

MISSOURI. Conservationist

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[NOTE TO OUR READERS]

Share Your Adventures

There is no better place than nature to slow down, learn, refuel, and reflect. Fortunately, Missouri is rich with natural areas where you can step off the paved path into a place where time is measured, not by

meetings and to-do lists, but by sunrises and sunsets. I've done my best thinking over the years in the solitude of the outdoors.

While we all find value in disconnecting now and again, we also live in an age where technology has enhanced almost everything we do. Discovering nature is no different. People instantly post their big catch or GPS coordinates on a recently discovered trail. Bird watchers immediately log sightings online to help other bird enthusiasts in the area. People snap interesting photos of Missouri wildlife, filter seamlessly with an app, and wow their friends across the country on social media.

To better serve and communicate with Missourians, we continue to expand our outreach efforts with social media, such as Instagram, Facebook, Twitter, and YouTube, as well as offering Department news and information straight to your email or phone via text. Whether you're interested in outdoor pursuits or the beauty of Missouri, we also offer three apps — Find MO Fish, MO Hunting, and MO Fall Colors — for instant access on the go.

The Department is also in the process of rolling out a new, streamlined website with some unique features based on suggestions provided directly by our users. The new hunting and fishing sections are already live, with the Discover Nature section launching this month. The website has some new interactive capabilities, such as allowing people to share outdoor experiences with us directly through their social media photos. By using the hashtag **#MDCbragboard** when posting your outdoor photos on social media, those **#MDCbragboard** photos will also show up on a Department Web page for others to enjoy.

I hope you will find time this fall to get out and explore the outdoors. We live in a beautiful state with abundant forest, fish, and wildlife resources waiting to be discovered. I challenge you to share those outdoor experiences with others and with us, too. After all, the best part of any story is getting to share it with others.



Robert L. Ziehmer, director



FEATURES

- 10 **Forest Management for White-Tailed Deer**
by Jake Willard and Dave Niebruegge
Manage your forestland to create an oasis for white-tailed deer

**Special
Insert**

2015–2016 Seedling Order Form

George O. White State Forest Nursery

- 17 **A Wild Thanksgiving**
by Stanford Alan Griffith
Add excitement to your feast with ingredients from outdoor Missouri

- 22 **Christmas Bird Counts — Missouri Was Among the First**
by Sarah Kendrick and Brad Jacobs
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Cover: A blue jay stays on alert in cold weather.

Photograph by Noppadol Paothong.

📷 300–800mm lens • f/7.1

1/250 sec • ISO 800

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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.



NOPPADOL PAOTHONG

NUTS ABOUT NUTS

Just want to say thanks for an excellent article about edible nuts in your September issue [*Nuts About Native Edibles*; Page 18]. Almost 10 years ago, I planted several American hazelnut shrubs from the George O. White State Tree Nursery. I forgot about them until I read your article. This morning, I located three of the shrubs. Two were barren, but the third was loaded. After chasing a squirrel away, I picked about half a shoebox full of nuts. There are more on the shrub that aren't brown yet, so I guess it's a race between the squirrel and me to see who gets them! Looking forward to following your directions for drying and roasting these nuts.

Jeff Goris, Licking

I wanted to let you know how much I enjoyed this article. Thank you for educating me on these four nuts and bringing back childhood

memories. Growing up on a farm, I am very familiar with black walnut trees. We also had a large pecan tree in the pasture but never really harvested much from it, and Dad would go into the woods nearby looking for hickory to use in the smokehouse.

Do you know the first thing I read when I get my new *Missouri Conservationist* magazine? The back cover! I love this feature, and this month's featured conservationist, Brett Jeffryes, was a great read [*I Am Conservation*; September].

Thanks again for another great issue. Keep up the good work on our wonderful magazine. I read it cover to cover.

Linda Jager, Cedar Hill

EDUCATIONAL

Your magazine is both enjoyable and educational. We are not farmers, but live in the country. I have lived in Missouri most of my life but never really paid attention to the natural elements. I

have learned so much about the plants and animals around me by reading your free magazine. Keep up the good work! Thanks!

Donna Baugh, Carthage

THROUGH THE YEARS

I've forgotten how long it has been since I started getting my favorite magazine, and I wished I had saved every one of them. I went through five children, 12 grandchildren, and now I'm working on 10 great-grandchildren. I pass my magazines down to all my family. It's the most interesting and decent one I can think of. I love it very much and hope it never quits while I'm still here. Thanks for all my good years with you.

Kay Jackson, Holts Summit

LADIES FISHING

A friend and I talked about how we have always wanted to learn to fish. We are grandmothers and not as sturdy and sure-footed as in our youth, but did not want to pass up this opportunity offered by MDC. We drove approximately 90 miles from St. Louis to St. James to participate in "Ladies' Fishing Day." It was a well-organized event, and MDC staff could not have been nicer. Ron, one of the MDC agents, in particular, deserves an award for patience. When explaining the proper usage of the fishing rod and reel, he kindly pointed out — without laughing uproariously — that I was holding the rod upside down. Once that was made clear and a trout was caught, we were shown the proper cleaning procedure by Ron and were sent on our way with a good-sized trout. Needless to say, it was a special treat for the evening meal.

We are confident that, given more practice, we can enjoy the fishing opportunities as they come along now that we've gotten our feet wet.

Our age group of women is a lot more interested in things like fishing than younger folks may think. Most of the older women I know spent our best years raising families and working outside the home with no time left to pursue any of the activities we saw our men enjoying.

It is so nice to have a program like this. Thank you for this program encouraging women to get involved in fishing.

Linda Schaeffer, via email



Reader Photo

BASKING BUDDIES

Larry Held of St. Louis captured this photo of a red-eared slider and a mallard drake sharing a warm sunspot on a cool fall day at Carondelet Park in St. Louis. "Frequently I will head somewhere on my bike and I usually pack my camera in my backpack and look for photo opportunities," said Held. "The turtle and duck sharing the log brought a sense of humor and happiness to a Sunday afternoon." Held frequents many parks and natural areas around the city of St. Louis and often visits the same area multiple times. "Like any amateur photographer, I have found that every new day brings a new photo."



