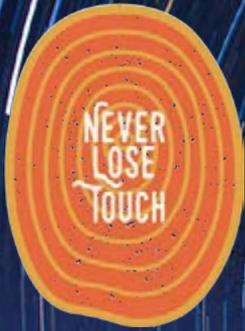


MISSOURI CONSERVATIONIST

VOLUME 83, ISSUE 12, DECEMBER 2022
SERVING NATURE & YOU





DAN ZARENGA

Capture the Memories

Winter is a perfect time to get outdoors with family and friends. Heading outside can be healthy and fun. A hike or scavenger hunt will entertain the senses. Help birds by making and hanging bird-friendly garland. Go eagle watching near open waters. If there's snow, look for animal tracks. Take in some night-sky viewing, looking for meteor showers and constellations.

It's time to capture memories, and **Never Lose Touch**.



For ways to reconnect with nature, visit mdc.mo.gov/neverlosetouch.

Contents

DECEMBER 2022
VOLUME 83, ISSUE 12



10

Wasp

Christian Gott, via Flickr

FEATURES

10 Through Your Lens

These photographs from *Missouri Conservationist* readers are worth well over 1,000 words.

DEPARTMENTS

- 2 Inbox
- 3 Up Front with Sara Parker Pauley
- 4 Nature Lab
- 5 In Brief
- 28 Get Outside
- 30 Places To Go
- 32 Wild Guide
- 33 Outdoor Calendar



28

MISSOURI
CONSERVATIONIST



ON THE COVER

Bald eagle

 JIAN XU

Missouri Conservationist reader photo, submitted via Flickr.

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Download this issue to your phone or tablet at mdc.mo.gov/mocon.



Inbox



Letters to the Editor

Submissions reflect readers' opinions and may be edited for length and clarity. Email Magazine@mdc.mo.gov or write to us:

MISSOURI
CONSERVATIONIST
PO BOX 180
JEFFERSON CITY, MO 65102

HUNTING DOGS
I love the cover of the November issue of the *Missouri Conservationist* showing a beautiful hunting dog doing what it was bred for. David Stonner used a great angle for the photo.

Leslie Manis
Glendale



MDC GOES TO THE DOGS

I've always loved your magazine, but now even the dog is a fan. Our family loved seeing the photos from *Flush, Retrieve, Tree, Repeat* [November, Page 16].

Jennifer and Maggie the Muttt via email

I have been reading the *Missouri Conservationist* for many years now (I'm 88) and always enjoy the varied articles and pictures you publish.

The November issue and the stories about hunters and their hunting partners brought back memories of me and Elmer. Elmer was a mix between a coonhound mother and a German shepherd father. I hunted with Elmer from age 12 until I got married at 21 when my hunting days were less frequent. I love and miss those days in the woods with Elmer and this story rekindled those memories.

Thanks again for a wonderful magazine.

Burns Ed Smith Columbia

Your November cover photo brought back many memories for me. Back in my younger duck hunting days, I, too, had a yellow-eyed black lab. His name was Hustler. We were buddies and had many a glorious duck hunt together. Thanks for the memories.

Ron Hackett via email

PRAISE FOR PAWPAWS

The article on *Pawpaws: Missouri's State Fruit* [October, Page 22] was well-written and fascinating — especially because there is so little known about this valuable tree. I especially enjoyed the historical references and the potential therapeutic benefits of this fruit. Thanks for providing such a consistently enlightening magazine. The glossy photos are often extraordinary and one of the reasons that I always share each issue with friends.

Stephen Cuppett Glen Carbon, IL

CAVE RESTORATION

I was so intrigued by the *We Are Conservation* article about Jonathan Beard and his cave restoration efforts [November, Page 8]. It would be fantastic if there were a follow-up piece about those efforts, specifically about his rejoining of broken stalagmites and stalactites.

Amanda Hatridge Belleview

I was just reading the November issue about Jonathan Beard. Thank you so much for this little article. Please do more information on this subject. My wife and I moved to Missouri in 2019, and this article really got our travel juices flowing again.

Randy Spence via email

Connect With Us!



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Have a Question for a Commissioner?

Send a note using our online contact form at mdc.mo.gov/commissioners.

MISSOURI CONSERVATION COMMISSIONERS



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Barry Orscheln

The Missouri Department of Conservation protects and manages the fish, forest, and wildlife of the state. We facilitate and provide opportunity for all citizens to use, enjoy, and learn about these resources.



Want to see **your** photos in the **Missouri Conservationist**?

Share your photos on Flickr at [flickr.com/groups/mdcreaderphotos-2023](https://www.flickr.com/groups/mdcreaderphotos-2023) or email Readerphoto@mdc.mo.gov.



Each month, we select three reader photos to highlight and share on this page. This month, you'll find a larger selection of the best reader submitted photos from 2022 starting on Page 10. We can't wait to see what our readers capture next year!



Want another chance to see **your** photos next year?

→ We plan to feature more great reader photos in 2023. Use the submission methods above to send us your best year-round pictures of native Missouri wildlife, flora, natural scenery, and friends and family engaged in outdoor activities. Please include where the photo was taken and what it depicts.

