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Your key to discovering the **Natural Missouri**



From  
 Our President



ture. If you are thinking about a new project or wanting to get involved in current projects and don't quite know how to start, give me a call. I am happy to hear from any of you at any time about projects, advanced training or suggestions you may have to make our chapter even more vigorous and fulfilling for you.

*Alberta*

Alberta McGilligan  
 President, Confluence Chapter

Master Naturalist  
 2016 Certification Pin  
 Eastern Collared Lizard  
*Crotaphytus collaris collaris*



As the hot, lazy days of summer move by and I look forward to the quickened pace of the cooler fall weather. I have been thinking about leadership and reflecting on the many people in our chapter who take on leadership roles.

Our chapter would be much weaker and contribute much less to our neighborhoods without those of you who go the extra mile, take the extra time and effort to lead projects, and volunteer to do necessary functions that make our chapter a strong, fun chapter with which to be associated with. So a great big thank you to all you leaders.

But without the contribution of those who are not presently in leadership roles, leaders would be all by themselves, so thank you to all of you who contribute your time and effort to projects and activities.

As you learn about roles, perhaps you can take on leadership roles in the fu-



Photo Courtesy of  
 Confluence Chapter Master Naturalist  
 Allison Volk. Thanks Allison!

Can Flowers be SHY?

This one seems to be saying, 'no photos, my disk flowers are a mess!'

Black-eyed Susan, *Rudbeckia hirta*. Named after botanist Olaf Rudbeck (1630-1702), and possibly also for his son, also named Olaf. *Hirta*, Latin, "hairy."

The plant also is a traditional Native American medicinal herb in several tribal nations; believed in those cultures to be a remedy, among other things, for colds, flu, infection, swelling and (topically, by poultice) for snake bite (not all parts of the plant are edible).

As with any wild plant, it is usually recommended to research carefully before consuming as not all parts of the plant may be edible and to avoid misidentification with other plants that may look similar to the Black-eyed Susan.

The species is also known to be toxic to cats when ingested.!



O, money can't buy the delights of the glen,  
 Nor Poetry sing all its charms:  
 There's a solace and calm ne'er described by the pen  
 When we're folded within Nature's arms!



James Rigg, "Nutting Time," Wild Flower Lyrics and Other Poems, 1897





Meet Our Members  
Master Naturalist  
Ann Finklang

Written by  
Master Naturalist Lee Phillion



Since retiring from the US Department of Agriculture after a 28-year "mostly computer-related" career, Ann Finklang has created a lifestyle filled with physical fitness, lifelong learning and volunteering.

"I thank God every day for my good health and my abilities," said Ann, a Master Naturalist since 2006—the year she retired. She credits the Classical Stretch show on Channel Nine for her flexibility, and ascribes her stamina and strength to weekly bowling, golf, walking and pickle-ball.

A tennis player for 25 years, Ann now

plays pickle-ball at several venues in the area. Pickle-ball, by the way, is a sport combining elements of tennis, badminton, and ping-pong played with a paddle and plastic ball on a badminton-sized court with a modified tennis net.

"I do some sort of activity with friends just about every day," said Ann. "Golf and Bowling and MN volunteering keep me in touch with old friends; pickle-ball has brought new friends."

Ann satisfies her yearn to learn as a class coordinator with The OASIS Institute in St. Louis. "I help with speakers, set up classrooms and check in participants," said Ann. "Then I get to attend the class free!"

For the Confluence Chapter Ann served as the first newsletter editor. In fact, the newsletter was her idea. She has also served as chapter treasurer and played a key role when the Confluence Chapter hosted the State MMN Conference in October 2010 at Cuivre River State Park. She also volunteers at the Quail Ridge Park Prairie Demo and Rain Garden projects, the O'Fallon Public Works project, and our Chapter's Stream Team.

Some of Ann's MN volunteering occurs within the city of Lake Saint Louis (LSL), where she and her husband Bill, with whom she just celebrated a 50th anniversary, have lived since 2004.

A former member of Lake Saint Louis' "Tree Board," Ann now serves on the city's Green Environmental Advisory Board, and was instrumental in helping start and promote a recycling program.

