

MISSOURI. Conservationist

VOLUME 77, ISSUE 9, SEPTEMBER 2016 • SERVING NATURE & YOU



[NOTE TO OUR READERS]

A Steady Course in a Time of Transition

I am honored and humbled to have been asked by the Conservation Commission to serve as the Department of Conservation's interim director.

As the Commission works through the process of hiring a new director, my goal is to make this time of transition as seamless and as productive as possible.

I have great confidence in Department staff's abilities to help me achieve this goal. As this month's feature lineup indicates, staff is hard at work every day and in every community. Kristie Hilgedick's feature, *To Protect and Conserve*, shows the commitment our conservation agents bring to serving local needs and protecting Missouri's fish, forests, and wildlife.

In addition to staff, we have an army of volunteers to help Missourians discover nature and conserve it, too. Larry Archer's story, *Fashionably Late*, shows how hunter education volunteers and Department outdoor skills specialists help citizens take up hunting at any age and stage of life.

A diverse array of partners also helps us work smarter, especially to eliminate threats to wildlife and habitat. *A Sounder Approach to Feral Hog Control* by Matt Hill and Mark McLain features innovations and techniques that improve multilateral efforts to eradicate destructive feral hogs from our state.

With the help of excellent staff, dedicated volunteers, and committed partners, I know that important conservation work will be a daily occurrence at the forks in the road all across our great state.

With these collective efforts, I have no doubt Missourians will continue to have great trust in their Department of Conservation.

—Tom Draper, interim director



Tom Draper was named interim director in July.



An adult hunter tries out turkey hunting for the first time with the help of a Conservation Department volunteer. Read more about how hunter education volunteers and outdoor skills specialists help Missourians discover nature in *Fashionably Late*, starting on Page 16.

FEATURES

10 **To Protect and Conserve**

by *Kristie Hilgedick*

Missouri's conservation agents are out in communities protecting and conserving our fish, forests, and wildlife ... and building relationships along the way

16 **Fashionably Late**

Larry Archer

Non-hunters take to the woods well into adulthood

22 **A Sounder Approach to Feral Hog Control**

by *Matt Hill and Mark McLain*

Better traps, dedicated partnerships, and selective shooting work against invasive hogs

Cover: A mourning dove searches for food early in the morning at Forest Park in St. Louis. Photograph by Noppadol Paothong.

📷 800mm lens + 1.4x teleconverter
f/10 • 1/250 sec • ISO 400

DEPARTMENTS

2 **Letters**

4 **Hunting & Fishing Calendar**

4 **Agent Notes**

5 **Ask MDC**

6 **News & Events**

30 **Plants & Animals**

32 **Places to Go**

33 **Discover Nature**

WHAT IS IT?

Our photographers have been busy exploring the intricacies of outdoor Missouri. See if you can guess this month's natural wonder. The answer is revealed on Page 7.



GASCONADE RIVER

In the July issue of the *Conservationist*, there was a good article by Jim Low [Up a Lazy River; Page 24]. Low calls the Gasconade a small-mouth stream beyond compare. Thirty-six years ago, I wrote to Tim Renken of the *St. Louis Post-Dispatch* about the lack of coverage of the Gasconade. I ended up on a fishing trip with him. We caught a lot of smallmouth. He wrote an article later saying the Gasconade may be the best fishing stream in Missouri [Aug. 8, 1980]. I will be 90 in two-and-a-half months. I no longer fish. My wife and I have a small farm and live along the Gasconade.

David James, Vienna

BLOOMING MILKWEED

We followed the directions for starting milkweeds in pots as outlined in the January issue of the *Missouri Conservationist* [Homegrown Milkweeds; Page 24]. We set out about 165 plants on May 6 and are happy to report that many

of them are blooming this year! Thanks for a practical article.

Jim and Rita Kayser, Marquand

BOBWHITE QUAIL

Male bobwhites are really on the move. I can hear them from inside my house, and I called a nice male up to my front porch. He landed in a tree not 10 yards away and put on a beautiful display for us. I heard six others from my porch. I am feeling hopeful!

Brian Sullivan, via Facebook

BACK IN THE STAND

Making good on last year's post [October 2015; Page 2] about taking up bowhunting again, I am picking up my first crossbow. I can't wait to be back in the stand! I had another MRI this spring that confirmed for sure I will never be able to pull back a regular bow again. Thank you MDC for your help last December!

Clint Woods, via Facebook

WILD BERGAMOT

Each year, I try to learn a new weed or native plant. Thanks to your July issue, I can identify wild bergamot [Plants & Animals; Page 30]. The smell is intoxicating as the writer suggested. I grabbed some blooms to throw in a bowl to keep in the house. It will make my list of the top three best smelling flowers, along with honey-suckle and lilacs. Thank you for the education.

Marcia Moreland, via Facebook

BOOKS AND MAGAZINES

About two weeks ago, I saw a hawk in the late afternoon and thought it was a red tail. This morning I was able to hear it. After looking it up in a Missouri bird watching book and looking on the internet for the sound, it was a northern harrier. This was a first for me. Thanks for all the books and magazines, and my hope of giving my grandkids life lessons.

Paul Decker, Pleasant Valley

SWIFT RESCUE

I would like to thank MDC in Weldon Spring for getting my granddaughter and I safely back to our car during what turned out to be one of the worst storms this year. We started out to hike the Clark Trail and were doing pretty good until the weather turned ugly and I started to panic. Thanks to the woman who answered the phone, Alex who helped out by not panicking, and Tim who picked us up on the Katy Trail to give us a ride back to our car. These are wonderful people and a credit to MDC. I can't thank them enough!

Joanne Duncan, St. Charles

CORRECTIONS

In *Caring for Missouri's Best Wild Places* [July; Page 16], we identified Daniel Boone Conservation Area in Warren County as being east of St. Louis. It is west of St. Louis.

In *Keepers of the Karst* [August; Page 10], we said Missouri is home to 6,300 caves, located in 78 of the state's 114 counties. Missouri is home to 7,000 caves.

We misspelled the name of Heidi Kwentus, a teacher featured in *Discover Nature Schools* [August; Page 25]. We apologize for the error.



Reader Photo

FRUIT OF THE PAWPAW

Eric Davis photographed the edible fruit of a pawpaw tree at Burnt Mill Cave Conservation Area near Camdenton. "Burnt Mill is a 15-minute drive from where my wife, Jeannie, and I live," said Davis. "We built our retirement house here in 2002 and have owned the property since 1997." Davis captured the photo while on a hike with the couple's son and daughter-in-law who were visiting from out of town. "We like visiting the Conservation Department's undeveloped areas and have visited several nearby properties," said Davis.



DEPARTMENT HEADQUARTERS

Phone: 573-751-4115
 Address: PO Box 180,
 Jefferson City 65102-0180

REGIONAL OFFICES

Southeast/Cape Girardeau: 573-290-5730
 Central/Columbia: 573-815-7900
 Kansas City: 816-622-0900
 Northeast/Kirksville: 660-785-2420
 Southwest/Springfield: 417-895-6880
 Northwest/St. Joseph: 816-271-3100
 St. Louis: 636-441-4554
 Ozark/West Plains: 417-256-7161

SUBSCRIPTIONS

Phone: 573-522-4115, ext. 3856 or 3249
 Address: Circulation, PO Box 180, Jefferson City 65102-0180
 Email: Subscriptions@mdc.mo.gov
Conservationist online services: Subscribe to the magazine, update your mailing address, or sign up to receive an email when the latest issue is available online at mdc.mo.gov/conmag
Cost of subscriptions: Free to Missouri households
 Out of State \$7 per year
 Out of Country \$10 per year
 Please allow 6-8 weeks for delivery of your first issue.

ASK MDC

Phone: 573-522-4115, ext. 3848
 Address: Ask MDC, PO Box 180,
 Jefferson City 65102-0180
 Email: AskMDC@mdc.mo.gov

EDITORIAL COMMENTS

Phone: 573-522-4115, ext. 3847
 Address: Magazine Editor, PO Box 180,
 Jefferson City 65102-0180
 Email: Magazine@mdc.mo.gov

READER PHOTO SUBMISSIONS

Flickr: flickr.com/groups/mdc-readerphotos-2016
 Email: Readerphoto@mdc.mo.gov
 Address: Missouri Conservationist, Reader Photo,
 PO Box 180, Jefferson City 65102-0180

MDC Online

Discover more about nature and the outdoors through these sites.

Blog: mdc.mo.gov/blogs
 Facebook: facebook.com/MDConline
 Flickr: flickr.com/photos/mdc_online
 Instagram: instagram.com/moconservation

Missouri Conservationist: mdc.mo.gov/conmag
 Missouri Department of Conservation: mdc.mo.gov
 Nature Shop: mdcnatureshop.com
 Twitter: twitter.com/MDC_Online and [Nature_Videos](https://twitter.com/Nature_Videos)
 YouTube: youtube.com/user/moconservation

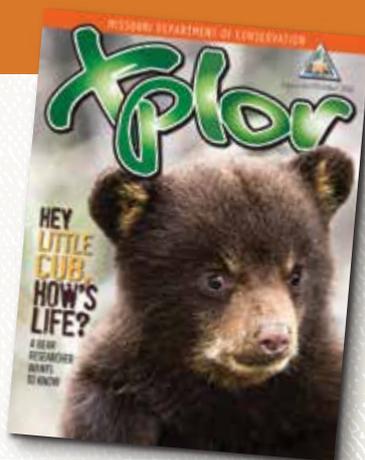
KIDS' MAGAZINE

Six times a year we'll bring you eye-popping art, photos, and stories about Missouri's coolest critters, niftiest natural places, and liveliest outdoor activities. Come outside with us and XPLOR!

A Parents' Choice Approved Award Winner

Missouri residents: FREE (one subscription per household)
 Out of state: \$5 per year; Out of country: \$8 per year

A guardian's name and address is required with the subscription.
 Please allow 6-8 weeks for delivery of your first issue.