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Up Front

with Sara Parker Pauley

✦ I traveled with colleagues to Peck Ranch Conservation Area this fall in hopes of hearing a mighty Missouri elk bugle — and gratefully several bulls accommodated just as the sun set over the Current River valley. This was only to be outdone the next morning as we watched the sunrise atop nearby Stegall Mountain, one of Missouri's highest elevations. As light slowly unveiled the morning, the vibrancy of fall color began spreading across the hills as if an imaginary paint brush was doing all the work. We snapped pictures throughout, hoping the images would somehow capture the morning's splendor. The photos (like my own reader photo below) will forever remind me of that glorious sunrise and the beauty of the Ozark landscape.

For the first time ever, the *Missouri Conservationist's* feature spread this month is a selection of photographs taken by readers of our magazine, people just like you (See Pages 11–27). The photos are spectacular, reminding me of the power of images. Studies suggest that we remember vastly more of what we see, than hear or read. Add to that the power of nature — studies conclude the benefits of nature, including the power to heal, connect, restore, and inspire, are gained merely by looking at images of nature.

The thing about such visual treasures is that it takes a moment in time to capture them, yet they can be enjoyed by you or keepsakes for others forever. So, let's get to it dear readers — and snap away!



SARA PARKER PAULEY, DIRECTOR
SARA.PAULEY@MDC.MO.GOV

Nature LAB

by Dianne Van Dien

Each month, we highlight research MDC uses to improve fish, forest, and wildlife management.

NATURAL RESOURCE ECONOMICS

Missouri Outdoor Recreational Access Program (MRAP)

✳ **Through the Missouri Outdoor Recreational Access Program (MRAP), MDC provides financial incentives to private landowners who open their land to the public for hunting, fishing, or wildlife viewing. As only 7 percent of land in Missouri is publicly owned, MRAP’s purpose is to create more public outdoor opportunities.**

“We have MRAP sites from near West Plains all the way up to St. Joe. So, they cover a good mix of habitats, from farm areas and prairie to forested areas in the Ozarks,” says MRAP Crew Leader Carmella Rackers.

To enroll in MRAP, landowners must allow access to 40 or more acres and at least 20 percent must be quality habitat. Along with annual payments of \$23–\$25 per acre, MDC offers technical assistance and cost share money for improving habitat.

“The program provides financial flexibility to landowners,” explains Natural Resource Economist Tom



Each site in the MRAP program has a parking area with an information kiosk where visitors are asked to fill out survey cards. Information gained from these cards helps MDC managers gauge usage and visitor satisfaction. MDC staff install the kiosk and are available to help post signs along property boundaries.

MRAP contributes to outdoor opportunities and helps local economies

Treiman. “Instead of plowing everything for crops, they can keep some habitat that typically would not provide any kind of income whatsoever. Keeping that habitat obviously helps all sorts of wildlife and fish.”

Usage data is collected through survey cards that visitors fill out at a kiosk on the property. A study in 2016 found that visitors spent about \$120,000 that year on travel and equipment directly related to MRAP outings. Since then, the number of sites and visitors has increased. Based on the 2016 study, Treiman estimates that from 2017–2021 an average of \$557,000 was added each year to Missouri’s economy from MRAP-related purchases, such as gas and equipment or eating at restaurants.

“MRAP also provides non-monetary value,” says Treiman. “People get to go outdoors, they get to recreate, they maybe get a trophy. So, it’s money plus all these intangible benefits.”

MRAP at a Glance

Through MRAP, private landowners open their land to the public for outdoor recreation. Begun in 2014, MRAP currently offers 50 sites to the public, totaling 14,920 acres. An average of 4,891 people visited the sites each year from 2017–2021.

Property owners choose which type of activities will be allowed on their land.



DAVID STONNER

In Brief

News and updates from MDC



GET CERTIFIED

MDC OFFERS UPDATED TRAINING FOR PRESCRIBED BURNING

➔ MDC invites landowners, land managers, and contractors to harness the power of prescribed fire to both achieve their land-management goals and benefit native plants and wildlife through the updated training — Prescribed Burning for Missouri Land Managers.

Prescribed burning mimics the historical occurrence of fire that shaped our plant communities, but it is conducted under a prescription of specified environmental conditions, such as temperature, humidity, fuel moisture, wind speed, and direction.

Landowners, land managers, and contractors can become certified prescribed burn managers through a self-paced three-hour online prescribed burn course followed by an all-day field exercise to demonstrate skills learned. There is a \$25 fee for the online course, but the cost may be covered through a coupon or agency code from an MDC private land conservationist.

Learn more from MDC about prescribed fire, prescribed burn certification classes, field exercises, and more at short.mdc.mo.gov/Zrf.



DISCOVER NATURE WITH EAGLE DAYS

From December through February, Missouri's winter eagle watching is spectacular. Because of Missouri's big rivers, many lakes, and abundant wetlands, the Show-Me state is one of the leading lower 48 states for bald eagle viewing. Each fall, thousands of these great birds migrate south from their nesting range in Canada and the Great Lakes states to hunt in Missouri. Eagles take up residence wherever they find open water and plentiful food. More than 2,000 bald eagles are typically reported in Missouri during winter.

Discover nature with MDC through Eagle Days events around the state. Some events will include live eagle programs, exhibits, activities, videos, and guides with spotting scopes. Some events require registration. If you can't make an MDC Eagle Days event, there are other local events and hot spots for winter eagle viewing.

You can also enjoy watching bald eagles on your own. Watch for eagles perched in large trees along the water's edge. Early in the morning you can see them flying and fishing. Be sure to dress for winter weather and don't forget cameras and binoculars.



