnes,
 Jerry Lindhorst
 Cliff Parmer
 Leslie Limberg
 Alberta McGilligan
 Martha Hessler
 Alison Robbins

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/>