SIGN UP NOW! mdc.mo.gov/xplor | 573-522-4115, ext. 3856 or 3249

MISSOURI Conservationist

GOVERNOR Jeremiah W. "Jay" Nixon

THE CONSERVATION COMMISSION

Don C. Bedell
 James T. Blair, IV
 Marilyn J. Bradford
 David W. Murphy

Interim Director Tom A. Draper
 Deputy Director Aaron Jeffries
 Deputy Director Jennifer Battson Warren
 General Counsel Jennifer Frazier
 Internal Auditor Lisa Wehmeyer

DIVISION CHIEFS

Administrative Services Cyndi Voss
 Design and Development Jacob Careaga
 Fisheries Brian Canaday
 Forestry Lisa G. Allen
 Human Resources Thomas Neubauer
 Outreach & Education Joanie H. Straub
 Private Land Services Bill White
 Protection Larry D. Yamnitz
 Resource Science Mike Hubbard
 Wildlife Jason Summers

CONSERVATIONIST STAFF

Editor Angie Daly Morfeld
 Art Director Cliff White
 Associate Editor Bonnie Chasteen
 Staff Writer Heather Feeler
 Staff Writer Kristie Hilgedick
 Staff Writer Joe Jerek
 Photographer Noppadol Paothong
 Photographer David Stonner
 Designer Les Fortenberry
 Designer Marci Porter
 Designer Stephanie Thurber
 Circulation Laura Scheuler

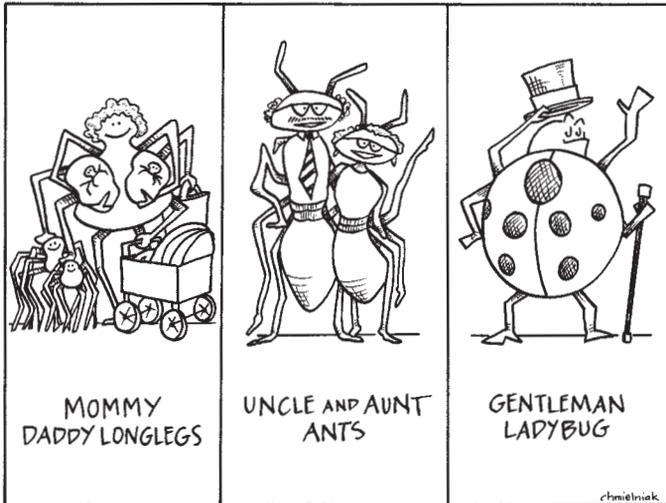
The Missouri Conservationist (ISSN 0026-6515) is the official monthly publication of the Missouri Department of Conservation, 2901 West Truman Boulevard, Jefferson City, MO (Mailing address: PO Box 180, Jefferson City, MO 65102.) Subscription free to adult Missouri residents; out of state \$7 per year; out of country \$10 per year. Notification of address change must include both old and new address (send mailing label with the subscriber number on it) with 60-day notice. Preferred periodical postage paid at Jefferson City, Missouri, and at additional entry offices. Postmaster: Send correspondence to Circulation, PO Box 180, Jefferson City, MO 65102-0180. Phone: 573-522-4115, ext. 3856 or 3249. Copyright © 2016 by the Conservation Commission of the State of Missouri.

Equal opportunity to participate in and benefit from programs of the Missouri Department of Conservation is available to all individuals without regard to their race, color, national origin, sex, age, or disability. Questions should be directed to the Department of Conservation, PO Box 180, Jefferson City, MO 65102, 573-751-4115 (voice) or 800-735-2966 (TTY), or to the U.S. Fish and Wildlife Service Division of Federal Assistance, 4401 N. Fairfax Drive, Mail Stop: MBSP-4020, Arlington, VA 22203.

Printed with soy ink



HUNTING & FISHING CALENDAR



Agent Notes

Squirrel Hunting in the Fall

SQUIRREL HUNTING HAS always been one of my favorite outdoor pastimes. As a young boy, I spent many days in the woods with my dad and my bolt action .22 rifle. Fall has always been my favorite time to squirrel hunt — temperatures are cooler, ticks are not as numerous, and squirrels tend to be more active.

Squirrel hunting is a great introductory hunting activity. Due to their small size and athletic ability, squirrels can help teach a novice hunter about the importance of good marksmanship and patience. I owe a lot of my shooting and stalking skills to the many hours I spent hunting squirrels as a youngster.

Here are some regulations to keep in mind while squirrel hunting: Hunters may pursue fox and gray squirrels from May 28 through Feb. 15, 2017, with rifles, shotguns, or other legal firearms methods, archery equipment, slingshots, or atlats. The daily limit for hunting and trapping is 10, with a possession limit of 20. To legally harvest squirrels, a hunter, age 16 to 64, is required to have a small game hunting permit, or must be a landowner or lessee, as defined in the *Wildlife Code of Missouri*, hunting on their qualifying property, or must be hunting on an archer's hunting permit. There are exceptions to these permit requirements listed in the *Wildlife Code*. For more information, visit short.mdc.mo.gov/Z4o.



Caleb Pryor is the conservation agent for Butler County. If you would like to contact the agent for your county, phone your regional conservation office listed on Page 3.

| FISHING | OPEN | CLOSE |
|--|---|----------------------|
| Black Bass | | |
| Impounded waters and most streams north of the Missouri River | All year | None |
| Most streams south of the Missouri River | 05/28/16 | 02/28/17 |
| Bullfrogs and Green Frogs | 06/30/16 at sunset | 10/31/16 |
| Nongame Fish Giggling | | |
| Impounded Waters | | |
| sunrise to sunset | 02/01/16 | 09/14/16 |
| sunrise to midnight | 09/15/16 | 01/31/17 |
| Streams | 09/15/16 | 01/31/17 |
| Paddlefish on the Mississippi River | 09/15/16 | 12/15/16 |
| Trout Parks | | |
| Catch-and-Keep | 03/01/16 | 10/31/16 |
| Catch-and-Release | 11/11/16 | 02/13/17 |
| HUNTING | OPEN | CLOSE |
| Coyote (restrictions apply during April, spring turkey season, and firearms deer season) | All year | None |
| Deer | | |
| Archery | 09/15/16 11/23/16 | 11/11/16 01/15/17 |
| Firearms | | |
| Early Youth Portion | 10/29/16 | 10/30/16 |
| November Portion | 11/12/16 | 11/22/16 |
| Late Youth Portion | 11/25/16 | 11/27/16 |
| Antlerless Portion (open areas only) | 12/02/16 | 12/04/16 |
| Alternative Methods Portion | 12/24/16 | 01/03/17 |
| Doves | 09/01/16 | 11/29/16 |
| Groundhog (woodchuck) | 05/09/16 | 12/15/16 |
| Pheasant | | |
| Youth | 10/29/16 | 10/30/16 |
| Regular | 11/01/16 | 01/15/17 |
| Quail | | |
| Youth | 10/29/16 | 10/30/16 |
| Regular | 11/01/16 | 01/15/17 |
| Rabbit | 10/01/16 | 02/15/17 |
| Sora and Virginia rails | 09/01/16 | 11/09/16 |
| Squirrel | 05/28/16 | 02/15/17 |
| Teal | 09/10/16 | 09/25/16 |
| Turkey | | |
| Archery | 09/15/16 11/23/16 | 11/11/16 01/15/17 |
| Firearms (Fall) | 10/01/16 | 10/31/16 |
| Waterfowl | see the <i>Waterfowl Hunting Digest</i> or short.mdc.mo.gov/ZZx | |
| Wilson's (common) snipe | 09/01/16 | 12/16/16 |
| Woodcock | 10/15/16 | 11/28/16 |

For complete information about seasons, limits, methods, and restrictions, consult the *Wildlife Code* and the current summaries of *Missouri Hunting and Trapping Regulations* and *Missouri Fishing Regulations*, *The Spring Turkey Hunting Regulations and Information*, *the Fall Deer and Turkey Hunting Regulations and Information*, *the Waterfowl Hunting Digest*, and *the Migratory Bird Hunting Digest*. For more information, visit short.mdc.mo.gov/ZZf or permit vendors.

Ask MDC

Address: PO Box 180, Jefferson City, MO 65102-0180
Phone: 573-522-4115, ext. 3848 **Email:** AskMDC@mdc.mo.gov



Eastern tiger swallowtail

The coloration of this butterfly is interesting. Do you have an explanation for what might have caused it? Could it be a hybrid?

This eastern tiger swallowtail (*Papilio glaucus*) isn't a hybrid of two species, but rather a gynandromorph, a term used to describe an organism with both male and female characteristics.

Swallowtails are part of a group of butterflies that typically have elongated points or "tails" on their hindwings. Tiger swallowtails get their name from their coloration — males and most females are yellow with black, tiger-like stripes on their forewings. Some females are nearly black, a less common dark form with only faintly visible stripes. You can tell male tiger swallowtails from yellow females by the amount of blue

scales on a specimen's hindwings. Males are more modestly marked than females.

With this particular butterfly, the coloring on the left side is typical of a dark form female. The right side, however, is a different story. Some features are clearly those of a female, including the streak of black on the forewing and the patches of blue on the hindwing. But closer inspection of the hindwing subtly suggests the presence of male genes, primarily in the areas where the blue scales appear to be missing. This individual literally has patches of male and female DNA, making it a mosaic gynandromorph. Not only is this bizarre, it is also very uncommon.

What causes gynandromorphy? In butterflies, the likely cause is double fertilization of a binucleate egg — a fancy way of saying an egg has two copies of

genetic material that are both fertilized during mating. A normal egg has one copy of genetic material that, when fertilized, develops into either a male or female butterfly. A binucleate egg, on the other hand, can result in an individual that has both male and female tissues.