Get more information at mdc.mo.gov/events/eagle-days.

Ask MDC

Got a Question for Ask MDC?

Send it to AskMDC@mdc.mo.gov or call 573-522-4115, ext. 3848.

Q: Do great blue herons migrate?

→ Yes. By the end of December, most of North America's great blue herons have migrated south to the Gulf Coast, the Florida Panhandle, and the lower Mississippi River. However, even in the depths of winter, some of these partial migrants stay in Missouri, particularly in areas where ponds and reservoirs remain unfrozen.

These herons have been observed migrating alone, in groups of three to 12, and in flocks of up to 100 birds; however, scientists still have more to learn about this species' migration patterns.

Once they begin to return in May, they gather in large nesting colonies near water and food. Each pair of great blue herons typically lays three to six eggs, which are incubated for nearly a month. The chicks hatch one at a time, with the first to hatch growing more quickly than the others. It's a good idea to maintain a distance from breeding colonies, since chicks can suffer fatal accidents in their haste to escape.

More information about Missouri's great blue herons is available online at short.mdc.mo.gov/4p9.



Great blue heron

largest organisms on the planet. And yet, unlike animals, they lack the ability to move out of harm's way or heal damaged vascular tissue. And so, instead of healing wounds, trees compartmentalize the decay by forming a series of four "walls" around the injured, infected wood.

When sapwood is injured, the tree initiates processes that isolate the wound from normal tissues. Cells near the site excrete substances that are water-resistant and microorganism-inhibiting. Cells that would normally conduct sap, resins, or oils become plugged above and below the damaged section. The cambium — a thin layer that gives rise to new cells —

Q: What caused this pattern in a soft maple?

→ This phenomenon is called the compartmentalization of decay in trees, sometimes called "CODIT" by foresters.

Over 400 million years, trees have evolved into the tallest, oldest, and



begins to form a new, protective wall that is both anatomical and chemical. Of the four walls, it's the strongest and helps separate

the wounded portion from the tree's new growth.

It's hard to say exactly what might have wounded this maple; knowing more about the tree's history would help. However, physical injury or fire are both plausible explanations.

More information about this topic is available online at short.mdc.mo.gov/4pj.

Q: In an old lead mine at Lake of the Ozarks, I found this bat, which appeared to be "crystallized." While other bats were living in the mine, this one was the only one with this appearance. What is occurring?

→ Tiny water droplets caused by condensation contributed to the crystalline appearance of this tri-colored bat (*Perimyotis subflavus*). When hanging in a cave or mine with high humidity and little air movement, a bat's body can become so cool that water condenses on the surface of its fur and skin.

Tri-colored bats hibernate up to eight months per year, relying on fat stored during the fall to survive. Mating occurs in fall, intermittently



Tri-colored bat

throughout winter, and again in spring. Relatively small maternity colonies start forming in mid-April.

To avoid disturbance to endangered and imperiled bat species, only enter caves with landowner permission, with experienced individuals, and while following decontamination and safety protocols.

More information can be found at whitenosesyndrome.org.



Aaron Burnett
COOPER COUNTY
CONSERVATION AGENT
offers this month's

AGENT ADVICE

Don't let the cold temperatures keep you from enjoying the wonders of Missouri's natural resources. Get out and discover one of our managed wetlands located throughout the state. Enjoy a walk, taking in the variety of birds and other wildlife that call our wetlands home. Or take the opportunity to harvest a duck. If you're hunting, be sure you are properly licensed, including your Federal Duck Stamp and Small Game and Migratory Bird permits. Stay within your daily bag limits. If you're hunting in a group, keep harvests separate or identifiable. Always use steel shot, as lead is prohibited on wetlands. For more information, visit the *Migratory Bird and Waterfowl Hunting Digest 2022–2023* at short.mdc.mo.gov/4SZ.

What IS it?

Can you guess this month's natural wonder?

The answer is on Page 9.



GET HOLIDAY GIFTS FROM MDC

Have nature lovers on your holiday gift list? MDC's online Nature Shop makes holiday shopping a breeze for anyone interested in nature-themed gifts. Offerings include the ever-popular *Natural Events Calendar*, a variety of books, and more for all ages.

Purchase items through the MDC online Nature Shop at mdcnatureshop.com, by calling 877-521-8632, or at one of MDC's nature centers located across the state. Nature centers are located in Kirkwood, Cape Girardeau, Springfield, Kansas City, Blue Springs, and Jefferson City.

Order early in anticipation of slower shipping deliveries. Applicable tax, shipping, and handling costs will apply.

Also, remember hunters and anglers on your list. Hunting and fishing permits make great gifts. Buy permits from vendors around the state, online at mdc.mo.gov/buypermits, or through the MDC free mobile apps, MO Hunting and MO Fishing, available for download through Google Play for Android devices or the App Store for Apple devices.



PAPASSINOS

Sardinian raisin-and-nut shortbread cookies

This cookie, enjoyed throughout the Italian island of Sardinia, traditionally uses English walnuts and almonds. However, the recipe adapts well to Missouri nuts, giving it a Show-Me flare! Here, we've substituted Missouri-grown pecans and hickory nuts for the English walnuts. These gems are sure to add holiday cheer to any cookie tray.