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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
Kids' site: XplorMo.org

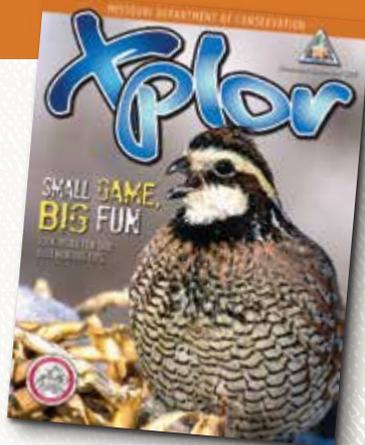
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Twitter: twitter.com/MDC_Online and [Nature_Videos](https://twitter.com/Nature_Videos)
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KIDS' MAGAZINE

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!

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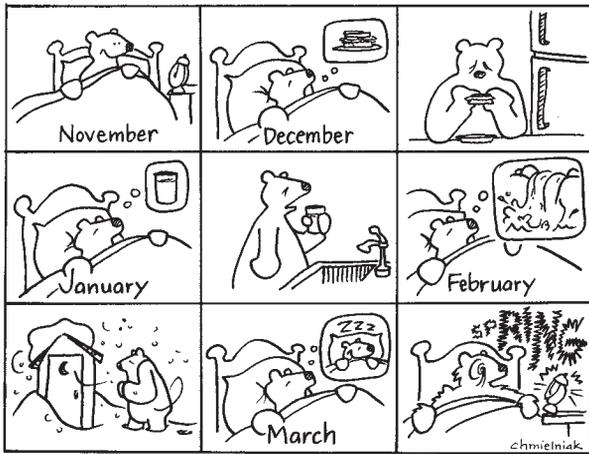
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Equal opportunity to participate in and benefit from programs of the Missouri Department of Conservation is available to all individuals without regard to their race, color, national origin, sex, age, or disability. Questions should be directed to 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.

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Hibernation

Agent Notes

Conservation Agent: It's Not Just a Career, It's a Calling



CONSERVATION AGENTS ARE the Department's local representatives in every Missouri County. The variety of duties and responsibilities conservation agents perform in their assigned counties demand a high level of interpersonal skills and a passion for conservation.

Conservation agents are licensed peace officers of the State of Missouri, charged with enforcing the rules of the *Wildlife Code of Missouri*. Patrols, stakeouts, and undercover work are a routine part of the job for conservation agents. Risks involved in this line of work include apprehending violators who are almost always armed, especially during hunting seasons.

Serving the citizens of Missouri as a conservation agent includes much more than resource law enforcement. Conservation agents are actively involved in their assigned communities and respond to their constituents through intense public relations and educational programs. A conservation agent's success is measured by their performance in a wide array of duties, including contacting resource users, working with landowners, holding public meetings, building relationships with the local news media, providing information at fairs and exhibits, and providing programs for schools, clubs, and organizations. The workload and responsibilities are determined by the needs of the agent's assigned county.

To learn more about a career as a conservation agent, visit on.mo.gov/1PgybOb.

Travis McLain is a programs specialist at Department Headquarters. If you would like to contact the agent for your county, phone your regional conservation office listed on Page 3.

HUNTING & FISHING CALENDAR

FISHING	OPEN	CLOSE
Black Bass from Ozark Streams	05/23/15	02/29/16
Bullfrogs and Green Frogs	Sunset	Midnight
	06/30/15	10/31/15
Nongame Fish Giggling		
Impounded Waters	02/01/15	01/31/16
Streams	09/15/15	01/31/16
Paddlefish on the Mississippi River	09/15/15	12/15/15
Trout Parks (catch-and-keep)	03/01/15	10/31/15
HUNTING	OPEN	CLOSE
Coyote (restrictions apply during April, spring turkey season, and firearms deer season)	All year	None
Crow	11/01/15	03/03/16
Deer		
Archery	09/15/15	11/13/15
	11/25/15	01/15/16
Firearms		
Early Youth Portion	10/31/15	11/01/15
November Portion	11/14/15	11/24/15
Antlerless Portion (open areas only)	11/25/15	12/06/15
Alternative Methods Portion	12/19/15	12/29/15
Late Youth Portion	01/02/16	01/03/16
Doves	09/01/15	11/09/15
Groundhog (woodchuck)	05/11/15	12/15/15
Pheasant		
Regular	11/01/15	01/15/16
Quail		
Regular	11/01/15	01/15/16
Rabbit	10/01/15	02/15/16
Sora and Virginia rails	09/01/15	11/09/15
Squirrel	05/23/15	02/15/16
Teal	09/12/15	09/27/15
Turkey		
Archery	09/15/15	11/13/15
	11/25/15	01/15/16
Waterfowl	see the <i>Waterfowl Hunting Digest</i> or on.mo.gov/1DChcmi	
Wilson's (common) snipe	09/01/15	12/16/15
Woodcock	10/15/15	11/28/15
TRAPPING	OPEN	CLOSE
Beaver and Nutria	11/15/15	03/31/16
Furbearers	11/15/15	01/31/16
Otters and Muskrats	11/15/15	02/20/16

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 on.mo.gov/1Ucnlw 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



American white pelican

We have a pelican living in our cove with an injured wing. He hasn't been seen flying, so we don't think he can. Can he make it through the winter living here?

It's hard to say. Although American white pelicans are most abundant in Missouri during the spring and fall migration periods, they are now present here year-round. Additionally, it's possible the pelican isn't injured. He may just be a young bird with many feathers molting. A bird's new feathers have blood flowing in them until they are fully mature, and the blood makes the wings heavy, causing them to droop and the bird to appear injured.

I often see young snakes on my property. How concerned should I be?

From late August to early October, young snakes are moving around, looking for hiding places, food, or spots to hole up for the winter. Newly hatched prairie kingsnakes, watersnakes, and black ratsnakes are among the most commonly found, and none is venomous. These snakes often resemble one another with gray, tan, and cream colors and dark cross-bands along the length of their bodies.

Most snakes found around homes are not only harmless, they're beneficial. Many eat mice. Kingsnakes eat other snakes. However, these young snakes are often misidentified as copperheads and

needlessly killed. By learning to identify common snakes and their young, Missourians can help protect these valuable animals.

For more information, visit on.mo.gov/ILtWx5O.

What is this?

This globe-shaped capsule — pink in color, with a warty surface — is the fruit of *Euonymus americanus*, commonly called “strawberry bush” or “bursting heart.”