Recently, Ann – along with Confluence Chapter MN Diane Baniak and others - encouraged the Mayor of LSL to take the National Wildlife Foundation's "Monarch Pledge." With their city funding Ann and others are planting a substantial butterfly garden complete with educational signage. LSL is preparing the area now in Hawk Ridge Park with plans for the planting in late September—hopefully with volunteer help

from the Confluence Chapter.

Ann's thoughts on volunteering: "I receive a great deal from the activity. I meet new people, learn new things, visit with friends - and to top it off, there's the satisfaction that maybe I can help make a positive difference."

During the rare moments that she sits still, Ann likes to read mystery novels and play with her 3 year old rescue kitten, Miss Kitty. She also manages to find time for her two sons and their families, including three grandchildren. Ann enjoys watching Cardinal baseball on TV with Bill, and she is one of 18 part owners of season tickets—which means she gets to go to six games a year.

Here's something you probably wouldn't guess about Ann: She once performed as the Arbor Day Mascot "Limby." "I had always wanted to dress up like a mascot," laughed Ann. "I love all of my activities. Whatever you can do to keep moving and enjoying is good."

Way to go, Ann!



Ann  
Or is it Limby?

Upcoming Chapter Elections

Candidate for Treasurer



Alison Robbins

A chapter member since 2014 Alison's interest in becoming a Master Naturalist began when her son Paul signed up to take the training. "I thought it sounded like an interesting way to volunteer and be outdoors," said Alison.

Since joining the Confluence Chapter, Alison has volunteered with the Maple

Sugar Festival at Rockwoods, Eagle Days at Chain of Rocks Bridge, and with MDC's hunting and fishing programs for kids. She is also one of the prime movers behind the annual Confluence Chapter holiday party and picnic.

Alison retired in 2014 after serving 15 years as the Business Manager for the Lutheran High School Association of St. Louis. Prior work experience includes the controllership role at a large bank holding company and managing the accounting function of an IT firm.

Currently Alison, a Certified Public Accountant, is head of the audit committee at her church, and with her husband Harry, volunteers for Meals on Wheels in St. Charles.

*"I love to think of nature as an unlimited broadcasting station, through which God speaks to us every hour, if we will only tune in."*

George Washington Carver, was an American botanist and inventor. He was born into slavery in Missouri, either in 1861, or January 1864.



Sometimes, it's the little things in life that inspire us, like this tiny desert horned lizard that's small enough to fit into the palm of a scientist's hand! You'll find these cute critters near rocks and sandy soil in the Great Basin, including Oregon, where this photo was taken. Desert horned lizards eat ants and beetles, and hiss when threatened by larger predators like snakes and hawks. As cute as this little lizard is, remember to keep wildlife wild when you see it and enjoy from a distance.

Photo by Joel Herzberg, @mypubliclands





## Chapter's 2016 Picnic

Submitted by  
Master Naturalist Leslie Limberg

Thirty four Confluence members gathered together at Broemmelsiek Park this year for our annual picnic.

It was a delightful evening thanks to a perfect SW wind and a sunny sky. Our pavilion was brand new, clean, nicely landscaped and overlooked a lake with Great Blue Herons having their own picnic.

Thanks to Tom Nagle and Alison Robbins, our homemade style barbeque chicken and pork was delicious (cooked by Tom's pastor) and the brownies... Well, these brownies were the best brownies west of the Mississippi. (You rock, Alison.)



We finally met our new Extension advisor, Rich Hoormann, who spoke for 15 minutes. Our MDC advisor, the delightful

Colleen Scott attended as well. One lone trainee from the 2016 class partied with us and checked us out.



Broemmelsiek Park has paved hiking trails, an agricultural museum, dog park, and the famous astronomy society that watches the night sky on Friday nights (the public is invited). Pavilions are all over the park (some with overhead fans), and you can hear Bluebirds.

Go  
see before  
the snow  
flies!



Did you know a baby porcupine is called a porcupette?

These cute critters have soft hair mixed with barbed quills that stick up to deter predators when they feel threatened.

Porcupines sleep in trees and feed on the inner bark, twigs and leaves. They live to be 5-6 years old and have one or two young which are born with soft quills that harden within an hour.

Photo courtesy of California Department of Fish and Wildlife.

## Frog Surveys

Submitted by  
Master Naturalist Gail Gagnon

The frog surveys for Hays for 2016 have ended, and oh what a night (last survey) it was.