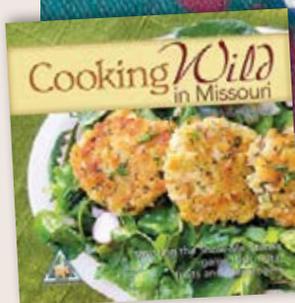
Makes about 3 dozen cookies

COOKIES

- ½ cup unsalted butter
- ¾ cup sugar
- 2 teaspoons grated orange or tangerine peel
- 2 eggs
- 2 tablespoons fresh orange or tangerine juice
- 1½ cups flour
- ¼ teaspoon salt
- ⅔ cup golden raisins
- ⅔ cup toasted almonds, coarsely chopped
- ⅔ cup pecans and/or hickory nuts, coarsely chopped

CREAM butter, sugar, and citrus peel in food processor or electric mixer. Beat in eggs one at a time; then beat in juice. Add flour and salt, mix well. Stir in raisins and nuts. Wrap dough in plastic (it will be moist) and refrigerate at least four hours.

PREHEAT oven to 350 F. Roll out dough on floured surface to about ⅜-inch thick. With a floured knife, cut into diamonds (cut 1½-inch-wide strips first, and then crisscross strips in diagonal cuts spaced 1½ inches apart). Arrange on ungreased baking sheets, spacing 1 inch apart. Bake until golden, about 20 minutes. Transfer to racks.



This recipe is from *Cooking Wild in Missouri* by Bernadette Dryden, available for \$16 at most MDC nature centers. Or order online at mdcnatureshop.com (shipping and handling will apply).

GLAZE

- ⅓ cup powdered sugar, sifted
- 1 tablespoon fresh orange or tangerine juice

MIX powdered sugar with juice. Brush glaze over warm cookies. Cool and store cookies in airtight containers.



Left to Right:
Cpt. Caleb Sevy (instructor), Ricky Dawson, Austin Musche, Drew Davis, Jacob Leonard, Katie Stoner, Ryan Catron, Taylor Stutzman, Cole Eidson, Avery Crisp, Sam Schick, Taressa Wise, Paul Wright, Katie Potter, Nicholas Freeman, Makayla Leppert, John Lowe, and Maj. Brian Ham (instructor)

CONGRATULATIONS TO 17 NEW CONSERVATION AGENTS

MDC welcomes 17 new conservation agents, who graduated from the 2022 Conservation Agent Training Academy in October.

Prior to graduation, the new agents spent six months housed at the Highway Patrol Academy in Jefferson City. They received more than 1,200 hours of intense instruction both in and out of the classroom throughout the state. Agents received training in criminal investigations, defensive tactics, firearms qualifications, and technical instruction in fish, forest, and wildlife management. Training also included courses in legal studies, communications and conducting education programs, and first aid/first responder and CPR certification.

The 17 new agents who joined the 195 existing MDC agents in serving and protecting Missouri’s fish, forest, and wildlife resources include: Ryan Catron, Avery Crisp, Kenneth

(Drew) Davis, Ricky Dawson, Cole Eidson, Nicholas (Nick) Freeman, Landon Leonard, Makayla Leppert, John Lowe, Austin (A.J.) Musche, Jacob Myers, Katlin (Katie) Potter, Samuel (Sam) Schick, Katie Stoner, Taylor Stutzman, Taressa Wise, and Paul Wright.

The new agents have been assigned their counties. They will be involved in field training operations and special assignments while under the supervision of veteran field agents for a six-week period during which they will acquire vital field experience.

WHAT IS IT? EASTERN GRAY SQUIRREL TAIL

The eastern gray squirrel has a distinctive bushy gray tail fringed in white. It is slender and smaller than its close relative, the fox squirrel. Typically reaching 21 inches from nose to tail, the eastern gray squirrel’s body is gray, and the belly is white. Sometimes black-furred squirrels occur in the same litter with gray ones, and these may be entirely glossy black or show gradations between black and gray.



Through Your Lens

These photographs from *Missouri Conservationist* readers are worth well over 1,000 words

A picture is worth a thousand words. No doubt, you have heard that old adage a time or two in your lifetime. Reportedly attributed to Frederick R. Barnard (*Printer's Ink*, December 1921), he used it while commenting that graphics can tell a story as effectively as a large amount of descriptive text. And a saying was borne.

The staff of the *Missouri Conservationist* subscribe to this philosophy. Photography is a popular part of our monthly magazine, and we use it generously. We rely on our two award-winning photographers — David Stonner and Noppadol Paothong — and their photos of wildlife, flowers, scenic spots in Missouri, and much more to enhance the written word that graces our pages each month. Oftentimes, we turn the pages over to them completely, letting them tell an entire story through the lens of photography.

We decided to do that with this issue, but with a twist. We are turning the pages over to you, the reader, for the first time.

We receive so many good reader photo submissions throughout the year, we wanted to highlight some of the better ones beyond the three small photos we run every month (Page 3). In fact, we had well over 6,000 submissions! Many of those photos were excellent, making it very hard to choose. There were so many striking, beautiful, even breathtaking photos, the ones that made the cut were the ones that had something extra. In many cases, that something extra was just a stellar, unusual, or unique moment. In some cases, it was a matter of capturing particularly striking light or a compelling angle. Humor was a factor in some choices.

Enjoy the first ever reader photo essay. We believe these photos speak at least a thousand words and maybe more. What are they saying to you?