We found this bird's nest and realized the eggs are different. Why would this happen?

A brown-headed cowbird likely visited this nest.

Relying on a breeding strategy called "brood parasitism," brown-headed cowbirds do not build their own nests. Instead, they deposit their eggs in the nests of more than 140 species, especially targeting flycatchers, warblers, finches, and vireos.

Adult cowbirds thrive not by rearing their own young, but by turning other species into unwitting foster parents. Although some of these other species have learned to reject cowbird eggs, other vulnerable groups end up raising the cowbirds' young — most of the time to the detriment of their own nestlings. Not only do cowbirds usually hatch earlier, they also tend to grow faster than their hosts' young.

Cowbird eggs can be identified by their white to grayish-white appearance and brown to gray speckles.





Gigging Season Opens Sept. 15

From Sept. 15 through Jan. 31, 2017, nongame fish may be taken by gig from sunrise to midnight in Missouri streams and impounded waters, like ponds, lakes, and reservoirs. Game fish may not be harvested by gigging. Any nongame fish that is taken by gig must be kept and is included in the daily limit.

Gigging consists of spearing fish using a pole with a large, fork-like metal "gig" on the end. It is primarily a nighttime activity and is most effective

in shallow, clear water. Gigging generally requires a boat, lighting, a gig, and a knowledgeable friend to drive the boat. The nongame fish harvested by gigging are known generally as "suckers." They are harvested in this manner because traditional pole-and-line or other mouth-hook methods of angling are not effective for catching them.

Learn more about gigging online at short.mdc.mo.gov/Z4f. Buy fishing permits online at short.mdc.mo.gov/Z4g.

Fall Deer and Turkey Hunting Starts This Month

Fall archery season for deer and turkey opens Sept. 15. For the latest on regulations, permits, limits, Telecheck instructions, conservation areas for deer and turkey hunting, and more, look for the Department's *2016 Fall Deer & Turkey Hunting Regulations and Information* booklet, available where hunting permits are sold and online at mdc.mo.gov. Buy deer and turkey permits online at short.mdc.mo.gov/Z4g.

Migratory Bird Hunting Starts in September

Dove, snipe, and rail hunting starts Sept. 1, while teal hunting opens Sept. 10, and woodcock hunting begins Oct. 15. Find out the latest regulations, seasons, species, permits, limits, and more from the Department's *Migratory Bird Hunting Digest 2016*, available where hunting permits are sold and online at mdc.mo.gov. Buy hunting permits online at short.mdc.mo.gov/Z4g.

Waterfowl Reservations Open Sept. 1

Waterfowl hunters have from Sept. 1 until Sept. 18 to apply online with the Missouri Department of Conservation to hunt on 12 wetland areas intensively managed for waterfowl. The reservation system allocates half of the available hunting opportunities on the areas for Missouri residents chosen through a random drawing and half for walk-in hunters, also known as the "poor line," who draw on-site each morning for the remaining spots. For more information and to apply, go to short.mdc.mo.gov/Z4W. Buy hunting permits online at short.mdc.mo.gov/Z4g.

Fire Departments Receive Grants

The Department awarded \$338,490 in matching grants to 156 rural fire departments around the state as part of the annual Volunteer Fire Assistance Matching Grant Program. The grants help small-town, mostly volunteer fire departments buy personal protective gear and firefighting equipment.

The grants also reimburse fire departments for equipment costs specifically related to wild-fire suppression. Grant funds are used on items such as communication equipment, chainsaws,

hoses, and hand tools. Fire departments must match every dollar they're granted.

Over the past three decades, the Department has distributed more than \$8 million to rural fire departments to help them increase the safety of their firefighters and provide them with better firefighting equipment. Funding for the program is provided by the Department and the U.S. Forest Service Volunteer Fire Assistance Program.

For more information on how the Department helps fire departments around the state, visit short.mdc.mo.gov/Z4A.

4-H Money for Monarchs

The Missouri Department of Conservation, Missouri 4-H, and Grow Native! retailers are partnering to provide mini grants to participants of the 4-H Monarch Habitat Project. This cooperative effort provides \$50 vouchers to 4-H groups willing to plant at least 100 square feet of monarch habitat.

The grants are being funded by the Missouri Conservation Heritage Foundation. The \$50 vouchers are good at Grow Native! plant retailers to cover up to half the cost of the plants for monarch habitat plantings in highly visible locations such as at city parks, county courthouses, and school grounds. Get details, voucher applications, and educational resources at 4h.missouri.edu/monarchs.

Wild Mammals of Missouri Revised

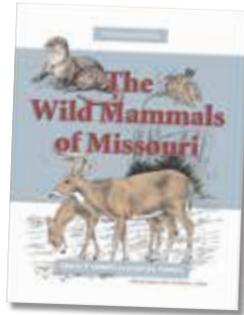
The Missouri Department of Conservation is offering for sale a newly revised, third-edition of the popular *The Wild Mammals of Missouri* reference book by Charles and Elizabeth Schwartz. The new edition covers 72 species of native mammals and includes updated species distribution information and range maps, trapping records, revised common and scientific names, county-level distribution information, new resident species such as elk and the Seminole bat, range expansion of Missouri black bears and nine-banded armadillos, and confirmed mountain lion sightings.

Since its initial publication in 1959, *The Wild Mammals of Missouri* has become the definitive guide to identification of native mammals and continues to be a source of abundant information. Charles Schwartz's meticulously rendered drawings capture the spirit of his original 68 subjects

while remaining technically accurate. The drawings range from full portraits to illustrations of skulls, tracks, and other identifying characteristics.

The new edition adds illustrations of elk and other species by Department Artist Mark Raithe.

The Wild Mammals of Missouri reference book is available for \$49.95 at Department nature centers and online at mdcnatureshop.com.



New Website for Birders

Discover nature through the new Missouri birding website — eBird Missouri — at ebird.org/content/mo. This state-specific part of the larger eBird website offers a searchable database of bird checklists, bird sightings, and a source of bird observations by county, state, nation, and 60 countries worldwide. eBird Missouri has a printable bird checklist for each state park and conservation area along with other public lands that birders have visited. Birders can contribute to the database of species by uploading their birding lists, observations, and photos.



WHAT IS IT?

Blue Jay | *Cyanocitta cristata*

A blue jay is a relatively large songbird, measuring 11 inches from the tip of its bill to the tip of its tail. A blue crest on its head can be raised or lowered, depending on its mood. Its back is nearly lavender, and its wings and tail are sky blue with black bars and white highlights. Its strong bill and feet are black, while its face is white and nearly surrounded by a black collar. The blue jay's voice varies from soft murmurs to loud screams to clear, chime-like whistles. Blue jays are common statewide in forests, woodlands, parks, and suburbs — wherever there are trees in our state. Although they are present year-round, they do migrate. Often found at bird feeders, a blue jay's diet consists mainly of seeds, acorns, and fruits. It will also feed on insects, eggs, young birds, and carrion. Blue jays usually form lifelong monogamous pairs and breed in spring to the middle of summer. Typically, four to five eggs are laid in a cup-shaped nest. Eggs hatch in about 16–18 days, and the young fledge about three weeks later. Family groups travel and forage together for the rest of the season, with the young dispersing in wintertime. —*photograph by Noppadol Paothong*

Meet a Migrator: American Avocet

The long and lean American avocet (*Recurvirostra americana*) can be spotted in Missouri's wetlands this month picking its way through shallow water, looking for aquatic insects. The avocet is a shorebird that is easy to identify by its long legs, striking black-and-white plumage, and thin, long, upturned bill. The male's bill slowly curves up as it reaches the tip. The female's bill is slightly curved for most of the bill and abruptly curves up at a noticeable angle in the last inch near the tip. They use this unusual bill to pick tasty aquatic invertebrates off the water's surface or capture them by sweeping their bill sideways through the water, catching them as they float up in a cloud of muddy water. Often a flock of 20–30 avocets can be seen flying in a tight "V" (a duck-like formation) over marshes or lakes. They will even land on the water and float just like ducks.

Though the range map shows avocets breeding and migrating mostly across the western half of the continent down into Central America, these birds have been recorded passing through the center of the country (including Missouri) more often in the past few years. Avocets have been recorded in Missouri every month of the year except February. The peak of their spring migration is mid-April to mid-May. The fall migration is more drawn out from mid-August through mid-November.

To see where avocets have been sighted in Missouri in the past 10 years, visit eBird.org at tinyurl.com/jqd3xbb. To find a Conservation Department wetland near you, visit short.mdc.mo.gov/Z4D.

Celebrating Migratory Birds

This year marks the centennial of the Migratory Bird Treaty signed in 1916 by the United States and Great Britain (for Canada). This and three other similar treaties with Mexico, Russia, and Japan form the cornerstones of migratory bird conservation across international borders.

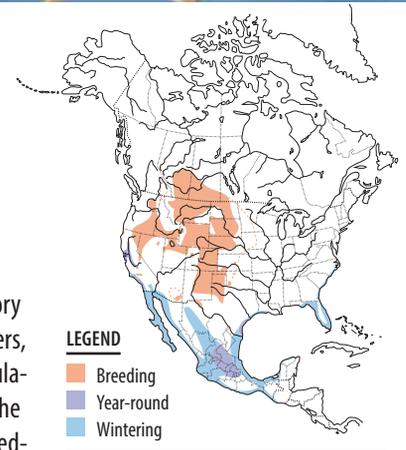
After 100 years of market hunting and



Juvenile avocet in winter plumage



Avocet in summer plumage



LEGEND

- Breeding
- Year-round
- Wintering

unregulated use of migratory birds for their meat, feathers, and eggs, many bird populations had plummeted by the early 20th century. The federal government took action

to stop further losses by signing the Migratory Bird Treaty. It prohibits hunting, killing, capturing, possessing, selling, transporting, and exporting birds, eggs, feathers, and nests. Hunting seasons for specific species were added later to help maintain healthy bird populations.