This species is rare and considered imperiled in Missouri due to loss of habitat. It grows natively only in the swamps, bottomlands, and damp upland forests of southeastern Missouri, considered the northern edge of its range. It prefers low, sandy woods along moist stream banks.

The Department tracks occurrences of this rare shrub. Please report sightings to Malissa Briggler at Malissa.Briggler@mdc.mo.gov. Its close cousin — the native wahoo (*Euonymus atropurpureus*) — is common in the Show-Me State and does not have warts on the fruit capsule.

Both strawberry bush and wahoo make attractive alternatives to exotic burning bush, a popular but invasive species. The fruit of the strawberry bush is eaten by a number of species of birds, including wild turkeys. The leaves and stems are eaten by white-tailed deer and cottontail rabbits.

This species likely derives its name from the pink hue of its seed capsule and the orange-red coating of its fruit because it's not a genetic relative of the common, edible strawberry.



Strawberry bush



Emerald Ash Borer Confirmed in Several New Locations

With emerald ash borers confirmed in Missouri, Department of Conservation foresters say homeowners need to make plans now to protect or replace their ash trees.

At the start of 2015, the borers had been positively identified in 11 Missouri counties, including the Kansas City region, the southeastern part of the state, and St. Charles County.

However, the Missouri Department of Agriculture recently confirmed the insects have been found in the St. Joseph area (Buchanan County), both the City of St. Louis and St. Louis County, another location in southeastern Missouri (Oregon County), and in Hannibal (Marion County), which represents the first detection in the northeastern part of the state.

Missouri now has 15 counties and the City of St. Louis with known beetle populations.

An emerald ash borer is an Asian beetle that tunnels under the bark of an ash tree, disrupting the flow of water and nutrients and eventually killing the tree. When fully developed, the dark-green, metallic beetle is about a half-inch long.

Larvae leave S-shaped tunnels under bark and adults emerge from D-shaped exit holes. As their numbers grow, more damage occurs.

If homeowners live within 15 miles of where the borers have been detected, they will need to decide if they want to save a valued ash tree by beginning treatments next spring or if they want to plant another species as an eventual replacement. In time, all untreated ash trees in areas harboring the beetles are expected to succumb.

Ash trees can be protected. Treatment costs vary by the size of tree and type of treatment used. The cost can be as little as about \$25 annually for a do-it-yourself treatment on a small

Clockwise from top: Signs of an emerald ash borer infestation under the bark of an ash tree. An adult EAB beetle emerges from an infested tree, leaving a D-shaped exit hole that is 1/8 inch in diameter. Adult EABs are less than an inch long.

ash tree, and as much as a few hundred dollars to hire a professional arborist to prevent infestation in a larger ash tree, which cannot be effectively treated on a do-it-yourself basis.

Because insecticides are most effective from early May to June when adults are active and larvae are beginning to develop, it's too late to respond this year. However, some treatments may need to be applied earlier in the spring to be most effective when adults emerge later.

Most of the emerald ash borer movement is due to the transportation of firewood. To help slow the spread of the pest, Department foresters recommend that firewood not be moved from one area to another. People burning wood, including campers, are urged to buy locally harvested wood.

All Missouri counties are now under a federal and state quarantine preventing the movement of ash nursery stock, any parts of ash trees, and hardwood firewood out of the state of Missouri.

For more information about emerald ash borers, visit on.mo.gov/1V6zONT.

Encountering Collared Deer This Hunting Season

When Missouri hunters head into the woods this fall, they may see white-tailed deer wearing collars as part of a five-year study designed to evaluate the species.

The Missouri Department of Conservation and the University of Missouri are working together to learn more about white-tailed deer survival, reproduction, and movement patterns. The findings will be incorporated into population models, disease management protocols, and localized deer management efforts.

The project began in January 2015 in four Ozark counties (Douglas, Howell, Texas, and Wright) and four northwestern counties (Andrew, DeKalb, Gentry, and Nodaway).

Last winter, 100 bucks and does of various ages were captured and fitted with GPS collars and small metal ear tags. Researchers also captured and fitted 56 fawns with smaller radio collars this past spring. All collared deer were immediately released and their movements monitored.

It's very important that hunters do not let the presence of a collar influence their decision to

harvest a deer, Resource Scientist Emily Flinn said.

"To ensure data collected during the study is accurate and reflects what actually happens to the herd, we don't want to alter what occurs during the deer hunting season," Flinn said.

The Department asks hunters to call the phone number on the collar or ear tag to report a harvested collared deer so additional information can be obtained. The data will be incorporated into population models, which are one of



WHAT IS IT?

White-Tailed Doe | *Odocoileus virginianus*

Deer are browsing animals, eating the leaves, twigs, and fruits of trees and shrubs, and the foliage of herbaceous plants. They also eat seeds, fungi, mosses, lichens, succulent grasses, farm crops, and sometimes small amounts of animal food like snails and fish. The peak of the mating (rutting) season is November. Most young are born in late May or early June. A doe usually has twins, each weighing 4–7 pounds at birth. Fawns are reddish, brown, or reddish-yellow spotted with white. They lose their spots and acquire uniform coloration between 3 and 5 months of age. The young accompany the female until they are old enough to breed. About half of the young females in Missouri breed in the year of their birth. —*photograph by Noppadol Paothong*

(continued from Page 7)

many science-based components guiding deer management in Missouri.

The project will have a long-lasting influence on Missouri's deer management strategy and is made possible through the tremendous support and involvement of private landowners who allow research activities to be conducted on their properties.

Financial assistance is provided by wildlife restoration funding, derived from taxes on firearms, ammunition, and archery equipment paid by hunters.

People interested in learning more about this research project can visit on.mo.gov/1QXjQ8q.

Finding the Right Balance

Discover Nature Schools provides the balance young learners need between screen time and outdoor time.

Developed by the Missouri Department of Conservation, Discover Nature Schools started in 2006 as a science program for middle school students. Today, the curriculum has expanded to reach children of all ages and can be found in 99

percent of the state's public school districts.

"Discover Nature Schools is growing quickly," said Kevin Lohraff, education programs/curriculum supervisor for the Department. "It's successful because it engages students in outdoor learning and it helps teachers reach their goals."

Featuring Missouri species and habitats, the curriculum is designed so teachers can conduct the activities in their own schoolyards, and students can apply what they've learned in the classroom to the world immediately around them.

The program offers free teacher guides, student books, and no-cost teacher training by the Department's education consultants. Grants help provide classroom equipment and field experiences for students.