The weather was perfect, with cool temps, little humidity, and clear skies. The evening started with a family of skunks tussling in the middle of the road. That momma has her hands/paws full with those 4 little ones, but she soon had them off the road and into the woods. (Glad I could watch them from inside my car!)

During the survey we were serenaded by the howls of coyotes, a Summer Tanager escorted us down the trail calling his familiar 'chick-tucky-tuck', and a deer let out a snort at the first pool. Perhaps he was letting us know he wanted to get a drink and we were in his way. We also heard Barred Owls, Chuck-wills-widows and Whippoorwills.

The stars and fireflies were twinkling, putting on their own Fourth of July display.

And what about the frogs you ask? We heard the banjo string plunk of Green Frogs at two pools, and Cricket Frogs by the creek. One pool was surprisingly quiet. It was too dark to see what might have been swimming in the pools, but were curious about what could be seen by the light of day. Are you interested in checking them out? There's no telling who is visiting or making their home there.



Northern cricket frog at water's edge.  
Missouri Department of Conservation  
Family: Hylidae (treefrogs and allies) in the order Anura

The Northern Cricket Frog used to be known as Blanchard's cricket frog. The color is quite variable; gray, tan, greenish tan, or brown. The back may have an irregular green, yellow, orange, or brown stripe. There is always a dark triangle between the eyes, a series of light and dark bars on the upper jaw, and an irregular black or brown stripe along the inside of each thigh. The belly is white. The feet are strongly webbed, but the adhesive pads on fingers and toes are poorly developed. The call is a metallic "gick, gick, gick." Size: Length: 5/8 to 1 1/2 inches. <http://mdc.mo.gov/>

The green frog looks similar to a bullfrog but is smaller and has a ridge of skin along the sides of the back, from behind the eye to

mid-body, that is not found on bullfrogs. The green frog is a medium-sized frog, the general color varying in color from green to greenish tan to brown, with the upper lip and head usually green. There may be faint dark spots on the back, and the legs usually have indistinct dark spots or bars.

Adult males have a bright yellow throat. The call is an explosive "bong" that sounds like a loose banjo string.

There are two subspecies of green frogs in Missouri. Northern green frog (*L. clamitans melanota*), described above, and bronze frog (*L. clamitans clamitans*), a smaller, brownish or bronze frog with yellow lip and head, which is restricted to the southeastern part of the state. <http://mdc.mo.gov>



Green Frog





## Quail Ridge Beauties: Vervain

*Verbena hastata*, commonly called blue vervain, is a Missouri native perennial which commonly occurs in wet meadows, wet river bottomlands, stream banks, slough peripheries, fields and waste areas throughout the State. It is uncommon in the Ozark region.

It is a rough, clump-forming perennial with a stiff, upright habit which typically grows 2-4' tall (less frequently to 6') on square hairy stems which typically branch above. It features candelabra-like inflorescences of erect, slender, pencil-like spikes (2-6" long) of tiny, tubular, 5-lobed, densely-packed, purplish-blue flowers (1/8" wide) which appear over a long July-September bloom period. Flowers on each spike bloom bottom to top, only a few at a time. Lance-shaped, sharply toothed, green leaves (to 6" long).

Genus name comes from a Latin name used for some plants in religious ceremonies and also in medicine.



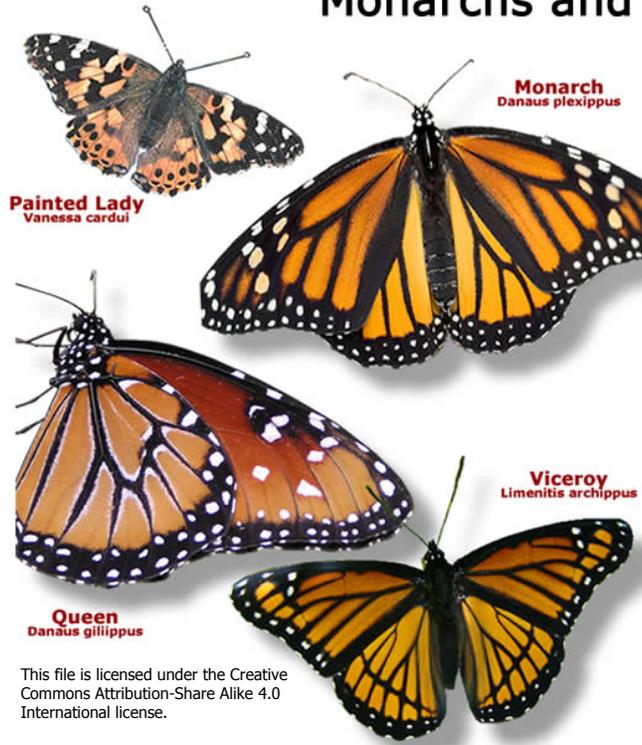
Above Photos: Vervain at the Prairie Demo Garden and looking down the prairie at Quail Ridge Park,