The treaty not only protects migratory birds, it also enhances our lives by ensuring that populations of diverse, beautiful birds remain for generations to come. For more on the Migratory Bird Treaty Centennial, visit fws.gov/birds/MBTreaty100.

Did you know? The Department manages various types of habitats around the state, such as wetlands, grasslands, and forests, for a wide variety of migratory birds as they fly along their annual migration routes. Find *Places to Go* online at short.mdc.mo.gov/Z4N for birdwatching, nature viewing, and other outdoor activities.



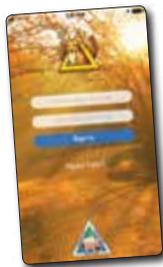
Mandatory CWD Sampling

To help the Department find cases of chronic wasting disease (CWD), hunters who harvest deer in one of the 29 CWD-Management-Zone counties in northern, central, and east-central Missouri during the opening weekend of the fall firearms deer season (Nov. 12 and 13) must present their deer (or just the head with at least 6 inches of the neck intact) for CWD testing on the day of harvest at one of 75 Department sampling locations. Hunters can get free test results after samples are processed.

CWD sampling locations are listed in the 2016 *Fall Deer & Turkey Hunting Regulations and Information* booklet available where hunting permits are sold and online at mdc.mo.gov/CWD.

Attention MO Hunting App Users

Missouri deer and turkey hunters who use the Department's free MO Hunting mobile app will need to perform an update to be able to Telecheck their harvests this fall. The update will provide the most current regulations and data information. MO Hunting users should check their mobile devices for messages that an update is required.



Both Apple and Android users will need to install the update. Apple will require users to have at least the iOS 9.0 version to use the updated MO Hunting app. Android will require users to have at least Android 4.1. For more information on MO Hunting, visit mdc.mo.gov/mohunting.

Telecheck Includes New Deer Measurements

The Department's Telecheck system for reporting deer harvests will ask deer hunters a few new questions this fall and winter when checking a deer.

For hunters who harvest does, Telecheck will ask if the distance from the edge of the eyeball to the edge of the nostril is greater than 4.5 inches. For hunters who harvest antlered bucks, Telecheck will ask if the circumference of an antler 1 inch above the base is greater than 2.5 inches. The measurement request will not apply to hunters who harvest button bucks.

ILLUSTRATIONS BY MARK RAITHEL

DID YOU KNOW?

Conservation makes Missouri a safe place to hunt.

Hunter Education Required for Most Hunters

» **You must be hunter-education certified** if you plan to hunt alone with a firearm, you were born on or after Jan. 1, 1967, or you are 16 years of age or older. You must take and pass a hunter education course or purchase an Apprentice Hunter Authorization before you can buy a permit. You must be at least 11 years old to take the hunter education class.

» **Choose from three options** for completing the hunter education certification. Take the knowledge portion of the course online, study at home with the manual, or take a classroom session. All three options also require completion of a 4-hour skills session.

» **Topics covered in the hunter education course** include hunter responsibility and ethics; how firearms work and firearm safety; wildlife identification, game care, survival and first aid skills; firearm handling skills and hunting techniques; awareness about wildlife conservation and management; and rules and information unique to Missouri.

» **Missouri's Apprentice Hunter Program** is available for experienced hunters who want to share the joy of hunting with a friend or relative, and it's for the curious who want to try hunting before making the commitment to become hunter-education certified. Learn more at mdc.mo.gov/apprentice.

» **Nine hundred and thirty-seven hunter education classes** were offered, and more than 20,000 students were certified last year.

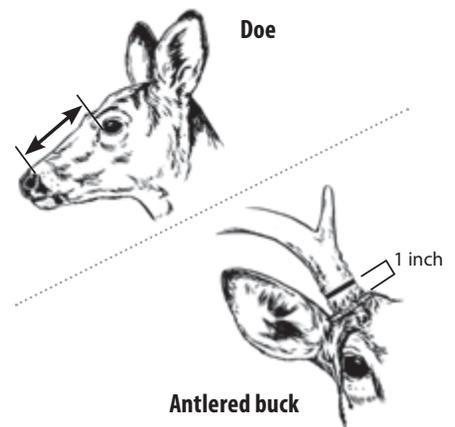
» **Hunter education and bowhunter education** are taught in more than 160 schools as part of the curriculum.

» **Classes are taught by Department staff** and more than 1,000 well-trained volunteers.

For more information about hunter education, including where to enroll, visit mdc.mo.gov/huntereducation.

These measurements will help Department staff determine age classes of harvested deer to better manage deer populations. Please bring a tape measure or other measuring device with you while afield.

To help assess the effects of crossbows on archery deer harvest, Telecheck will ask all archery hunters if they used a crossbow to harvest their deer. Telecheck will also ask whether a deer or turkey was harvested on public or private land.





DAN ZARLENGA

to PROTECT and CONSERVE

BY KRISTIE HILGEDICK

**Missouri's
conservation
agents are out
in communities
protecting and
conserving our
fish, forests,
and wildlife ...
and building
relationships
along the way**



Honesty. Integrity. Character.



These three words embody the values Missouri's conservation agents are expected to embrace.

Of all the employees who work for the Missouri Department of Conservation, the 187 men and women who solemnly swear the Conservation Agent Oath are likely to be the people that Missouri residents encounter most frequently.

"You are designated as official ambassadors of the Conservation Commission. You are the tip of the spear," Field Chief Randy Doman told a classroom of fresh recruits last spring. "We hold you to a higher standard, both on duty and off duty. We expect a great deal from you."

The job isn't always easy.

On some days, an agent may have to wade through a field of stinging nettles in the scorching July heat, Doman told the recruits. At night, he or she may be the only law enforcement officer available to arrest an intoxicated poacher cradling a high-powered rifle.

But the position casts more than its fair share of spell-binding magic.

"You're paid to work with waterfowl hunters and watch the sunrise over a marsh, as thousands of ducks descend from the sky. It's one of the best jobs out there. So enjoy it," Doman said.

From day one, conservation agent trainees are told their jobs are more than merely enforcing the law.

Encouraging voluntary compliance with the *Wildlife Code of Missouri* is the real goal, Doman said.

"How do we do that?" he asked. "Through enforcement education, outreach, and positive landowner contacts."

On any given day, Missouri's conservation agents

might arrest a poacher, assist with a controlled burn, offer advice for eradicating invasive plants, help a homeowner handle a nuisance animal, investigate a fish kill, lend a hand creating habitat at the edge of a field, participate in a bald eagle survey, instruct a hunter safety course, chat with a reporter, or teach a child how to fish.

"All agents are encouraged to forge strong relationships in their own communities by engaging in local civic life and treating others with respect," Field Chief Dean Harre told the recruits. "Success is based on teamwork, cooperation, and professionalism.

"We pride ourselves on community policing at its finest," Harre added. "If people respect what you do for a living, it will be more difficult for them to violate the *Code*. Even some of the fiercest poachers are going to respect you if you conduct yourself with integrity."

Writing tickets for hunting and angling violations is part of every agent's workweek, and receiving one is certain to be an unpleasant reality check for some violators. But when the interaction goes well, agents often receive thanks and a handshake for respectfully explaining the rationale underpinning every regulation.

"Allowing citizens to see officers in their communities engaged in positive activities, including law enforcement activities, where they are perceived as people and not just government, goes a long way toward our success," Harre said.

Protecting and conserving Missouri's fish, forests, and wildlife is the Protection Division's top priority.

"One poacher can do a lot of damage," Harre said. "Enforcement of the *Wildlife Code of Missouri* is necessary because people will not regulate themselves. Without enforcement, rules and regulations are nothing more than advice."

Leading a Team

As a Protection Division District Supervisor, Russ Shifflett oversees a team of seven conservation agents assigned



to the northwestern corner of the state.

Because his seven-county region covers 3,837 square miles, Shifflett typically launches into his day with a series of telephone calls to his team — dispensing advice, answering questions, and determining who needs assistance with the tasks at hand.

As their leader, his mantra is twofold: he frequently encourages them to “lead by example” and reminds them “it’s a personal choice to be positive or negative.”

“I’ve got a good crew,” he said. “But we’re in a career that is image based, and we’re held to a higher standard.”

Shifflett spends 80 percent of his time engaged in administrative tasks and training activities. The remaining 20 percent is spent in the field, with duties that include helping on opening day of deer season or assisting when illegal spotlighting is suspected.

Understanding the history behind why Missouri’s wildlife laws were originally enacted, and enforcing them judiciously, is important to him. He cautions his team about writing tickets that may be technically correct, but ill-considered. Experienced agents know even honorable hunters make mistakes on occasion, he said.

Shifflett said when a mistake happens — the wrong species of duck is shot, for example — it is better to call your agent and let him or her know.

“It says something about your character. When people call us, it gives us options. It doesn’t mean you won’t get a ticket. But it might be a warning, as opposed to a fine,” he said. “We know if you hunt long enough, an ‘Oops!’ is going to happen.”

Shifflett encourages his team members to respond professionally, but compassionately.

“Compassion gains respect,” he said. “More than ever before, my concern about inappropriate behavior is how



District Supervisor Russ Shifflett offers a few pointers on how to safely discharge a firearm at a Department-sponsored course on handgun shooting.

it reflects on the entire profession.”

Although many hunters and anglers view agents as strictly law enforcement officers, they actually take on many duties beyond strictly enforcing the *Code*, such as reaching out to the public with educational programs, talking to local media outlets, and providing assistance to landowners.

It’s been that way since 1938, when Director Irwin T. Bode broadened the concept of a game warden’s job by renaming the position conservation agent. No longer solely concerned with law enforcement, agents were expected to be forces for conservation in their assigned territories in any way possible. It was expected that each agent would serve as a wildlife-fisheries-forestry manager on the ground, and perform conservation education work as well.