"Those outdoor field experiences — where students wade in streams, fish in ponds, and hike in forests — are particularly critical," Lohraff said. "Hands-on activities in nature are designed to teach students by accommodating the way they actually learn — by moving around and having their senses fully engaged. The curriculum helps kids think and act like scientists and teaches them to appreciate Missouri's forests, fish, and wildlife."

Lohraff said learning in nature also improves physical and mental health, reduces attention-deficit problems, and improves test scores.

"We help kids discover and connect with nature," he added.

Educators and parents interested in learning more about the Discover Nature Schools program are invited to contact the Department.

Complete units and grant guidelines are available at MissouriConservation.org/15642. To reach one of the Department's education consultants, scroll down to "Who's My Local Contact?" and select the applicable county.

2016 Calendar for Sale

Discover nature every day, all year long with the Missouri Department of Conservation's 2016 Natural Events Calendar — on sale now. This annual offering features stunning nature photography and daily notes about wild happenings.

The 2016 edition includes information on the life cycle of the monarch butterfly — a declining species and key pollinator — as well as numerous photographs of the state's natural treasures.

Holiday Gifts for Friends and Family

The right book can make the perfect gift, and this year the Missouri Department of Conservation has two suggestions for outdoor enthusiasts.

Waterfowl Hunting and Wetland Conservation in Missouri introduces readers to Missouri's unique conservation heritage with a richly illustrated volume featuring color photographs, historic black-and-white images, and reproductions of works of art.

Authored by veteran wildlife biologists and wetland managers, the 480-page coffee table book chronicles and celebrates the state's waterfowl conservation successes.

Considered by many a must-read for serious migratory bird hunters, all net proceeds from the book's sales are dedicated to wetland and waterfowl conservation.

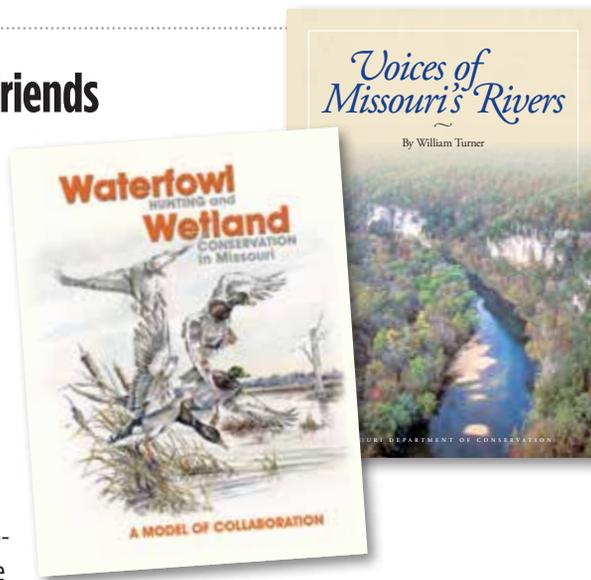
Selling for \$40, plus tax and shipping, the book is a cooperative effort of the Missouri Department of Conservation, Missouri Conservation Heritage Foundation, Conservation Federation of Missouri, Ducks Unlimited, Bass Pro Shops, and other conservation and hunting organizations.

A second book, *Voices of Missouri's Rivers*, explains how clean flowing water is vital to sustaining the lives of all Missourians.

Written by retired Fisheries Division Chief William Turner, the 360-page book, which sells for \$19.50 plus tax and shipping, explores the natural and cultural history of Missouri's rivers. Highlights include an explanation of basic river science and a glimpse into the future of river conservation.

"The stories of Missouri's rivers are very much the stories of its people," said Turner, who holds a master's degree in aquatic ecology, has taught college-level river science, and helped establish a statewide river conservation program in Missouri.

Also available for the hard-to-buy-for friend or family member is a resident lifetime conservation partner hunting and fishing permit. For more information about this permit, visit on.mo.gov/1NRH55S.





Daily notes remind readers of what might be blooming, nesting, shoaling, hatching, peeping, etc. in a field or forest nearby.

The perennially popular calendar measures 20-by-14 inches when open. Along with amazing images of native animals, plants, and places, it includes basic phases of the moon, numerous holidays and days of recognition, monthly lists of wildflowers in bloom, and more.

At a cost of \$7 plus tax, the calendars are available for purchase at the Department's nature centers and regional offices, by calling 877-521-8632, or by visiting mdcnatureshop.com.

Share the Harvest

Many Missouri families can't afford to put high-quality, low-fat red meat on the dinner table. Deer hunters can help by sharing their harvests through Missouri's Share the Harvest program. The venison-donation program connects deer hunters with hungry Missourians through participating meat processors and local hunger-relief agencies around the state.

In 1992, a group of bowhunters in Missouri began the program to share the deer they harvested with those less fortunate. Since then, Missouri hunters have donated more than 3.3 million pounds of venison through Share the Harvest. Last year, nearly 4,000 hunters donated more than 212,000 pounds of venison.

The program is administered by the Missouri Department of Conservation and the Conservation Federation of Missouri (CFM), with support from numerous sponsors.

To participate, hunters simply take their harvested deer to one of more than 130 participating meat processors around the state and let the processor know how much venison they wish to

DID YOU KNOW?

Hunters and anglers care about protecting fish and wildlife

OGT Helps You Protect Missouri's Resources

» **The Operation Game Thief (OGT) hotline is 1-800-392-1111.**

Use it to report poaching incidents. You will remain anonymous and you could receive a reward if your tip results in a conviction.

» **In 2014, citizens made 822 calls** to the OGT hotline.

» **These calls produced 269 convictions,** and OGT informants received more than \$10,000 in reward money.

» **Missouri is one of 45 states** participating in the Interstate Wildlife Violator Compact. Member states agree to honor each other's revocations and suspensions of hunting, fishing, and trapping privileges for wildlife-related violations.

» **Last year, 2,535 people from other states** had their privileges revoked in Missouri through the Interstate Wildlife Violator Compact.

» **In 2014, Missouri conservation agents contacted 178,828 hunters and anglers** to ensure compliance and to provide regulation information. During these contacts, agents noted 25,245 resource violations, issued 3,477 written warnings, and made 7,066 arrests.