Photo: Wikipedia Commons

## Monarchs and

## Look-alikes



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What field marks distinguish the monarch from these look-alike butterflies?

Create Venn Diagrams to compare and contrast.



## THE BOAT HOUSE PROJECT

### UPDATE—Lewis and Clark Boathouse Never Die Garden

After December's flood, we are truly amazed with the tenacity and fortitude of the native plants. The Missouri River once again deposited tons of nutritious silt where everything grows with abandon! It is a virtual river jungle where maybe next week, who knows?, we might find a jaguar.



Despite the recent heavy scrub trimming by an outsourced hire, the Lewis and Clark boathouse garden is thriving and providing for the local pollinators. Here our compass plant is providing some nectar to the black swallowtail.

Photo by MN Allison Volk.

## Bluebird in a box at Spring Bend That bird was not budging!



On March 30, 1927, the eastern bluebird was officially designated the Missouri state bird by an act of the Missouri Legislature because it was "common in Missouri" and "a symbol of happiness."

This was an appropriate selection in every respect. Referring to its pleasing color, naturalist Henry David Thoreau once wrote that "it carries the sky on its back." Add to that its delightful song, non-aggressive manner and beneficial food habits, and you have a truly appealing bird.

Photo by Master Naturalist Connie Campbell





## What it's all about ...

Master Naturalist Alberta McGilligan



This week when we did Babler State Park garden maintenance I took my 4 year old great-grandson with me (have to start them early).

When we walked up to the garden there were about 10 or 15 butterflies of various kinds buzzing the flowers. Little

guy loves butterflies and was so excited to see each one. He spent the whole time following them to get a good look. There were several beautiful swallowtails that I particularly liked too.

It really made me think about why we do what we do. If you take the joy he got from seeing the butterflies and multiply it by all the visitors, what a gift to the world we are making.

Andy Senters is particularly pleased and showed me the

Rattlesnake Master that was covered with very small insects and bees.

So take time to enjoy the gift of giving and sharing our love for nature with our fellow earthlings.

The Puerto Rican monarch's primary host plants are red milkweed (*Asclepias curassavica*), which is native to North and South America, and giant milkweed (*Calotropis procera*), which is native to Europe. Caterpillars need to feed on milkweed to complete their life cycle, and adult butterflies need the right nectar-producing plants in bloom for needed energy.



Just like its cousins, Puerto Rican monarch populations have declined significantly over the past 20 years, partly because of the loss of plants that it depends upon to survive.



USDA's Natural Resources Conservation Service (NRCS) is

working with farmers in Puerto Rico to include milkweed and other high-nectar wildflowers and warm-season grasses in their working lands. For example, farmers can include those plants in conservation buffers, field borders, pasture plantings and other places on the farm. Through many different conservation practices, farmers are helping the monarch butterfly and many other pollinators.



Farmers, ranchers and forest landowners across the country are helping monarchs and other pollinators by making conservation improvements to their working lands. NRCS offers technical and financial assistance to help landowners plant milkweed, wildflowers, shrubs and warm season grasses to help a variety of pollinators. Additionally, NRCS also has a targeted effort in the Midwest and southern Great Plains – the heart of the butterfly's largest population's migration route—to help accelerate monarch friendly conservation practices.

<http://www.blogs.nrcs.usda.gov/wps/portal/nrcs/blogdetail/nrcsblog/home/?cid=NRCSERPD1159806>

## Boat House Project Resident

Submitted by Master Naturalist Leslie Limberg

This past season had a surprise for the Lewis and Clark Boathouse volunteers. Over the years we have found all sorts of 'critters' in the garden as we worked... rabbits, wasps, birds and nests, toads, ducks, but never what we found in June.