Coyote vs trumpeter swan

Dan Staples, via email

Cottontail rabbit

Roxane McWilliams,
via Flickr



**White-tailed deer
does and fawns**

Mary Nierman, via email





Red fox
Ivan Edson, via
Flickr



River otter
Kathy Duncan,
via Flickr



Bald eagle pair
Katherine D White,
via MDC website submission



Ring-billed gull
Thomas Swartz, via Flickr



Scissor-tailed flycatcher
Angelique McVey, via Flickr



Eastern wild turkey
Karen McGillis, via email

Dark-eyed junco and eastern bluebird
Bebe Wanders, via Flickr

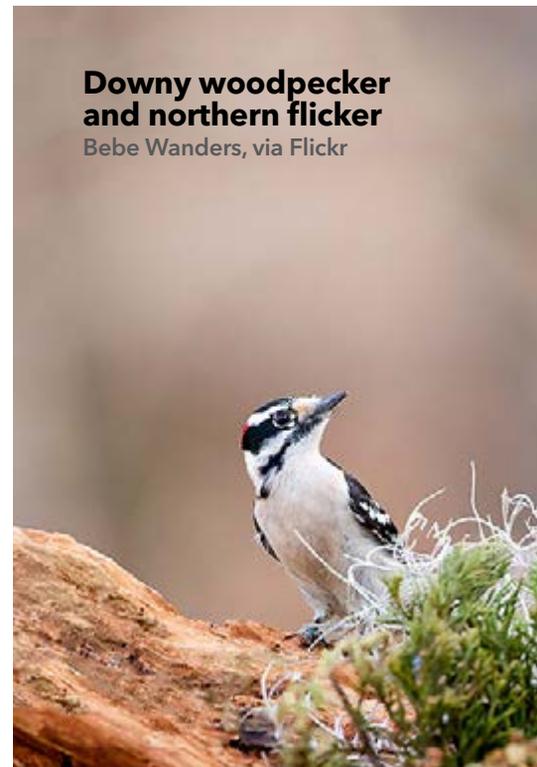


Snow geese
Michael Woods,
via Flickr

**Hooded
merganser**
Thomas Swartz,
via Flickr



American golden-plovers
Angelique McVey, via Flickr



**Downy woodpecker
and northern flicker**
Bebe Wanders, via Flickr



Short-eared owl
Kathy Duncan, via Flickr

Robber fly preying on bumblebee

Doug Thomas, via Flickr



Leafhopper nymph

Bryan Hunt, via Flickr



Jumping spider
Christian Gott, via Flickr





**Southern painted turtle and
diamond-backed watersnake**
Mark Schuver, via Flickr

Red-eared slider on ice

William Allen,
via Flickr



Gray treefrog on sunflower

Crystal Shoultz,
via Flickr





Sunrise on the Big Piney River
Brett Parker, via email



Current River
Paul Rains, via Flickr



Indian pipe
Ellen Hufford,
via MDC website
submission

**Polypore
mushroom**
William Allen,
via Flickr



Split gill mushroom
William Allen, via Flickr



**Amidon
Conservation
Area**

Doug1021,
via Flickr



**Cluster of
fairy inkcap
mushrooms**

Gavin D, via Flickr



Council Bluff Lake
jdtstlg, via Flickr

**Sunset over
Lake Tanyecomo**
Darla Smith, via email



Get Outside

in DECEMBER



Bear tracks

→ Ways to connect with nature

VIRTUAL

Creature Feature: Snowy Owl



Snowy owl

Wednesday • Dec. 28 • 2-2:30 p.m

Online only

Registration required by Dec. 28

Register at short.mdc.mo.gov/4ct or call 888-283-0364

All ages

Every four years or so, these winter visitors make their way down to Missouri and it is always a treat to see one. Learn all about the behaviors and habits of these beautiful owls. Study our taxidermy mount for an up-close look at the amazing features these owls have that help them to hunt in frigid temperatures.



Eastern red cedar

Natural Holiday Decorating

If you want to mix in some natural greenery to your holiday decorating, eastern red cedar is a great choice. It is abundant, has a beautiful natural juniper scent, and boughs of female trees are decorated with blue, berrylike fruits, providing a splash of color. To learn more about eastern red cedar, visit short.mdc.mo.gov/ZFJ.



Oyster mushrooms

Winter Mushroom Hunt

If you've got a taste for mushrooms, you're in luck — you don't have to wait for spring! Oyster mushrooms may appear year-round, including in wintertime. These choice edibles grow in clusters on stumps, logs, and trunks of deciduous trees. They fruit especially after a good rain and if weather is mild. A single "oyster log" can refruit several times a season. For more information on oyster mushrooms, visit short.mdc.mo.gov/4cC.

Natural Events to See This Month

Here's what's going on in the natural world.



Trumpeter swans visit marshes, lakes, and rivers.



Beavers swim under ice.



Eastern gartersnakes appear on mild winter days.

Animal Tracks Scavenger Hunt

Don't let the cold weather lead to cabin fever. The morning after a snowfall, bundle up the kids, get outside, and go for a scavenger hunt. Look for mammal tracks and see who can find the most. To help you on your search, visit short.mdc.mo.gov/Ztw.

SOUTHEAST REGION

Wildlife: Feeding Frenzy

Thursday • Dec. 22 • 2-2:30 p.m.