» **More than 91 percent of the 7,066 arrests** agents made last year resulted in guilty pleas or verdicts. This high conviction rate indicates excellent public support and high-quality work by agents.

donate to the program. Hunters can donate any amount from a few pounds to a whole deer. The processor will package the ground meat, which will be given to local charitable agencies for distribution to hungry Missourians.

The cost of processing is the hunter's responsibility, but funds are available to help with processing costs when a whole deer is donated. CFM

reimburses processors a predetermined amount for each whole deer donated. This allows processors to reduce the processing fees to hunters. In addition, many processors have local funds available that allow deer to be processed for free or at a reduced cost. Contact individual processors to determine if local funds are available.

To find participating processors, pick up the *2015 Fall Deer & Turkey Hunting Regulations and Information* booklet at Missouri Department of Conservation offices and nature centers, where hunting permits are sold, or online at mdc.mo.gov.

For more information on Share the Harvest and providing processing funds, visit on.mo.gov/1LAJvc9.



Donated deer meat is distributed at a St. Louis community shelter. Last year, nearly 4,000 hunters donated more than 212,000 pounds of venison.



FOREST MANAGEMENT *for* **WHITE-TAILED** **DEER**

*Manage your forestland to create
an oasis for white-tailed deer*

BY JAKE WILLARD AND DAVE NIEBRUEGGE



White-tailed deer



WHEN YOU MANAGE A RESTAURANT or a retail store, you make decisions based on making that business a success. Forest management works much the same way. You make a plan and set goals, which often focus on creating a diverse habitat that improves the quality of life for the animals that live there.

With white-tailed deer hunting a favorite outdoor pastime for many Missourians, forest landowners are interested in improving their property for deer habitat. What do white-tailed deer require to survive and thrive? As a highly adaptable species, they have the same requirements as other wildlife species — food, water, and cover.

Diversity is key to improving the quality of habitat on your property. Creating a spectrum of forest from thick, dense trees to open woodlands is likely to provide year-round habitat needs for whitetails.

Think Thin

Thinning a forest habitat can greatly improve its quality. Reducing the number of trees in the forest area, which can include harvesting commercial-sized trees for profit, increases the amount of light that reaches the forest floor. This in turn stimulates the growth of herbaceous plants, grasses, and shrubs. The increase in ground-level flora provides places for deer to hide, escape, and browse.

Managing trees through thinning can also change the composition of tree species, making your forest more attractive to deer. Oak trees provide an abundant food source for deer and other wildlife. During certain times of the year, acorns can comprise as much as 60 percent of a deer's diet.

Proper thinning should also improve the health and quality of the remaining trees within the stand. Trees of poor form and quality, as well as diseased and declining trees, should be targeted for removal. The remaining trees will grow more because there is less competition.

Forest landowners can improve their property for deer habitat with proper woodland management.

JIM RATHER



Following a harvest or thinning operation, a stand of timber should be left in better condition than it was prior to the project.

Prescribed Burning

Another option for habitat improvement falls into the category of natural community restoration. Woodland management, or restoration, often involves a combination of thinning and prescribed burning. A woodland is an open stand of trees with a diverse community of understory vegetation comprised of forbs, grasses, and shrub species. This dense, diverse understory provides excellent cover and high-quality browse for deer.

The first step in woodland restoration is often thinning the trees to allow more sunlight to reach the forest floor. To maintain this open structure and favor grasses and forbs over woody vegetation, prescribed burning is used within woodlands on a regular basis. Frequent, low-intensity fires maintain this open structure. It is imperative that burning is done under appropriate



Woodland management often involves a combination of thinning (above) and prescribed burning (left).

conditions so damage to large trees is minimized and risk of the fire escaping is minimal. Any burning should be done under the prescribed conditions laid out in a burn plan prepared by a natural resource professional.

Forest openings, whether temporary or permanent, can also be used to provide high-quality browse for deer. Log decks, which are areas where

logs are staged for hauling to the mill, can make excellent spots for food plots or bedding areas. Through proper harvest planning, log decks can be placed in ideal locations for food plots. Food plots should be planted with a variety of green-browse species, cereal grains, or deer-friendly tree and shrub species, while bedding areas should be planted with tall native grass and forb species or simply allowed to naturally regenerate to an area of thick shrubs and tree saplings.

Think Beyond Your Boundaries

With the high cost of land today, many forest landowners have small acreages for hunting and recreation. No matter the size of the property, you can still practice good deer habitat and population management. Landowners do, however, need to think beyond the boundaries of their land.

The home range of white-tailed deer varies from a few hundred to a few thousand acres, and often expands during the fall breeding season. It may be unrealistic for an average landowner to provide everything a deer needs to keep that animal on his or her property.

Since deer will spend time on your neighbors' properties as well as your own, your deer herd and your hunting experience will benefit greatly if there is high-quality habitat surrounding you. In forested landscapes, much of the private land is used for recreational purposes. If you ask your neighbors, you'll probably discover they like to deer hunt and will likely be interested in providing better habitat to increase both the size of the deer herd and the number of trophy animals in that herd.

By identifying a common goal, neighboring landowners can develop deer habitat management strategies that will benefit both sides of the property line and also establish a relationship to help one another meet those goals. In some areas, this form of cooperation has developed into somewhat formalized groups called landowner cooperatives.

Cooperative Land Management

Just north of the Lake of the Ozarks in the Big Buffalo Creek watershed, a group of more than 20 Benton County landowners are putting this cooperative strategy to work. Members of the Big Buffalo Creek Landowner Cooperative, formed in 2010, have been working together to manage their properties with an emphasis on protecting water quality in the Big Buffalo Creek watershed and improving woodland habitat for wildlife — particularly white-tailed deer and turkey.

Many of the cooperative members are absentee landowners who reside in other places, but own their property for a weekend getaway, a place to hunt, and general recreation. Whether they choose to hunt or not, nearly all of the members want more wildlife on their properties, and with help from the Missouri Department of Conservation, are learning how to manage the natural resources on their land to provide more wildlife habitat.

Over the years, most of the forest within the Big Buffalo Creek Landowner Cooperative area received little to no management. As a result, the woods were overcrowded with a dense canopy that shaded the forest floor. The lack of sunlight prevented desirable young trees and other vegetation from growing and provided little browse or cover for deer and other wildlife. To remedy this situation, many cooperative members used various



Members of the Big Buffalo Creek Landowner Cooperative
Carl Hepting (left) and his son, Robert, managed their land with an emphasis on protecting water quality, thus improving woodland habitat for wildlife.