After two hours of weeding and pruning, Martha and Leslie were packing up their tools to leave, when they heard a faint sound like a "meeewww." Sure enough, after some searching through the interior of the garden, we saw hidden in the brush an orange cat. He was small, kept himself crouched low and evaded all efforts to attract him.



Leslie left to get a 'live trap' and a can of tuna. To her credit, Leslie has trapped many cats over the years in rural St Charles County. She prides herself on being an expert cat trapper and whisperer (with a dedicated catnip garden.) But this time, after an hour's wait, in spite of the irresistible fish aroma, alas, the cage was still empty. Her confidence was forever dashed.

Martha however, returned the next day with her leftover Salmon dinner. Ah ha! The little orange kitten (about 6 months old) came right up and inhaled the whole thing. Unfortunately, as she picked up the orange tabby and put it in her Subaru, the terrified

cat escaped back into the brushy garden. Phooey.

Again, Martha and Leslie returned on Sunday—fully prepared. Martha, armed with a can of tuna and Leslie in the driver's seat of her Santa Fe, parked alongside the garden. With the rear passenger door wide open, ready for capture, Martha then picked up the gorging cat, quickly walked him over to the car, and threw him in. Lightning quick, she slammed the door shut. Success! Third time's the charm.

Good news! The now neutered cat is named Simon. He's strong, kissable and has doubled in size. He lives in splendor with two other cats in Leslie's homemade cat jungle.

## Not All Monarchs Migrate! The Puerto Rican Subspecies Stays Put

USDA, Julie Wright, Caribbean Area Acting Public Affairs Specialist

The monarch butterfly is the iconic butterfly native to the Americas. The black-and-orange butterfly can migrate thousands of miles each year from North America and South America to Mexico. But the subspecies in Puerto Rico, *Danaus plexippus portoricensis*, is considered non-migrant. It likes to stay put!

The Puerto Rican monarch butterfly was identified in 1941 as a separate subspecies. It has also been found in the Virgin Islands, Cuba, the Cayman Islands, St. Lucia and Jamaica.

The adult Puerto Rican monarch grows up to 40 millimeters in size, and there are few differences to distinguish between the sexes. Like the monarch, the Puerto Rican monarch is particular about its host plants. Monarch butterflies depend on milkweed to lay their eggs, and the plant provides the only food source for monarch caterpillars.

## Baby Birds Learn Calls From Their Mothers While Still in the Egg



It turns out humans aren't the only species that can hear sounds before birth. New studies from Australia find that some mother fairywrens call softly to their eggs. The chicks not only hear their mothers, they actually begin learning parts of her calls while still inside the egg. The calls may later serve as a sort of family password once the birds hatch.



[https://www.allaboutbirds.org/baby-birds-learn-calls-from-their-mothers-while-still-in-the-egg/?utm\\_source=Cornell%20Lab%20eNews&utm\\_campaign=b800c90c02-Cornell-1%20Lab%20eNews%2006\\_13\\_2016&utm\\_medium=email&utm\\_term=0\\_47588b5758-b800c90c02-302354349](https://www.allaboutbirds.org/baby-birds-learn-calls-from-their-mothers-while-still-in-the-egg/?utm_source=Cornell%20Lab%20eNews&utm_campaign=b800c90c02-Cornell-1%20Lab%20eNews%2006_13_2016&utm_medium=email&utm_term=0_47588b5758-b800c90c02-302354349)





## Millions of Native Orchids Flourish at Former Mining Waste Site

Millions of native orchids are flourishing on the site of a former iron mine in the Adirondacks, suggesting that former industrial sites—typically regarded as blighted landscapes—have untapped value in ecological restoration efforts.



ESF graduate student Grete Bader, who completed her master's thesis on the site, said the plants are growing on a wetland that developed naturally on an iron mine "tailings" (the waste left over from the process of separating the valuable part of an ore from the rock). She said that in addition to six types of native orchids, some of which have populations estimated at a million, the location supports New York state's largest population of pink shinleaf, also called pink wintergreen, which is listed by New York as a threatened plant. The plant is rare in New York except at this location.

"The fact that this site restored itself from bare mine tailings to a diverse wetland plant community over the past 60 years is incredible, and the populations of orchids and pink shinleaf notably enhance its conservation value," Bader said.