Cape Girardeau Conservation Nature Center
2289 County Park Drive, Cape Girardeau, MO 63701
No registration required. For more information, visit short.mdc.mo.gov/4cf or call 573-290-5218

All ages

Discover the importance of Missouri reptiles and amphibians and see what it takes to keep our education animals happy and healthy. Bring your family and watch as we introduce and feed several different reptiles and amphibians.

Fluttering Reminders of Spring

Although most butterflies and moths overwinter as eggs, caterpillars, or pupae, some species overwinter as adults and may fly around on warm sunny days, even during midwinter. Just one glimpse of these fluttering beauties can give you warm thoughts of the coming spring. Some butterflies to look for include mourning cloak, eastern comma, gray comma, question mark, and goatweed leafwing. For more information on Missouri butterflies, visit short.mdc.mo.gov/4cy.



Question mark butterfly



Rainbow trout are stocked in lakes and streams.



Brown recluse spiders hide indoors.

JOIN THE CHRISTMAS BIRD COUNT

Do you know your birds by sight and sound? Do you own lots of warm clothes? Join the Christmas Bird Count and add to a nationwide citizen science project! There are over 20 Christmas Bird Counts in Missouri alone. If you know your birds well, consider participating.

To learn more, visit tinyurl.com/ybropbvq



DRESS WARMLY! TAKE SNACKS!
BIRDS ARE AWESOME!

Places to Go

SOUTHWEST REGION

Shoal Creek Conservation Education Center

Nature nestled inside of more nature
by Larry Archer

✦ Like a set of nature-themed Russian nesting dolls, the Shoal Creek Conservation Education Center (CEC) in Joplin is a conservation destination nestled inside a conservation destination nestled inside yet another conservation destination.

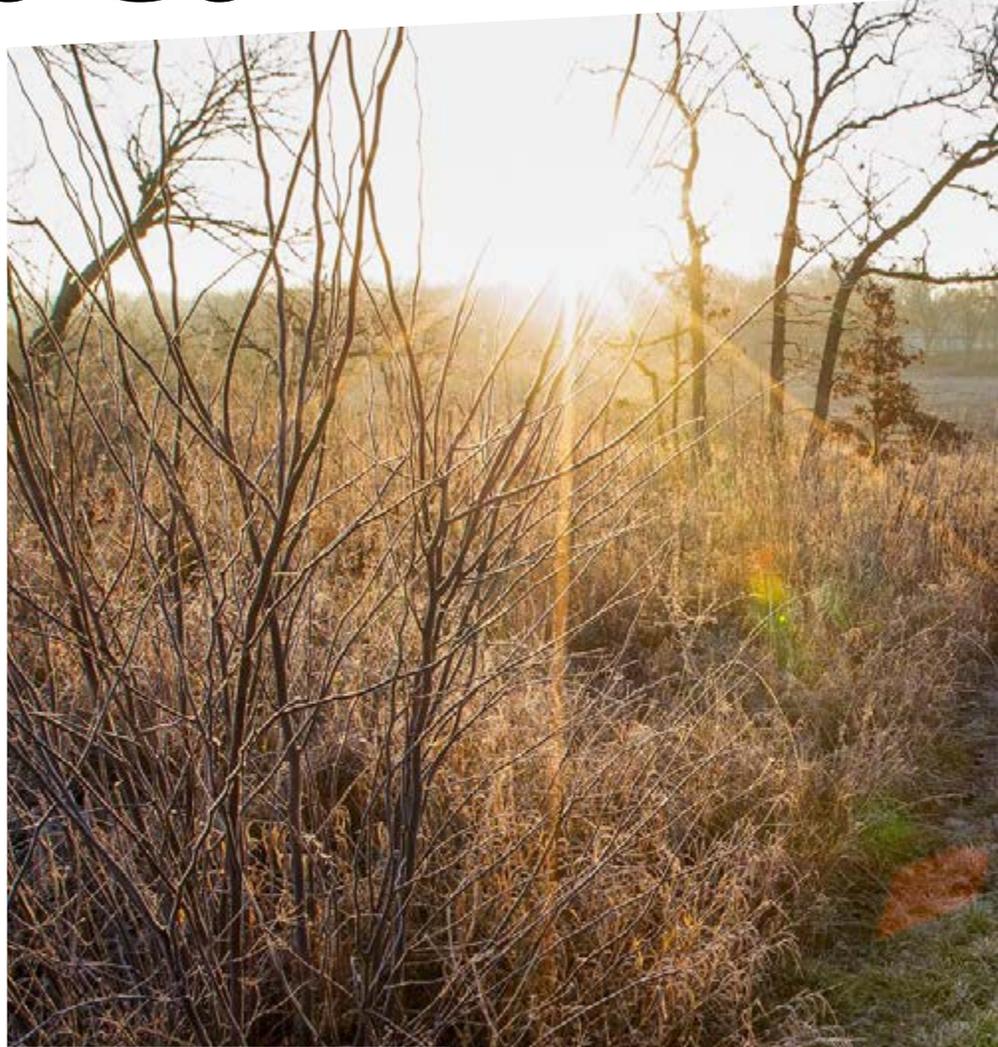
At the center of the set is Shoal Creek CEC, a 10,000-square-foot facility focused on the chert glades and watershed of the area's namesake waterway, said Shoal Creek CEC Manager Kevin Badgley.