Today, scientists typically manage the Department’s land. But the Protection Division’s emphasis on engaging



the public through outreach and education — often called “community policing” — is still very much the Department’s philosophy.

Shifflett said it’s critical for agents to communicate why conservation is important.

“It’s our job to make sure wildlife is around for future generations,” he said.

Wildlife is a public trust resource. According to the North American Model of Wildlife Conservation, natural resources are managed by government agencies to ensure current and future generations always have wildlife and wild places to enjoy.

Without laws protecting game on the books, human nature would lead to overharvesting and diminished wildlife resources. And without agents prepared to enforce those laws, the rules lack power.

“The reasons why we became agents is we have a passionate respect for wildlife. We want to protect it. And we want to maintain that balance in nature,” he said.

After 30 years in the profession, Shifflett harbors not a single regret.

“It’s been who I am, 24 hours a day, seven days a week,” he said. “I don’t mind people asking me regulation questions while I’m at the grocery store. It’s not an eight-hour-a-day gig. It’s a lifestyle. It’s the greatest job ever.”

Experience Guides Him

Where are the good fish? It’s a common question every conservation agent wishes he could answer.

“I always point at the water,” joked Agent Rob Farr.

On the opening day of paddlefish season, Farr and fellow Conservation Agent Chase Wright patrolled the

waters downstream of Truman Dam, checking anglers’ licenses and measuring each boat’s harvest to ensure no one was exceeding the state’s possession limits.

For Farr, working on opening day of paddlefish season has been an annual rite of spring. On March 15, hundreds of anglers gathered east of the U.S. 65 bridge in Benton County to snag these primeval creatures.

Enforcing the *Wildlife Code of Missouri* is Farr’s primary duty; however, he takes time to get to know the people he serves.

On opening day, Murl and Ray Stull, 93 and 86 years old, respectively, were steadily casting their lines. As he pulled alongside their vessel, Farr declared, “I’m pretty sure you don’t need permits, but I’ve got to say ‘Hi!’ to you.”

“We need to rest a little anyway,” said Murl Stull, reminiscing that the fish he caught two years ago “was longer than I am tall. It wore me out!”

All of Missouri’s agents, including Farr, are prepared to serve as first responders when necessary. In 1992, he rescued a waterfowl hunter whose body temperature dipped dangerously low when his boat capsized. He traveled to Louisiana in 2005 with other conservation agents to assist victims of Hurricane Katrina.

Farr brings a firm, but friendly, approach to his work.

“I always try to be as nice to people as they will let me be. Sometimes it’s fantastic and I make new friends. But I can’t always rely on it to be that way. Sometimes it’s not good at all,” Farr said.

A case in point came during a permit check on paddlefish opening day. Farr pulled up to a fishing boat with an individual who erupted into a profanity-laden tirade upon being checked. Farr went on alert but remained



Agent Rob Farr teaches students the finer points of shooting safely and accurately.

DAVID STONNER

professional throughout the contact. It was a vivid reminder of how quickly a routine contact can turn south.

Farr also relishes playing a role in special investigations — such as the 2013 case that caused more than 100 suspects to be cited or arrested for paddlefish poaching. He said such work takes patience.

“I like to catch the bad guys. I like it when a plan comes together,” Farr said.

Without enforcement, Farr fears Missouri would return to the bad old days of market hunting when fewer than 100 wild turkey remained in the state and deer numbers were estimated at not more than 500. Today, scientists estimate 1.5 million deer live in Missouri.

Farr believes people are better educated today about the *Code*, and more willing to call their neighbors out for breaking the law.

“They don’t put up with other people violating the *Code*,” he said. “It’s not tolerated.”

Representing a Diverse Workforce

Agent Lexis Riter, one of 16 women serving as an agent, believes policing begins when she shows a gaggle of third graders how to bait a hook or helps a group of Girl Scouts better understand which lizard species make their home at Victoria Glades Conservation Area.

“To me, that’s where community policing begins. You build these relationships,” she explained. “It trickles into law enforcement. Students I taught about nature will return to me 10 years later with information about a hunting violation.

“It takes trust to build those relationships.”

Riter knows it’s important to be a contributing and visible member of the Jefferson County community. Whether she greets a clerk with a friendly smile at a convenience store or takes the time to engage an angler in a long conversation, she realizes those positive contacts earn the Department goodwill.

Conservation agents work in cooperation with other law enforcement agencies, helping one another when necessary.

Few people realize the Missouri Department of Conservation’s Protection Division plays a critical role in reducing vandalism and keeping the state’s landscape and waterways clean of refuse.

“We make more littering cases than all the other law enforcement agencies combined,” Riter said.

Missouri’s agents work out of their homes and treat their vehicles like mobile offices. Calls come in from a variety of sources: directly from the public, from their supervisors, the Operation Game Thief hotline, and more.

Unlike most law enforcement officers who work in

Building positive relationships with the public helps foster an atmosphere of respect. Agent Lexis Riter helps a young angler with his catch.



pairs, conservation agents usually work alone. Often their duties require working at night, and they face more armed citizens than any other field of law enforcement. Nationwide statistics show their chances of assault with a deadly weapon are seven times that of a typical police officer, yet Missouri is blessed to have a good safety record.

Since 1937, only three Missouri agents have been wounded by gunfire in the line of duty.

Riter said she has not experienced a life-threatening situation since she was hired, but noted the job has a dangerous edge, which can be stressful.

“We have to find a way to cope with that and go and do our jobs the next day. Humor is a coping mechanism,” she said.

But she added the job affords her the opportunity to watch the sun rise and set almost daily from some of Jefferson County’s most beautiful vantage points.

“As someone who loves being outdoors, that’s a great part of the job,” she said.

Out of 800 applicants, Riter was one of nine people selected for the 2014 academy class.

“I worked really, really hard to get here,” she said. “I’m biased, but I feel I have the greatest job in the world. I’m very passionate about my work. I love helping protect Missouri’s natural resources.” ▲

Kristie Hilgedick serves on the Department of Conservation’s communications team. She enjoys traveling to new places and spending time outdoors.

FASHIONABLY LATE

BY LARRY ARCHER

Non-hunters take to the woods well into adulthood

SUSAN HASKINS HAD ALREADY been in the woods five hours before the doe entered the clearing 100 yards from her blind in the Shaw Nature Reserve, located southwest of St. Louis. She saw it first, before locating it again through the scope of her rifle. The adrenaline pumping through her body made her heart race and hands shake.

“I took aim, but I was really shaking,” Haskins said. “I took my first shot, and I was low.”

“Breathe,” came the voice from over her shoulder. It was the voice of Greg Caldwell, a volunteer with the Missouri Department of Conservation, and on this morning, her hunting mentor.





DAVID STONNER

With Caldwell's calm guidance, Haskins regrouped and fired again. Anticipation turned to excitement this time as the doe fell, and Haskins shared the experience of hunters throughout the ages — her first successful harvest.

What makes Haskins' experience different from the vast majority of those who came before her is only two years earlier, on the eve of her 50th birthday, the day-care provider from Fenton picked up a firearm for the first time.

Needing a respite from caring for the children of her day care and for her husband, Don, who had been diagnosed with cancer, Haskins found her release in the form of a firearms safety class held at the Missouri Department of Conservation's Jay Henges Shooting Range and Outdoor Education Center, located in southwest St. Louis County.

"I always wanted to shoot a gun but was too afraid, too scared," she said. "We never had guns in our home, and I was raised in a family where we never had guns, and I thought, you know what, I'm just going to go try it."

And thus began her

journey from outdoor enthusiast to accomplished hunter. Her firearms safety course led to a trapshooting course at the August A. Busch Memorial Conservation Area in St. Charles.

"The first year I just took classes, just trying to find out more because I was still really nervous," she said. "Hunting was definitely not on my radar at first."

But with time and experience, hunting found its way onto the radar.

"The more I met and talked to people and got excited about shooting the gun, I felt more confident that maybe I could hunt," she said.

Her first attempt, a Department of Conservation guided hunt for women in 2008, did not result in a successful harvest. Another hunter's last-minute cancellation put her back in the blind in 2009 — again with Caldwell as her guide. This second attempt was more successful.

GETTING A LATE START WITH HUNTING

For the majority of Missouri's hunters, hunting is a family tradition, passed from generation to generation. But some, like Haskins, are finding their way to the tree stand



or blind later in life, and without the benefit of family experience to guide them. What motivates people to take up hunting at this stage varies, said Kyle Lairmore, the Department's hunter education and shooting range coordinator, but several common themes have emerged.

"It could be a social thing," Lairmore said. "You may have grown up in the city, but your job or family takes you to an area where hunting is more prevalent."

Spending time with new neighbors, friends, or coworkers motivates some to give hunting a try. Regardless of the results, hours in the outdoors with others can help form bonds, he said.

"Success is not necessarily measured in a harvest," he said. "Success can be being in nature and enjoying it with family and friends."

While she did not begin hunting as a social outlet, Haskins found an instant camaraderie with fellow shooters, then with fellow hunters.



A novice turkey hunter receives pointers and help with a turkey call from a more experienced hunter.

“Everyone wants to hear your story,” she said. “Everybody wants to know what was your first hunt like. They’re so open to listen and share.

“I’ve had great friendships evolve from it, and continue to have those same friendships today.”

Some women want to share the hunting experience with their husband or boyfriend, who are established hunters. Still other first-timers are parents who were raised without the hunting tradition, but recognize the benefits that come with spending time in the outdoors hunting and want to start a tradition for their children.

A growing number of first-time adult hunters fall into the category of locavores — people whose diets consist only of, or primarily of, locally grown or produced food, Lairmore said. For some, this includes seeking out a source of local, healthy, and sustainable meat.

“Their feeling is I want to harvest my own food and know where it came from,” he said.