The wetland of about 100 acres developed at a site that holds the aftermath of iron ore extraction at Benson Mines in the northwestern Adirondacks. The Benson Mines operations were most intense from about 1941 until the facility closed in 1978.

Industrial sites are typically regarded as blighted landscapes but this site suggests that these locations have tremendous conservation value. In addition to the extraordinary number of orchids, the site has an extensive cranberry mat and acres of lowbush blueberries. Additionally, the site is culturally significant because the mines were economically im-



portant to the region in the mid 1900s.

Read the entire article at:

<http://www.esf.edu/communications/view.asp?newsID=5233>

State University of New York

College of Environmental Science and Forestry, SUNY-ESF

## Painted Turtles

From "Our Mississippi"

Even with shells like armor and a heritage that dates back some 250 million years, turtles are today among the world's most endangered vertebrates. But some species are better than others at withstanding human and nature's impacts, including more intense and frequent flooding on the Mississippi River. Finding out why is the subject of a 29-year study on a river island within a popular U.S. Army Corps of Engineers' recreation area.



For these nearly 30 years Professor Fredric Janzen of the Department of Ecology, Evolution and Organismal Biology at Iowa State University, has worked with colleagues and students in his summer turtle camp to monitor painted turtles, best known as the kind every kid wants for a pet.

While many researchers lean toward endangered varieties of a species for study, this team has picked one of the most common—and for good reason. Might this be a species most likely to withstand changes wrought by climate change, and can we learn from that? "Their range is the east to west coast, from south-central Canada to Mexico," Janzen said. "You don't have to be a genius to know that's a lot of different environmental circumstances. April in Toronto or further north is not the same as April in Albuquerque. The question we have is, 'How on earth do they make that work?' And yet, they seem to flourish."

Though painted turtles are thriving in many other river systems and national wildlife refuges, Janzen said, the population at Thomson Causeway on the Mississippi River appears to be the largest—numbering somewhere in the low thousands. And that's true even in the wake of three decades of challenges wrought by storms, Mississippi River floods, human capture for food and medicine, and animal predation.

The potential impact of climate change is one focus of the research; however, the biggest recent risk has come from another creature of nature—hungry raccoons on the hunt for turtle eggs. Raccoons have destroyed nearly 100 percent of the turtle young over the past few years, he said. While turtles are notoriously long-lived, he says, "we're marginally concerned of what this will mean in the long term. We have a lot of adults, but the base of the pyramid is negligible. Almost no nests are surviving."

What is most concerning, he says, is the "one-two punch" of the loss due to raccoons and ability in some states for commercial harvesters legally (within state regulations) to take the adults. Iowa is one of a very few states that also allows for commercial harvest of non-endangered turtles. Turtle soup is not found on many Midwestern menus these days (though Campbell's in the 1920s sold a then-popular Cream of Turtle soup), but they're harvested for a variety of other purposes.

One worry is their popularity in Asia; in China and elsewhere, turtles are a feast food, thought

to hold a variety of medicinal and life-enhancing qualities. There's so much interest in the way turtles have been decimated across Asia that Janzen has been contacted by Chinese reporters who want to see the thriving turtle population and learn more about potential climate threats.

Like many rare turtles, is the painted turtle at risk of potential extinction? Janzen isn't so sure. They're surviving wildly varied temperature ranges, traumatic floods and interaction with the hundreds of people who camp at Thomson Causeway each day, he says, and are surprisingly tolerant. "But I subscribe to the idea that we should keep common things common," he said. "There's only so much anything can handle."

### The Painted at a Glance

#### You're on your own, kids:

Females emerge from the water from mid-May to end of June and dig a nest anywhere from right along the water's edge to 200 meters away, digging with their back legs for more than an hour and laying on average 11 squishy, leathery eggs in a clutch, soft enough they can exchange moisture with the ground. From there, the babies are on their own, staying in the nest after hatching until the following April or May and living off the extra yolk.

#### Pretty babies, plainer grownups:

The underside of young turtles is a brilliant combination of orange-red, yellow and olive green, but while they get plainer as they age, they keep the trademark yellow and red thin striping on their heads.

**Cold, schmold:** Partly explaining their wide range is an unusual physiology that lets them withstand extended temperatures below zero through what scientists call "supercooling," a suppression of the body's freezing point.