"The exhibits are highlighted by a 1,300-gallon aquarium that replicates the Ozark stream or what you would see in Shoal Creek," Badgley said. "It actually has a wetland area, then it has a riffle — or like a half-pipe aquarium — that dumps into the large aquarium."

Surrounding the building are 58 acres that include trails featuring the area's unique chert glade habitats and the native-plant landscaping, he said.

"One of our big points is what conservation principles can you integrate into your urban area, into your backyard," he said. "So, our entire front lawn and area around it is nature-scape landscaping."

All of this exists within Joplin's Wildcat Park, whose extended trail system and pedestrian bridge give visitors additional access to Shoal Creek's riparian corridor.



"In all, with the partnership ground and the parks here, we have almost 200 acres that run along Shoal Creek, and then that area is surrounded by some of the world's last remaining chert glades."

—Shoal Creek Conservation Education Center Manager Kevin Badgley

DAVID STONNER



Shoal Creek Conservation Education Center's trail system includes a viewing platform that allows visitors to take in the area's chert glade habitat. The center's educational focus is influenced by the glades and its namesake creek (inset).



SHOAL CREEK CONSERVATION EDUCATION CENTER

consists of 58 acres in Newton County. Located in Joplin just south of I-44. From I-44 take exit 6 (Hearnes Blvd./S. Main St/Hwy. 86). Travel south through the traffic circle, to Riviera Drive and turn west into the area.

37.0295, -94.5173

short.mdc.mo.gov/ZkN

417-629-3434

WHAT TO DO WHEN YOU VISIT

-  **Birdwatching** Included in the Great Missouri Birding Trail (short.mdc.mo.gov/4cE). The eBird list of birds recorded at Shoal Creek CEC is available at short.mdc.mo.gov/4ca.
-  **Fishing** Public access to Shoal and Silver creeks.
-  **Hiking** Trails on the area connect to municipal park trails.

DISCOVER MO OUTDOORS

Users can quickly and easily find outdoor activities close to home, work, or even while traveling with our free mobile app, MO Outdoors. Available in Android or iPhone platforms at mdc.mo.gov/mooutdoors.