Where to Hunt

Susan Haskins harvested her first deer at the Shaw Nature Reserve, one of many managed hunts throughout the state. The Department organizes more than 100 managed hunts statewide on sites that range in size from the 670-acre Gallatin Conservation Area in northwest Missouri to the 6,987-acre August A. Busch Memorial Conservation Area in St. Charles County.

Hunting at a conservation area or other Department-managed site requires a bit of homework, said Kyle Lairmore, hunter education and shooting range coordinator for the Missouri Department of Conservation.

“Every one of them is a little different, too,” Lairmore said. “Some of them will be archery only, some of them will be muzzleloaders, some of them will be bucks only.

“It’s the hunter’s responsibility to educate themselves on where they’re going.”

The best first step in researching a Department-managed site is a visit to the Department’s website, mdc.mo.gov. From the website, a hunter can search conservation areas by region, species, or season, he said.

“Once you pick a conservation area, you have links to the brochure, which has more details for that specific area, plus maps,” he said. “You can print out the map and know where you’re going, know the parking lots, the terrain, and topography.”

Despite nearly 1 million acres open to hunting at Department sites, more than 93 percent of land in Missouri is privately owned, so far more opportunities exist for hunting on private property.

It is important to remember that a hunting permit does not allow someone to hunt on private property without permission. The Department recommends several steps that can help a hunter secure permission from a private landowner:

- Make an appointment to meet the property owner face-to-face. This approach is much more personal than a phone call and will give the landowner an opportunity to learn about you before giving permission to hunt his land.
- Prepare for the landowner meeting like a job interview. The landowner will make his decision based on your appearance, attitude, and actions, just like a perspective employer. Making a good first impression is important.
- Do not rush through the first meeting with the landowner. Allow time to have a casual conversation, including special rules or conditions of using the property.

“The main thing is be respectful and give them a good impression of what a true, ethical hunter is,” Lairmore said.

For more tips on hunting on private land, visit the Department’s website at short.mdc.mo.gov/ZZa.

Hunting Federally Managed Lands

In addition to Department of Conservation property, Missouri hunters have access to nearly 2 million acres of federally managed lands, including 1.4 million acres of the Mark Twain National Forest, which is overseen by the U.S. Forest Service. Information concerning hunting in the Mark Twain National Forest is available at fs.usda.gov/activity/mtnf/recreation/hunting.

Missouri is also home to nine national wildlife refuges, managed by the U.S. Fish and Wildlife Service, representing more than 60,000 acres. Hunting opportunities vary depending on the refuge. For more information, visit fws.gov/refuges/hunting.

FROM BACKYARD TO BACKWOODS

Regardless of age, the path from backyard to backwoods typically begins with hunter education — first the knowledge portion, followed by hands-on firearms safety.

“The knowledge portion covers most of the legal aspects, the ethical aspects, and basic firearm safety,” Lairmore said. It can be completed online, through self-study, or by attending a four-hour class.

The knowledge portion must be completed before a student can sign up for the skills session.

The skills session, which typically lasts a maximum of four hours, includes hands-on firearm safety, muzzle control, safe firearm carries, crossing of obstacles, and

tree stand safety. Department staff and volunteer hunter safety instructors, of which there are more than 1,000 across the state, teach these courses. For more information, including the dates and locations of skills courses, visit short.mdc.mo.gov/ZkY.

The time it takes to complete hunter safety may be a hinderance for someone who wants to try hunting, but is unsure if they want to commit to the sport. For those people, the Department offers an Apprentice Hunter Program. Those involved in the program are allowed to hunt alongside permitted adult hunters for two years before they are required to get a standard hunting permit.

“They get to learn, and they get to go with someone to see if they like it,” Lairmore said. “If they do, then they can go through the hunter education program and get their permit.”

The Department offers a number of other classes and events, frequently free of charge or for a nominal fee, designed to sharpen a new hunter’s skills.

Aside from the Henges Range where Haskins took her first classes, the Department has four other fully staffed ranges in the St. Louis, Kansas City, and Springfield areas. These sites regularly host a variety of shooting instruction opportunities. In addition to the staffed ranges, 70 of the Department’s conservation areas throughout the state include unstaffed shooting ranges. For more information, visit short.mdc.mo.gov/ZZb.

The Department offers an Apprentice Hunter Program for those who want to try hunting, but are not ready to commit. Through the program, an apprentice can accompany a permitted adult hunter for two years and learn about the sport.



DAVID STONNER



Deer and turkey are the two most popular game species, but new hunters may want to think smaller. Hunting small game, like rabbit, does not require long hours in a blind or tree stand, and could be more suitable for those who prefer to be up and about.

CHOOSING YOUR GAME

Many begin hunting with their game already in mind, but those who don't have a wide variety of game from which to choose.

Haskins' first hunt was for deer, which, according to Lairmore, is pretty common. Deer and turkey are the two most popular game species, he said, but new hunters may want to think smaller.

"Squirrels and rabbits are plentiful, easier to handle, and the seasons are longer," he said. "It's an underutilized resource right now."

Hunting small game also does not require long hours in a blind or tree stand, and could be more suitable for those who prefer to be up and about. The gear associated with small game hunting is also more financially accessible for those new to the sport.

"You can get into hunting at a reasonable cost," he said.

Keeping the startup costs down as she began shooting and hunting was important to her, Haskins said.

"That was a big key for me, and is still a big key when I talk to people," she said.

That included attending those first classes with a borrowed firearm.

"I borrowed it from a friend of ours who's a hunter, and he has boys who all hunt," she said. "So when I told him I was going to try it, he said, 'I have the gun for you to borrow.'"

"That sort of investment sometimes you can't jump into," she said. "I tell people, you don't have to spend a fortune getting into this. You can start off small and work your way up."

Since that morning in 2009, Haskins has continued hunting, expanding her methods to include bowhunting, her game to include small game and turkey, and her hunting partners to include her husband, Don.

"My husband and I both hunt because I've pulled him into it with me. We are still very active hunters," she said. "Any time there's a season, we try to get out." ▲

Larry Archer is an editor in the Department of Conservation's publication unit.

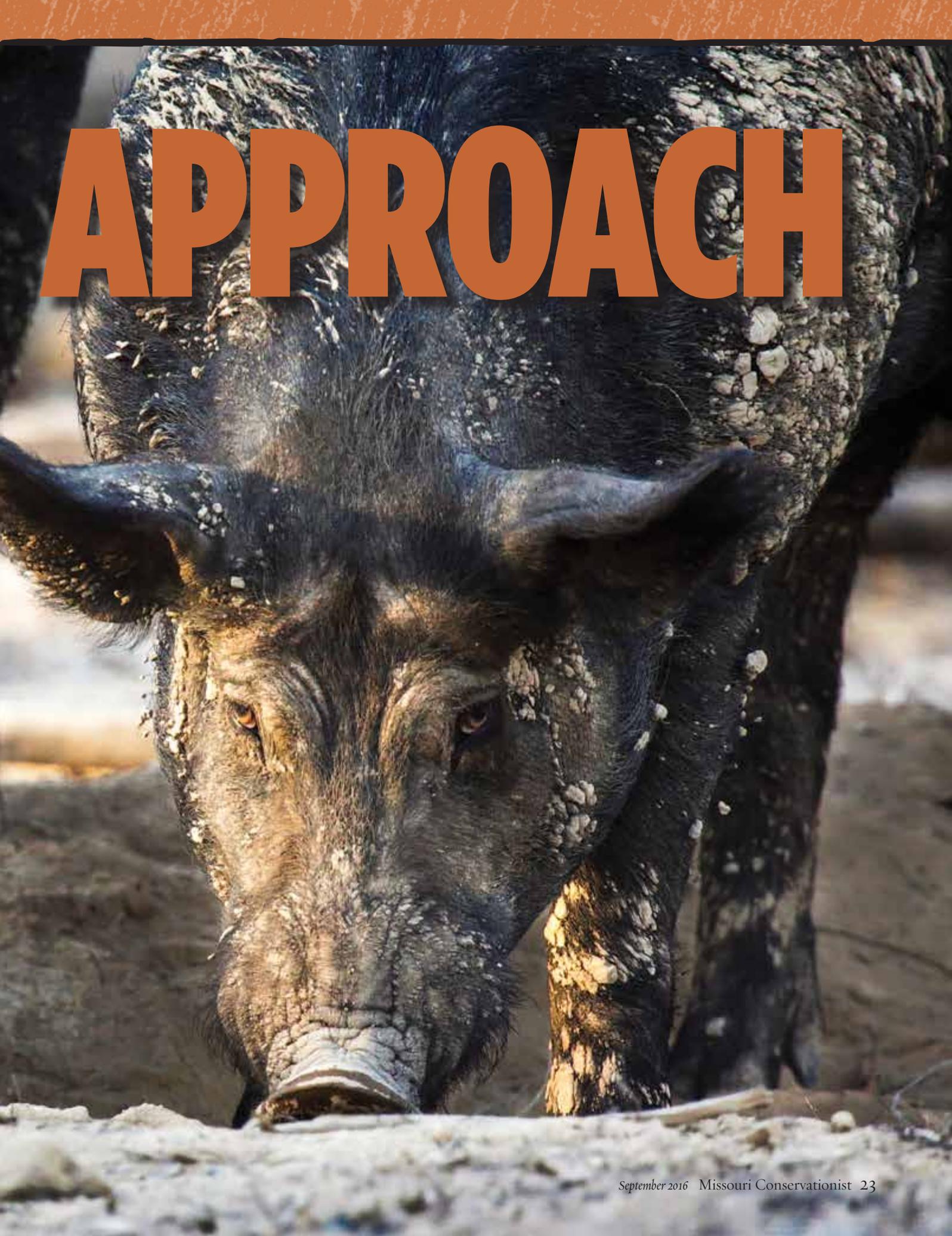


A **SOUNDER** TO **FERAL HOG** **CONTROL**

Better traps, dedicated partnerships, and selective shooting work against invasive hogs

BY MATT HILL AND MARK MCLAIN

MISSOURI HAS AN ABUNDANCE OF natural resources including our beautiful Ozark forests, clear springs and streams, glades, prairies, rich crop ground, and healthy wildlife populations. Unfortunately, some of the resources that make Missouri great are being destroyed by a terrible invasive species — feral hogs.