**Girls like it hot, boys like it cool:** Air/ground temperatures experienced by embryonic turtles in their middle month of development determine their sex. If the female turtle lays eggs in a sunny, open spot on a beach, all babies in the hatch are likely to be girls, while a cold, rainy cloudy summer might more likely produce boys. Prof. Janzen's original climate change hypothesis is that warming climates would bias births toward more females. That hasn't proven totally true due to more frequent storms and cloud cover. Researchers found "warming holes" in the Upper Midwest where clouds and precipitation made ground temperature cooler, leading to a bias toward more males.

**See and Learn:** Go to the National Mississippi River Museum and Aquarium in Dubuque, Iowa, and you'll find turtles from across the Mississippi River watershed and elsewhere. Among those currently on display are a green sea turtle too injured by a boat strike to survive in the wild, two rare alligator snapping turtles that wouldn't survive in the wild on their own, and an endangered Blanding's turtle found being smuggled with other tiny hatchlings as part of Asia's burgeoning food, medicinal and pet trade. Their stories personalize the many threats to turtles, showcase the facility's conservation focus and offer a rare peek into behavior that can't help but fascinate. Alligator snapping turtles, for example, are usually found lying motionless with their mouths open, occasionally wiggling their worm-shaped tongue to attract fish for dinner. <http://www.rivermuseum.com/>

**Our Mississippi** is a quarterly newsletter of the U.S. Army Corps of Engineers about its work in the Mississippi River Basin. It is published in cooperation with other state and federal agencies and other river interests with whom the Corps collaborates and partners toward long-term sustainability of the economic uses and ecological integrity of the river system.





## Wasps

The federal government is releasing special wasps in an effort to control the Emerald Ash Borer.

The US Department of Agriculture hopes these special wasps will be a key ally in the fight against emerald ash borers, invasive beetles whose larvae have destroyed trees across vast swaths of northern and eastern America in just a few decades.

The USDA found four types of wasps to use against the emerald ash borers. They all lay their eggs inside borer eggs or larvae, killing them before they turn into wood-munching beetles.

One of these wasps, a host-specific parasitic wasp, is so new that it doesn't even have a common name—known only by its scientific name *Spathius galinae*—has been approved for release to help control the Emerald Ash Borer.



Once released, the wasps will track down emerald ash borers by sniffing at ash trees; they can actually smell the difference between healthy trees and infected ones. Each wasp will zero in on a target by feeling out the vibrations the beetle larva causes as it roots through the tree. Then, the wasp lays its eggs on the baby emerald ash borer. When the wasp eggs hatch, the baby wasps will feed off the emerald ash borer, killing it.

While the wasps can't save trees that are already damaged, they can — scientists hope — reduce emerald ash borer populations enough to protect trees that are currently healthy.

Why make such a fuss about some bugs? It turns out that the 8 billion commercial timber trees those pesky beetles want to destroy are worth about \$280 billion, all told. Replacing all the ash trees we've planted in cities and towns would be another \$25 billion. The wasps won't be fighting emerald ash borers alone. Woodpeckers, which enjoy a nice snack of borer larvae are another key ally.

For more on this topic:

- <https://agresearchmag.ars.usda.gov/2016/may/wasps/>
- <http://www.udel.edu/udaily/2016/may/battling-emerald-ash-borer-052316/>
- <https://entomologytoday.org/2016/05/26/usda-to-release-russian-wasps-against-the-emerald-ash-borer/>
- [http://www.nrs.fs.fed.us/disturbance/invasive\\_species/eab/control\\_management/biological\\_control/](http://www.nrs.fs.fed.us/disturbance/invasive_species/eab/control_management/biological_control/)

### Summer:

Heat, ma'am! It was so dreadful here, that I found there was nothing left for it but to take off my flesh and sit in my bones.



Sydney Smith, Lady Holland's Memoir

## AMERICA IS BECOMING A KINDER, GENTLER PLACE (TOWARD ANIMALS ANYWAY)

Extraordinary as it might seem amidst the election season rancor, the United States is becoming a gentler, more inclusive place—at least toward wild animals.

Nearly 40 years ago, ecologist Stephen Kellert conducted a landmark survey of American attitudes toward wildlife. Now researchers have repeated the survey. They found that people in the U.S. generally feel more kindly toward wild animals, in particular those species they once despised.