Your hunting experience will benefit greatly if there is high-quality habitat surrounding you.



practices to open the forest canopy, letting sunlight in and providing food and cover deer need.

Some conducted commercial thinning, or timber harvest, to achieve their goals. Employing the services of a professional forester to select and mark the proper trees to harvest, some landowners improved habitat while also generating a little income to invest back into their land. In some cases, the timber size or quality didn't allow for a commercial harvest, but in those situations, the work was still accomplished by completing a timber stand improvement project in their overcrowded stands of trees. By weeding out the least desirable trees and leaving the best ones, landowners improved the health of their woods and increased food and cover, making their land more attractive to deer in the area.

With guidance from Department staff, prescribed burning has been used on select sites within the Big Buffalo Creek area to manage for woodland habitat and the lush herbaceous food source they provide. Recently burned woodland sites also provide excellent brood habitat for turkey poults and quail chicks during the summer months.

Other habitat management practices implemented throughout the Big Buffalo Creek area include improving fields and forest openings by converting exotic cover, like tall fescue, to wildlife-friendly cover, like native warm season

Creating a spectrum of forest from thick, dense trees to open woodlands is likely to provide year-round habitat needs for whitetails.



grasses, forbs, or green-browse food plots. Tree and shrub plantings have also been installed to stabilize stream banks, prevent erosion, improve edge habitat, and create travel corridors for deer.

If you are interested in managing your forestland, Conservation staff can provide you with a list of reliable resource management contractors in your area. There are also state and federal cost-share programs to assist landowners with the expense of completing habitat management on their properties. These programs are completely voluntary, and can help you realize your dream of owning your very own hunting paradise. Contact your local resource forester or private land conservationist to find out more about managing your woods for quality white-tailed deer. ▲

***Jake Willard** is a resource forester for the Missouri Department of Conservation in Sedalia, Missouri. **Dave Niebruegge** served as a Forester for the Department of Conservation in Reynolds County and then in Pettis and Benton County for a total of 11 years until transitioning to private land conservationist in 2010. He assists private landowners in Pettis and Benton counties with managing their properties for healthy forests and wildlife habitat.*



a Wild Thanksgiving

Add excitement to your feast with ingredients from outdoor Missouri

BY STANFORD ALAN GRIFFITH



CLIFF WHITE

Roast venison loin with cranberry sauce

MISSOURI OFFERS A BOUNTIFUL harvest of wild and native edibles, so from hors d'oeuvres to desserts, your Thanksgiving table can be filled with delicious, locally harvested dishes.

Hors D'oeuvres

Start your meal with an appetizer from Missouri's aquatic fare.

Historians generally agree that the first Thanksgiving meal along the rocky shores of Massachusetts included a crustacean, the lobster. While Missouri has neither seaside nor lobsters, it is home to crayfish (also known as crawfish or crawdads). In fact, the Show-Me State boasts 36 species of the crustacean, seven of which are only found here. To learn more about the regulations for taking crayfish, visit the live bait section of on.mo.gov/1Z4mPRw.

Typically boiled or steamed in Cajun spices, crayfish make delicious canapés atop grilled French bread with arugula. They also work well in hot dips or creamy soups.

If fish is more your style, Missouri is known for its prevalent bodies of water — rivers, lakes, and streams — and superb fishing. Catfish is one of the state's most delicious and readily available fish. Channel catfish (*Ictalurus punctatus*) are the most common because they inhabit public and private bodies of water and will take many kinds of bait. Blue catfish (*Ictalurus furcatus*), however, are limited to larger rivers, lakes, and reservoirs, and are more particular about their food. They are also considerably larger. For more information on fishing regulations, visit on.mo.gov/1Z4mPRw.



Crayfish boil

Catfish in mini phyllo (flaky dough) cups are a delicious start to your meal. To remove any “fishy” flavor, soak the fillets in buttermilk for up to an hour. Then poach the catfish with sautéed onion, celery, and bell pepper. Add seasoning, heavy cream, and cheese, and simmer for 10 minutes. Fill the cups with the mixture and bake at 400 degrees for about 15 minutes.

Entrée

A big Thanksgiving meal requires an equally big entrée. Most people think of turkey as the traditional Thanksgiving showstopper, but Missouri is home to other game that may make you rethink your holiday meal.

Turkey

Missouri has wild turkeys (*Meleagris gallopavo*) throughout the state. Wild turkeys are smaller than domestic turkeys found in your grocer's freezer and tend to be drier, due to lower body fat, with a richer, stronger flavor. For recipes and cooking tips to make the perfect wild bird, visit on.mo.gov/1Oaaulo.

There are two legal times of year to hunt turkeys in Missouri — spring and autumn. Both require permits and have specific regulations. Visit the Department's website at on.mo.gov/1KnFUJU for more information.

Ducks and Geese

If waterfowl sounds like the perfect Thanksgiving centerpiece, Missouri offers a variety of ducks and geese that are migrating through this time of year.

Whole duck is especially delicious when roasted with oranges, scallions, cloves, and red wine. Casseroles, gumbo, and grilled options are also popular choices.

Hunting season dates vary by geographic location and run from October through January. Permits and stamps are required. Visit the Department's website at on.mo.gov/1KnFUJU for more information.

Venison

White-tailed deer (*Odocoileus virginianus*) are found statewide. Venison is a low-fat, versatile meat with a slightly sweet flavor. Although medallions are the easiest cut to work with, a venison loin roast will feed your entire gathering. Roast it with garlic, juniper berries, and rosemary, or substitute it in any of your favorite beef recipes, keeping in mind that lean meats dry out quicker.

Deer season runs from September through January, and permits are required. More information is available at on.mo.gov/1KnFUJU.



Fried duck

Side Dishes

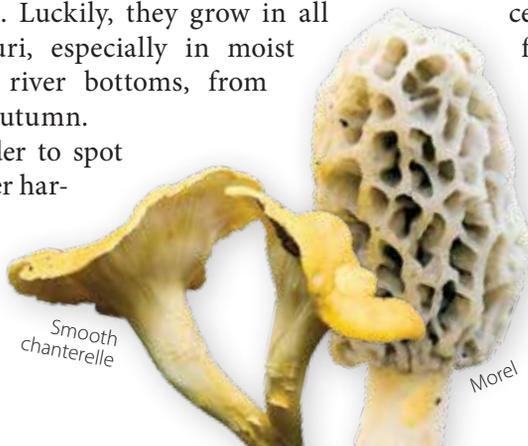
While the entrée may be the showstopper, the perfect side dish can really set it off.