APPROACH



How a Few Released Hogs Became a Big Problem for Wildlife and Farms

Feral hogs became a problem in Missouri around the late 1990s when a few misguided sportsmen illegally released hogs for the purpose of establishing populations for hunting. With continued illegal releases and natural reproduction, feral hog populations boomed across the southern Ozarks, and now this destructive invasive species is in more than 30 Missouri counties. Feral hogs are bad in many ways. They destroy wildlife habitat and natural communities such as fens, glades, wetlands, and bottomland hardwood forests by rooting and wallowing the ground. They also eat ground-nesting birds and other wildlife, and they outcompete native wildlife for food. They can contaminate streams and rivers, and they can carry many diseases including pseudorabies and brucellosis that can be transmitted to livestock, pets, and people.

Recently Dr. Jason Weirich, director of Agronomy for MFA Incorporated, commented on the threat feral hogs pose to Missouri farmers. “Feral hogs are a great concern to agriculture due to their ability to destroy crops and pasture. In fact, a group of 10-12 hogs can destroy 10-20 acres overnight. That sort of damage not only destroys good farmland, but hurts the pocketbook as well.”

Don Nikodim, executive director of the Missouri Pork Association agreed. “Feral hogs pose a serious threat to Missouri’s pork industry because of their potential to spread disease. The reintroduction of swine brucellosis or pseudorabies from feral hogs would be disastrous. Feral hogs need to be eliminated from our state.”

After trying numerous methods to control them, managers found trapping to be the most effective way to eradicate feral hogs. In 2012, the Department organized its efforts and cooperated with partner agencies (the U.S. Department of Agriculture, Animal and Plant Health Inspection Services-Wildlife Services, government agencies, agricultural groups, nongovernmental organizations, and hundreds of private landowners) to develop and implement a feral hog eradication plan. The group of partners also mounted an aggressive education campaign to inform the public of the destruction feral hogs cause and how they threaten Missouri’s fish, forests, and wildlife. The coordinated effort among all the partners and landowners has made great strides in this fight.

Hog Trapping Successes

When the Missouri Department of Conservation and partners first started trapping hogs, they preferred the corral trap equipped with a rooter gate, a small 3-by-3-foot trap door that closes behind the hogs after they enter and hit the tripwire at the back of the corral. This effective trap captured thousands of hogs over the years. But feral hogs are sensitive to any disturbance, and they can become shy to the rooter gate's small opening. To build a better hog trap, the U.S. Department of Agriculture, Animal and Plant Health Inspection Services-Wildlife Services (USDA-WS) developed the Missouri Drop Gate. This trap's door has an opening that measures 6 feet wide and 3½ feet tall. The door drops down from a raised and locked position like a guillotine once the hogs hit the trip wire. Because the opening is much

wider than the original rooter gate, the drop gate captures more hogs from one group with fewer trap nights, making eradication efforts more efficient. Along with the new drop gates, the corrals are larger. The corral is made up of 16-foot-long welded wire panels fastened to posts that are driven into the ground to keep it in place. The larger corral allows more hogs to get into the trap at once, and with the extra room the hogs seem to go into the trap sooner. The drop gates on large corrals are working very well. In 2015, the Department and its feral hog partners removed 3,649 feral hogs from the state. In the first seven months of 2016, more than 3,000 hogs were removed.

Mark McLain, wildlife management biologist, shows the progression in hog trapping equipment — the rooter gate in the background and the newer, more effective 6-foot-wide drop gate. Opposite page: Kolt Johnston, Department hog trapper, surveys hog damage on a Wayne County farm and looks for the right spot to place a trap.



Building a Better Hog Trap

The Department is constantly learning new eradication techniques and continues to develop and implement new and better equipment. The latest innovation in hog traps is the drop or suspended trap. Drop traps are enclosures that are fully suspended by a minimal support structure on the ground so that the hogs do not notice the trap is above them. Because there are no trap doors or panels on the ground to restrict their movement, the hogs often will all go under the drop trap the first night it is set. The idea of the suspended trap came to Missouri from the researchers at the Samuel Roberts Noble Foundation (the Foundation), an independent, nonprofit institute headquartered in Ardmore, Oklahoma. They develop new trap designs to assist farmers with feral hog problems and conduct research to enhance agricultural productivity regionally, nationally, and internationally.

The drop net was the first trap design the Department used from the Foundation. It is a net 60 feet wide and 60 feet long that is suspended by five support poles and a series of ropes and pulleys. All of the ropes come back to a central release mechanism that is triggered by an electronic remote control. All of the drop net components can be hauled to the trap site in the back of a truck or on a small trailer pulled by an ATV and be set up, ready to trap in a short time. Once the net is dropped, the hogs quickly get tangled tightly in the netting and cannot escape. Trappers then rush in and dispatch the hogs.

The Foundation's most recent innovation is The BoarBuster™. This is a round trap made of rigid coral panels that are supported by three legs. It comes with a camera that operates much like a basic trail camera except it is connected to a cellular network, which allows the trapper to monitor the site and trigger the trap remotely from a computer or portable electronic device. When the camera detects motion, it automatically sends a text message or email to the trapper to alert them that something is at the bait site. The trapper can then log into the website to view the picture. If feral hogs are present, the trapper can turn on the live video feed. This real-time surveillance is critical to determine if all of the hogs in that sounder (family group) are under the trap so trappers can determine the best moment to drop the trap. Once the entire sounder is under the trap, the trapper clicks a button on the screen that drops the trap around the hogs. These drop-style traps have proven to be the most efficient and effective feral hog eradication tool used to date.



HOGS IN TRAP, MOBILE APP-DAVID STONNER



Twelve hogs removed from a soybean field with the BoarBuster™. The BoarBuster™ provides trappers with a live video feed to ensure the entire sounder will be caught at the touch of a button.

Approved Feral Livestock Regulations

In January 2016, the Department proposed new regulations that would prohibit taking feral livestock on any property owned, leased, or managed by the Department. This regulation was approved by the Conservation Commission and will become effective on Sept. 30, 2016. It will allow the Department to trap feral hogs on lands it owns, leases, and manages without disruption from hog hunting.



Report Feral Hog Sightings ASAP
573-522-4115, ext. 3296
mdc.mo.gov/feralhog

Tennessee: Lessons Learned

For many years, Tennessee had two small feral hog populations in 15 counties on the eastern side of the state. For 50 years they did not allow hog hunting, and those populations remained only in those 15 counties. In 1999, the state chose to open a hunting season on feral hogs. Now Tennessee has hog populations in nearly 80 counties across the state. Hunting made their hog problem worse and the goal of eradication much more difficult. Tennessee officials have since eliminated hog hunting and are now working to eradicate feral hogs from their state.



Selective Shooting Works Better Than Shooting on Sight

The Department still employs other specialized eradication methods, such as aerial gunning and targeted night shooting to eliminate hogs in rough, remote areas or to remove a single hog in an isolated spot. These methods are invaluable to eradication efforts. The helicopter can get to areas with no roads or to a wilderness area where motorized vehicles are restricted. Targeted night shooting helps eliminate a single roaming hog or the last few hogs from a sounder, allowing trappers to move on to another group of hogs in a different area and systematically eradicate them.

Feral hogs maintain a home range in which they travel, forage for food, and reproduce. This is one of their weaknesses and, if left undisturbed, they stay close to their home range. A typical feral hog sounder in Missouri has a home range of about 1,000 acres. When trapping, the Department tries to identify these home ranges and find the best spot in that range to catch the entire group at once. This is why, many times, traps are not placed at every location that has hogs. If hogs are using four different properties, but are spending most of their time on one particular property, that is where a trap is set. The best chance of catching the entire sounder is on the property where the hogs are spending the most time. This strategic approach allows staff to set up traps on many different sounders of hogs across the landscape. Such an approach ultimately removes more hogs, bringing the goal of eradication closer. In these situations, neighboring landowners should work together, baiting and running the trap.

A Unified Front Against a Common Enemy

Early in the fight against hogs, the Department realized it was fighting a war, not a battle, and that eradicating hogs from Missouri would take a cooperative effort. The

Department continues to enlist the cooperation of many additional landowners each year. The USDA-WS has been an instrumental partner from the beginning of these efforts in Missouri. They currently have five full-time hog trappers in Missouri that provide trapping assistance, knowledge, experience, innovative trap designs, and materials for trapping. The Department also coordinates aerial gunning of hogs with USDA-WS helicopters from Oklahoma and Tennessee. The Department recently partnered with a wide range of groups, including agricultural and conservation groups and the Missouri Conservation Heritage Foundation. All these partners are committed to eradicating hogs from Missouri and provide funds and public support for the common goal.

Call or Click, But Please Don't Shoot

Missouri has learned from other states and, by trying different methods, that trapping is the most effective way to eradicate feral hogs. Hunters shooting feral hogs complicate efforts to remove these pests by scattering sounders and disturbing trap sites. If you encounter a feral hog, please call the number or visit the website on the opposite page to report it as soon as possible. If you are experiencing feral hog damage on your property, find trapping assistance by contacting the phone number or visiting the website. With your help, we can eliminate this dangerous and destructive invasive species from Missouri. ▲

*Wildlife Management Biologist **Matt Hill** has been trapping feral hogs since 2005 as a part of his job in the Kansas City Region. Matt enjoys hunting, fishing, and spending time with his wife and two sons. Wildlife Management Biologist **Mark McLain** is the regional feral hog coordinator in the Southeast Region. Mark has been with the Department for 16 years and enjoys hunting, fishing, land management, and spending time with his wife and family.*

Swamp Milkweed

FOR YEARS, I chased butterflies all over the state. It never occurred to me that I didn't have to go any farther than my own garden. Last summer when I started converting my garden to native plants, including several species of milkweed, I began to see many insects and pollinators, such as bees, butterflies, and skippers. They seemed to be particularly attracted to the sweet scent of swamp milkweed flowers that I planted just a few months earlier.