WHAT TO LOOK FOR WHEN YOU VISIT



North American river otter



Cooper's hawk

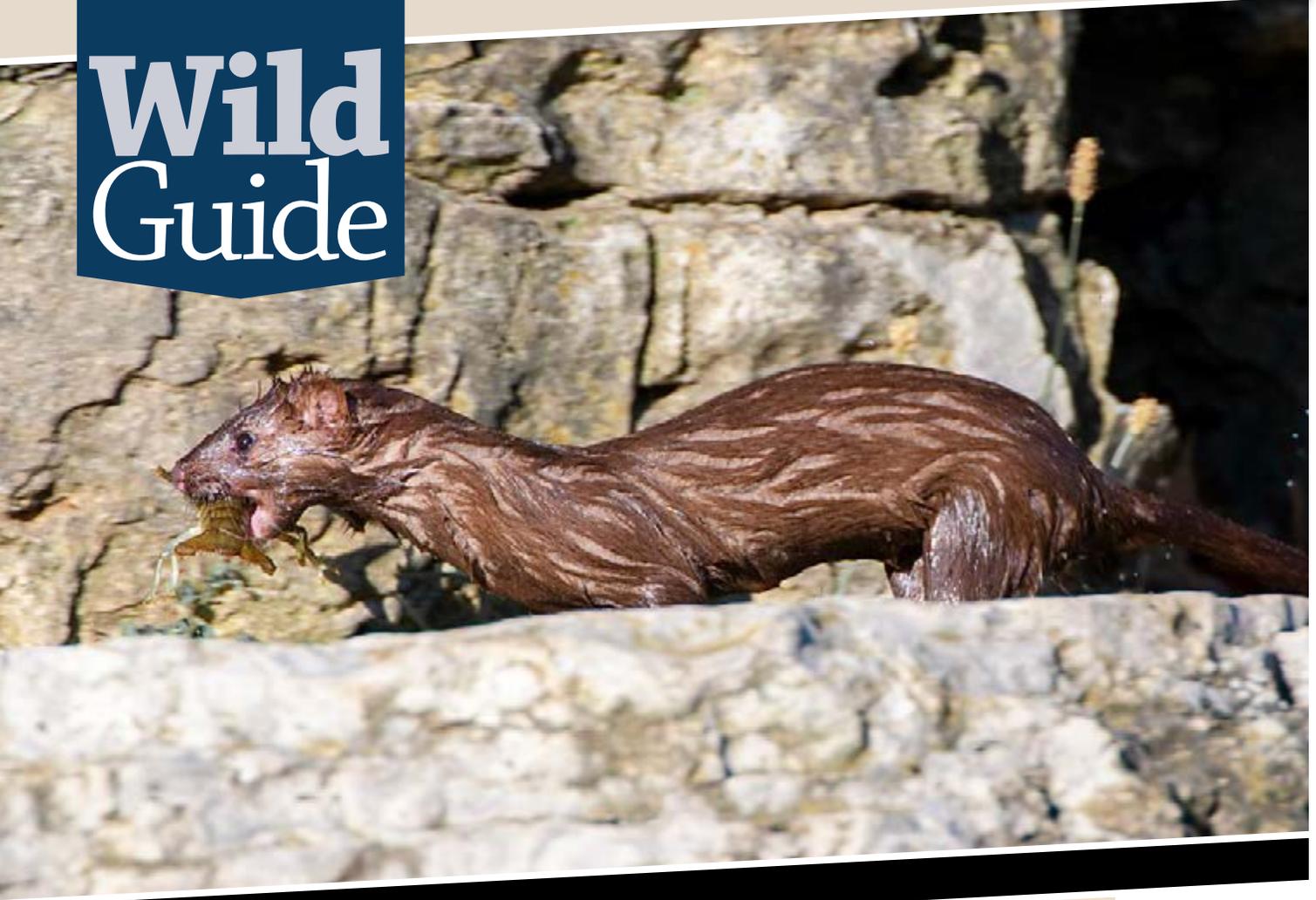


Yellow-rumped warbler



Bobcat

Wild Guide



American Mink

Neovison vison

Status Uncommon	Size Males: Length: 20-27 inches; weight: 1½-3¼ pounds. Females smaller (to 2 pounds).	Distribution Statewide
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Minks need permanent water and prefer woods nearby, so they dwell along river and stream banks, the shores of lakes and marshes, as well as farm ponds and lakes. Minks live under tree roots, in cavities in banks, under logs or stumps, in hollow trees, or in muskrat burrows and lodges. The nest chamber, which may have several entrances, is about a foot in diameter and contains grass, leaves, fur, and/or feathers. Maintaining logjams and brush piles along streams will attract minks.



Did You Know?
Mink fur is durable and of excellent texture. Small pelts are made into coats while larger ones are used for trimming.

LIFE CYCLE

Breeding begins in late February and lasts until early April. A single, annual litter of four to five is born in early May and weans about five weeks later. The family stays together until the end of August.

FOODS

Minks prey upon mice, rabbits, and other terrestrial animals as well as fish, crayfish, and other aquatic forms. Most food is carried to a den, where it is eaten, and the surplus is cached.

ECOSYSTEM CONNECTIONS

Minks prey on numerous small animals, keeping their populations in check, while becoming prey themselves to other predators, from great horned owls to coyotes.

Outdoor Calendar

MISSOURI DEPARTMENT OF CONSERVATION

Lifetime permits make great gifts!

For more information, call 573-522-0107 or email lifetime.permit@mdc.mo.gov



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MO Hunting makes it easy to buy permits, electronically notch them, and Telecheck your harvest. MO Fishing lets you buy permits, find great places to fish, and ID your catch. Get both in Android or iPhone platforms at short.mdc.mo.gov/Zi2.

FISHING

Black Bass

Impounded waters and non-Ozark streams:
Open all year

Most streams south of the Missouri River:

- ▶ Catch-and-Keep:
May 28, 2022–Feb. 28, 2023

Nongame Fish Giggling

Streams and Impounded Waters,
sunrise to midnight:

Sept. 15, 2022–Feb. 15, 2023

Paddlefish

On the Mississippi River:

Sept. 15–Dec. 15, 2022

Trout Parks

During the catch-and-release season,
state trout parks (except Maramec Spring
Park) are open only Friday–Monday.

Catch-and-Release:

Nov. 11, 2022–Feb. 13, 2023

TRAPPING

Badger, Gray Fox, Red Fox

Nov. 15, 2022–Jan. 31, 2023

Beaver, Nutria

Nov. 15, 2022–March 31, 2023

Other Furbearers

Nov. 15, 2022–Feb. 28, 2023

Rabbits

Nov. 15, 2022–Jan. 31, 2023

For complete information about seasons, limits, methods, and restrictions, consult the *Wildlife Code of Missouri* at short.mdc.mo.gov/Zi2. Current hunting, trapping, and fishing regulation booklets are available from local permit vendors or online at short.mdc.mo.gov/ZZf.

HUNTING

Badger, Gray Fox, Red Fox

Nov. 15, 2022–Jan. 31, 2023

Bobcat, Opossum, Raccoon, Striped Skunk

Nov. 15, 2022–Feb. 28, 2023

Coyote

Restrictions apply during April, spring turkey season, and firearms deer season.

Open all year

Crow

Nov. 1, 2022–March 3, 2023

Deer

Archery:

Nov. 23, 2022–Jan. 15, 2023

Firearms:

- ▶ Antlerless Portion (open areas only):
Dec. 3–11, 2022
- ▶ Alternative Methods Portion:
Dec. 24, 2022–Jan. 3, 2023

Elk

Only hunters selected through a random drawing may participate in this hunting season.

Firearms:

Dec. 10–18, 2022

Groundhog (Woodchuck)

May 9–Dec. 15, 2022

Pheasant

Nov. 1, 2022–Jan. 15, 2023

Quail

Nov. 1, 2022–Jan. 15, 2023

Rabbit

Oct. 1, 2022–Feb. 15, 2023

Squirrel

May 28, 2022–Feb. 15, 2023

Turkey

Archery:

Nov. 23, 2022–Jan. 15, 2023

Waterfowl

See the Migratory Bird and Waterfowl Hunting Digest or visit short.mdc.mo.gov/ZZx for more information.

Wilson's (Common) Snipe

Sept. 1–Dec. 16, 2022



ILLUSTRATION: MARK RATHHEL



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Soar through this brisk December day. December is a great time to spot raptors, like this short-eared owl. Get out and seize the day! What will you discover?

📷 by **Noppadol Paothong**

Free to Missouri households

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