“The greatest differences were for historically stigmatized species,” wrote the researchers, who were led by environmental scientist Kelly George of Ohio State University. Among the up-and-comers are sharks, bats, vultures, wolves, and coyotes.

Much has changed since Kellert's original 1978 survey. The loss of biodiversity has accelerated not just the extinction of rare species, but the decline of once common ones. More Americans live in cities and suburbs where they're ostensibly disconnected from nature. The science of animal cognition has produced overwhelming evidence for intelligence throughout the animal kingdom, and animal welfare went from a fringe to a mainstream concern.

The latter trend has raised hopes that, if people like animals more they'll do more for conservation and in that regard, the new results are promising. Where people had on average, felt neutral towards wolves and coyotes, they now feel positive. Sharks, bats, and vultures all vaulted from disliked to neutral or even liked. People are even a bit more welcoming to wasps, rattlesnakes, and rats.

The only species whose reputations dropped substantially are raccoons and swans, though people still quite like them. For the record, domestic dogs remained America's most-favored animal, while mosquitos replaced cockroaches as the least-liked.

This change in attitudes is specific to wildlife. Attitudes toward domestic animals didn't change substantially. It's not as though wild animals are benefiting from the overflow of a change in heart toward, say, cats and dogs. Something deeper is happening.

George's team doesn't claim to understand the exact reasons for this



change of heart. They do, however, point to research by social psychologist Michael Manfredi, who has found that Americans are shifting away from an ethos of domination and mastery over nature, instead viewing wildlife “as part of an extended family, and deserving of caring and compassion.”

The trick, says study co-author Jeremy Bruskotter, a conservation policy expert at Ohio State University, will be finding a way to tap into this burgeoning concern. At the state level, most conservation funds still come from sales of hunting, fishing, and trapping licenses.

“I think that public support for conservation efforts, as well as efforts to increase the well-being of animals is very high — perhaps as high as it has ever been,” Bruskotter says. “But this won't translate into more conservation until we have a funding model that isn't so tied to consumptive forms of outdoor recreation.”

<http://conservationmagazine.org/2016/08/c-hanging-attitudes-towards-wildlife/>

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Image: Biologist holds little brown bat, ©USFWS/Ann Froschauer

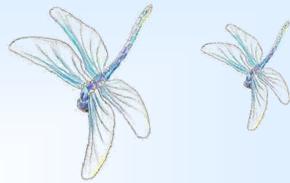
Rest is not idleness, and to lie sometimes on the grass under the trees on a summer's day, listening to the murmur of water, or watching the clouds float across the blue sky, is by no means a waste of time.

John Lubbock, "Recreation," The Use of Life, 1894





# Thank You!



♥ Jim Middleton & Allison Volk for helping monitor Bluebirds at Quail Ridge.

- ♥ Joe Veras and Donna Johnson for your Bluebird stewardship at Quail Ridge the past 3-4 years!
- ♥ Lee Walters for connecting Missourians for Monarchs to Lake St Louis last summer
- ♥ Bob Coffing for your tireless effort restoring our forest ecosystems

If all the beasts were gone, men would die from a great loneliness of spirit, for whatever happens to the beasts also happens to the man.

All things are connected. Whatever befalls the Earth befalls the sons of the Earth.

Chief Seattle of the Suquamish Tribe



## MEMBER'S PHOTO



Widow Skimmer, *Libellula luctuosa*  
Photographed at the Master Naturalist  
Confluence Chapter Quail Ridge Prairie  
Demo Project

Photo by Master Naturalist  
Jim Middleton

The widow skimmer is a large,  
attractive dragonfly with uniquely pat-

terned wings which are dark at the base, white in the middle and glass-like on the tips. The abdomen and the front of the thorax of the male are white and have a powder-like appearance, whereas the rest of the thorax, eyes and face are dark brown.

The female and juvenile widow skimmer have a dark body with a yellow stripe which extends from the upper side of the thorax to the base of the abdomen where it splits into two lines. The female has a light brown face, brown eyes and a similar wing pattern to the male, although the wings of the female have a dark smudge at the tip and the base of the wing is paler.

Body length:

4 - 5 cm, Wingspan:

7.5 - 8 cm



## Our Leadership



- President—Alberta McGilligan
- Vice President—Tom Nagle
- Secretary—Martha Hessler
- Treasurer—Peg Meyer
- 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 and Peg Meyer

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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/>