Missouri is home to 18 different species of milkweed (*Asclepias*). Interest in milkweed has grown in recent years due to the rapid decline of monarch butterflies. The population of monarch butterflies has dropped dramatically over the past decade due in large part to the decline of its caterpillar host plants, milkweed, across its North American migratory route. Monarch caterpillars can only feed on milkweed, so monarch butterflies feed on the milkweed flowers and lay their eggs on the plants. The emerging caterpillars then feed on the leaves. The sap from milkweed contains toxic chemicals that repel insects and other herbivorous animals, making monarch caterpillars poisonous to predators.

Swamp milkweed (*Asclepias incarnata*) is also known as pink milkweed. This perennial plant is shade tolerant and can grow 2–5 feet tall. The flowers have large blossoms composed of small, rose-purple flowers. The deep-pink flowers are clustered at the top of a tall, branching stem, producing a sweet vanilla scent that attract many butterflies, especially monarch butterflies.

Swamp milkweed prefers wet to damp soil in full sun to partial shade and typically is found growing wild near the edges of ponds, lakes, streams, and along ditches. Once blooming occurs in mid- to late-summer, long, relatively thin seed pods are produced that grow upright. The pods split open in late summer to late fall, releasing seeds that are attached to silky hairs, which act as parachutes to carry the seeds on the currents of the wind.

One morning my daughter spotted a monarch butterfly feeding on milkweed flowers, and a few weeks later we were very excited to find several monarch caterpillars crawling on the milkweed leaves.

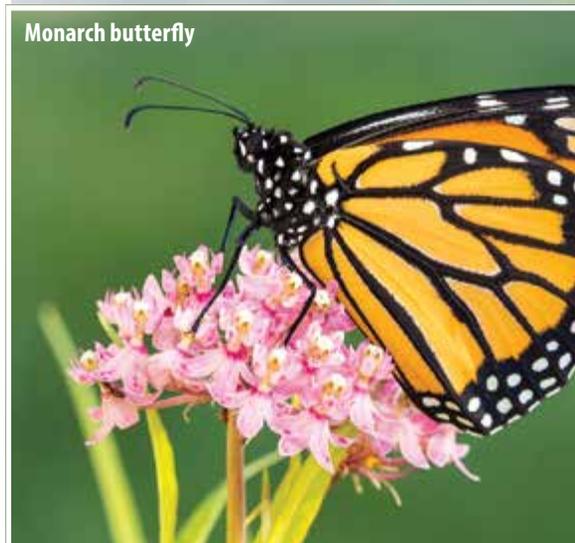
By late summer, we encountered as many as 60 monarch caterpillars in our garden, and this was just from a handful of milkweed seeds we had planted. We were able to raise and release over 50 monarch butterflies by early fall.

As my daughter and I watched the last monarch butterfly fly away one cool morning, she looked at me with enthusiasm and suggested that we should plant more milkweeds next year. So we did, along with many other native flowers that provide nectar sources for monarch butterflies. Now we find a variety of insects and butterflies in our garden that intrigue and excite my daughter. What a great way to introduce kids to nature!

—*Story and photograph by Noppadol Paothong*

 (main) 100mm macro lens • f/4.5 • 1/80 sec • ISO 800

 (inset) 100mm macro lens • f/8 • 1/125 sec • ISO 400



Monarch butterfly

We help people discover nature through our online Field Guide.

Visit mdc.mo.gov/field-guide to learn more about Missouri's plants and animals.



Little River Conservation Area

Tucked away in the heart of the Bootheel, this area boasts a variety of activities for the outdoor enthusiast.

FISHING JERRY P. Combs Lake is the main attraction at this conservation area. This 150-acre perched lake (above ground level) was built by the Department in the late 1990s and is an excellent fishery for largemouth bass, crappie, bluegill, redear sunfish, and channel catfish. The levee surrounding the lake is over 2 miles long and has six different jetties to provide ample locations for bank fishing. By mid- to late-September, crappie begin to congregate around the brush piles and habitat mounds in the lake and provide good early-morning and late-evening fishing as the nights cool off. At the main parking lot, there is a two-lane boat ramp, one covered fishing dock, one courtesy dock, another concrete jetty, and restrooms — all of which are accessible to those with disabilities.

Birders will enjoy the wetland pools surrounding the lake that were developed when dirt was borrowed for building the lake's levee. These pools are managed to promote native wetland vegetation, commonly referred to as moist-soil vegetation. Staff begins flooding the ponds in late summer to provide habitat for early migrating waterfowl, such as teal, and shorebirds, such as lesser yellow legs, least sandpipers, and dowitcher. Birds like least tern, black tern, osprey, American white pelican, and others have been observed on Combs Lake. Birders may also want to check out the old fields and grasslands on the area to spot bobolink, dickcissel, indigo bunting, and many other species. Because of its location in the Lower Mississippi Delta, Little River CA is a popular stopover for an assortment of migrating birds.

Hunters who want to test their wingshooting skills can enjoy some fast-paced teal hunting in



📷 70–200mm lens • f/4.5 • 1/1600 sec • ISO 800 | by David Stonner

one of the flooded wetland pools or dove hunting in a managed dove field. Teal hunting is permitted in season on Tuesdays, Thursdays, Saturdays, and Sundays. Deer and other small game hunting are permitted every day during their respective seasons. Other hunting opportunities include rabbit, quail, rail, and snipe.

—Tommy Marshall, area manager



Little River Conservation Area

Recreation Opportunities: Fishing, birdwatching, waterfowl hunting

Unique Features: Jerry P. Combs Lake, 13 wetland pools managed for migrating waterfowl and shorebirds

For More Information: Call 573-649-2770 or visit mdc.mo.gov/a9326



MDC

DISCOVER nature

5 IDEAS FOR FAMILY FUN

To find more events near you, call your regional office (phone numbers on Page 3), or visit mdc.mo.gov and choose your region.

DISCOVER NATURE — FAMILIES: ARCHERY BASICS

SEPT. 8 • THURSDAY • 6–7:30 P.M.

Southwest Region, Andy Dalton Shooting Range and Outdoor Education Center, 4895 N. Farm Road 61, Ash Grove, MO 65604
Registration required, call 417-742-4361
All ages, families

Learn how to handle and shoot a bow and arrow, and then go practice on the static archery range. You may bring your own bow or use ours.

DAY ON THE RIVER

SEPT. 17 • SATURDAY • 9 A.M.–4 P.M.

Southeast Region, Cape Girardeau Conservation Nature Center, 2289 County Park Drive, Cape Girardeau, MO 63701
No registration required, call 573-290-5218 for more information
All ages, families

Discover what the river has to offer. Hands-on activities will teach you the importance of the Mississippi River and surrounding wetlands. This event is fun for the entire family, featuring live river animals, Asian carp samples, and free boat rides on the Mississippi. Boat rides will take place every half hour (except from 12–1 p.m.) at Riverfront Park.

MONARCH TAGGING

SEPT. 17 • SATURDAY

9 A.M.–12 P.M.

St. Louis Region, St. Louis Regional Office, 2360 Hwy D, St. Charles, MO 63304

Registration required, call 636-441-4554 beginning Sept. 1
Ages 8 and older

Monarchs are migrating through our area, so drop in and become a citizen scientist. Learn about flight patterns, monarch behavior, proper netting techniques, and hopefully tag a few in an effort to track their southern flight.

MONARCH MANIA

SEPT. 17 • SATURDAY • 9:30 AM.–2:30 P.M.

Kansas City Region, Discovery Center, 4750 Troost Ave, Kansas City, MO 64110

No registration required, call 816-759-7300 for more information

All ages
Discover the majesty of this butterfly through hands-on activities that will leave you in a state of monarch mania. There will be monarchs to tag and release, milkweed giveaways, and much more. Join the mania and learn how you can help our monarch butterfly population.



Monarch butterflies

NATIONAL HUNTING AND FISHING DAY

SEPT. 24 • SATURDAY • 9 A.M.–2 P.M.

Northwest Region, Hartell Conservation Area, 544 NE 280th St., Plattsburg, MO 64477

No registration required, call 816-271-3100 for more information

All ages
This is a day for families to discover nature together. Bring your own fishing rod or borrow one of ours (limited supply). If you want to fish, a Missouri fishing license is required for anyone 16 years or older.



Subscribe online • mdc.mo.gov/conmag • Free to Missouri households



I Am Conservation

In 2004, Tim Kluesner started a fishing club at Jackson Middle School in Jackson, where he teaches seventh-grade science. "Fishing has always been a part of my life," said Kluesner. "I wanted to give our students the opportunity to be outside and have a chance to experience all the fun fishing can bring." Kluesner said the club has a limit of 30 students and it's usually close to full. "We have three six-week sessions a year, which allows more students the chance to fish," said Kluesner. He said the club meets once or twice a week, depending on the time of year. "We usually walk to the park to fish," said Kluesner, "but, on occasion, we will have the Missouri Department of Conservation biologists come to our school to talk about fishing, habitat, equipment, and techniques." Mike Reed, Department fisheries management biologist, has presented to Kluesner's club. "The enthusiasm his students showed for our presentation and for sport fishing led us to recruit Tim and his club for our first southeast region Discover Nature—Fishing (DNF) class," said Reed. "Tim and Department staff have successfully incorporated DNF materials into club activities." Student response to the club has been nothing but positive, said Kluesner. "We get siblings of previous students who want to know the first day of school when fishing club starts. Many students catch their first fish during the year and to see their reaction is priceless." —*photograph by David Stonner*