Wild Mushroom Stuffing

Whether you call it stuffing or dressing, it's one of the quintessential sides for any modern Thanksgiving meal. While every family has its own recipe, mushrooms, especially chanterelles (*Cantharellus*) and morels (*Morchella*), make a delicious and nutritious addition and add a hearty, earthy flavor. Plus, they pair perfectly with sage, thyme, and rosemary, the primary herbs in stuffing.

Meaty and chewy, chanterelles are prized worldwide as culinary gold. Luckily, they grow in all parts of Missouri, especially in moist woodlands and river bottoms, from spring through autumn.

Although harder to spot and with a shorter harvesting period — late March through early



Smooth chanterelle

Morel

May — morels are the classic foraged mushroom. They are found in the same locations as chanterelles throughout the state.

Both mushroom varieties are best when baked or sautéed. Cook them first and freeze them for easy access all year. They also can be dehydrated and turned into a powder, perfect for soups, gravy, and even seasoning for the turkey. As always, familiarize yourself with the different types of mushrooms to make sure they are edible. The Department offers a guide to edible mushrooms at on.mo.gov/1khZrJN.

Foraged Mustard Greens

Spicy and slightly bitter, wild mustard greens (*Brassicaceae*) are a common Southern delight. Their bright yellow flowers flourish on every continent and as far north as the North Pole.

After removing the tough stems of any larger leaves, stew this relative of broccoli and turnips with onion and bacon or ham hock for a smoky flavor, and finish the dish with a splash of apple cider vinegar.

For other wild greens ideas, visit on.mo.gov/1FjvEjQ.



Muscadine jelly

Accompaniments

What's Thanksgiving dinner without tart cranberries and warm bread?

Cranberry-Quince Chutney

While cranberries do not grow wild in Missouri, flowering quince (genus *Chaenomeles*) does. Also called golden apples, flowering quince is in the same family (Rosaceae) as apples and pears.

A popular landscaping shrub from Japan, flowering quince is naturalized in Missouri, so you can find it growing wild throughout the state. The yellow-green fruits ripen in October and are too sour to eat raw. Instead, stew them with cranberries, sugar, fresh orange juice, and cinnamon for a homemade cranberry sauce.

Red Clover Bread

Clover is spread widely across the state in fields, meadows, lawns, and most other non-forested lands. Red clover (*Trifolium pratense*) is the best known of the true clovers and produces bright pink to red to violet flowers, which

are best gathered from May through September.

The dried and powdered flowers can be substituted for flour in a bread recipe in a one-to-one ratio. Often called "bee bread," due to the fact that honeybees love red clover, the loaf is rich and dense with a mildly sweet note.

Muscadine Jelly

Muscadines (*Vitis rotundifolia Michx*) were the first native grapes to be cultivated in the New World, and they can still be found in the wild. Unlike European and other American varieties, muscadines are more resistant to black rot, allowing them to survive throughout the south and into Missouri.

The wild variety of the grapes often remains green even when they mature in late summer to early autumn. They can be eaten raw, but due to their thick skin are more often used to produce wine, juice, and jelly.

Making a batch of sweet-sour muscadine jelly requires only three ingredients — muscadines, pectin, and sugar. To speed up the process, start with muscadine juice.

Dessert

The Pilgrims didn't have access to flour, butter, sugar, or ovens, so the first Thanksgiving desserts probably focused on seasonal fruits and nuts. Although they regularly ate pumpkins as a vegetable, they did not turn them into a pie. Fortunately, with modern technology and the proper ingredients, you can turn those wild fruits and nuts into delicious pies, cobblers, and cakes.

Blackberry Cobbler

Sour yet sweet, blackberries (*Rubus* spp.) are prevalent throughout the state. The shrubs are commonly found in open areas and fencerows. They produce white blossoms from April through June and juicy, deep purple berries from June through August.

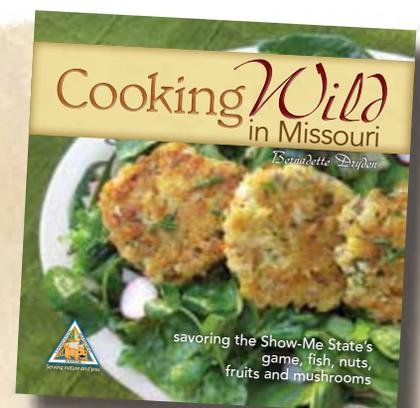
Since blackberries will not keep in the refrigerator from August to Thanksgiving, freeze them in single layers on

Cooking Wild in Missouri

For more than 100 recipes highlighting Missouri's wild edibles, explore *Cooking Wild in Missouri* by Bernadette Dryden. Dryden's cookbook includes a variety of delicious and nutritious ways to prepare venison, rabbit, squirrel, game birds, fish, nuts, fruits, and mushrooms.

You can purchase *Cooking Wild in Missouri* at Department nature shops or online at bit.ly/1LKZoWj.

For additional cooking tips and recipe ideas, visit the Department's website at on.mo.gov/1L4Xugr. To help identify Missouri edibles, visit on.mo.gov/1K0tZCf.



a baking sheet, and then place them in a zip-top bag to keep in the deep freezer. A homemade blackberry cobbler is a simple, yet delicious ending to any meal, especially when topped with ice cream.

Pecan and Hickory Nut Pie

Hickory nuts and pecans (*Carya*) grow wild throughout the state, except for the northwestern counties. Harvested in the fall, hickory nuts are especially delicious but can be hard to come by if the squirrels get to them first. Pecans ripen in late autumn, and they provide a desirable meaty chew to a pie.

Nuts freeze very well for year-round use. Instead of an all-pecan pecan pie, mix up your nut selection or use all hickory nuts.

Drinks

Enjoying a wild Thanksgiving doesn't just have to be about the food. Plenty of Missouri's wild edibles can be added to your favorite drinks to create a unique taste.

Mint Tea

Often relegated to haphazardly topping a dessert as a nonfunctional garnish, mint (*Labiatae*) sometimes gets a bad reputation as a throw-away green leaf on a sweet dish. Mint can do so much more, and one of the most delicious uses is in ice-cold tea, sweetened or not.

At least 11 species of this herb grow throughout Missouri, with the most dense populations in southern and central Missouri. All varieties bring a fresh coolness to food and drink, and the flavor volume differs by species,



Mint tea

with peppermint being the strongest.

Collect mint at its peak in the spring, summer, or fall. If you don't plan to use it soon, freeze the leaves on a baking sheet and bag them for later. For iced mint tea, simply brew black tea and add mint, allowing time for the mint leaves to steep and release their menthol aroma. Strain, and serve with lemon. If you're feeling really thankful, add some pineapple juice.

Elderberry Lemonade

Elderberries (*Sambucus canadensis*) grow throughout the state and produce fruit that turns purple when ripe in August or September. Muddle the berries with lemons and sugar. Add water, and refrigerate to create elderberry lemonade.

Whether your feast comes from Missouri's wild, the grocery store, a restaurant, or a combination of all three, Thanksgiving is a time to celebrate the year's bountiful harvest. ▲

Reared in Risco, Missouri, Stanford Alan Griffith has strong ties to the state. His passion for food and storytelling started early at his grandmothers' knees, both well-known Southern cooks. Stanford works as a freelance marketing and strategic communication consultant.



Blackberry cobbler





At a time
when bird
populations
were at
risk, birders
put their
hobby to
good use
for science

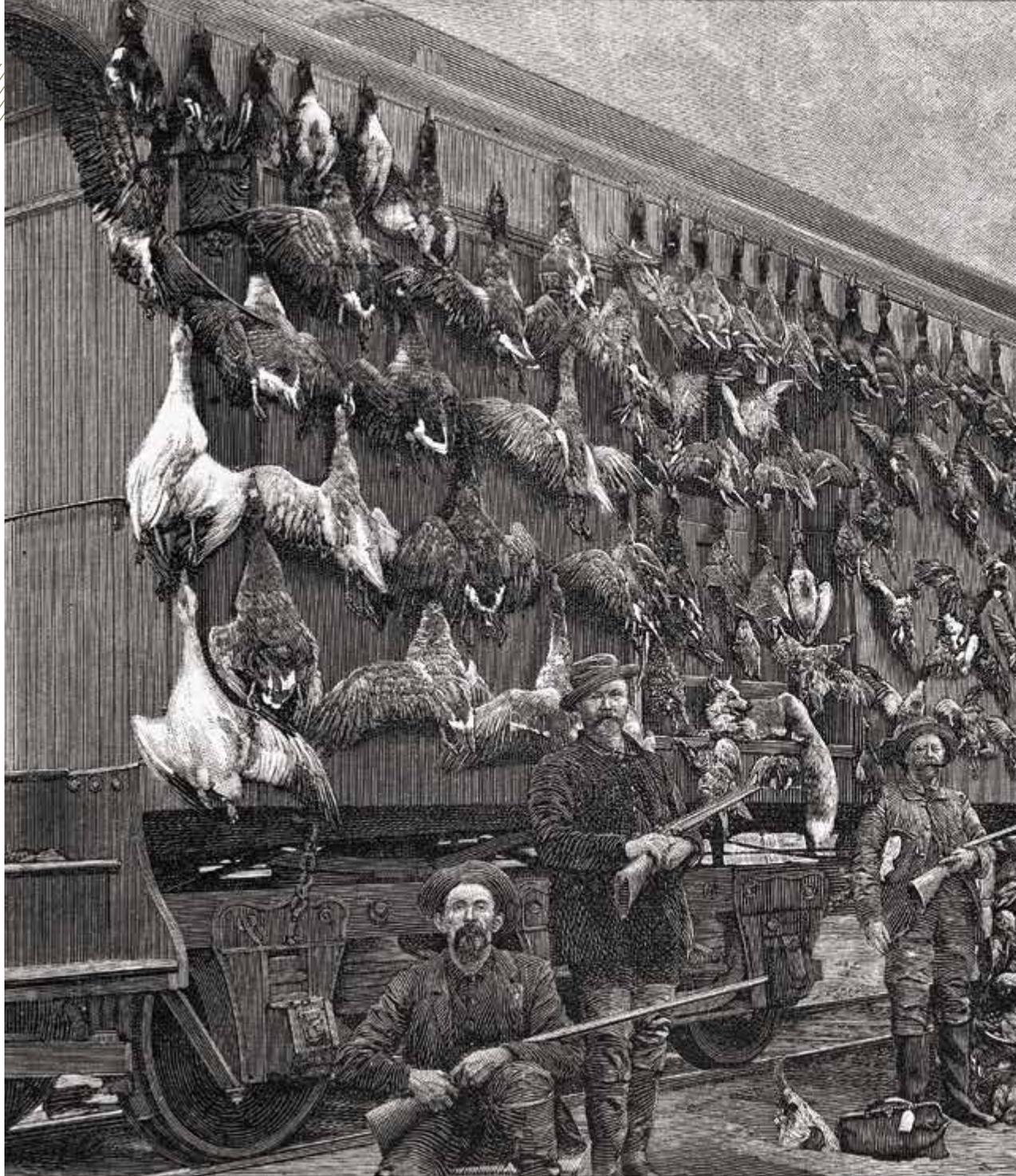
Christmas Bird Counts

BY SARAH KENDRICK AND BRAD JACOBS

If you are new to birding, you may think of it as a spring activity — the weather is warmer, breeding birds are returning from their warmer migratory and winter habitats, and their sweet sounds fill the air. However, experienced birders know that birding is a year-round sport, and with the bitter cold of December and January comes one of birding's oldest activities — the Christmas Bird Count.

NOPPADOL PAOTHONG

In the 1800s, practices like egg collecting, plume hunting, and market hunting (illustrated here) were devastating the populations of birds and other wildlife.



Each year, tens of thousands of volunteers across the country, including Department staff, bundle up and hit the road to count birds seen or heard within assigned areas of the state. Since 1900, data gathered through this nationwide count have been used to compile yearly reports, detailing species-specific maps of where birds spend the winter months in the United States and Canada.

But how did this long-lasting tradition get started?

Before Surveys

Before effective federal and state regulations were in place, laws in the early 20th century were not sufficient to stop the declines of many birds and other wildlife.

Market hunting, egg collecting, and plume hunting were devastating bird populations. Because there was no limit on the amount of wildlife that people could take, local populations of wildlife could be severely impacted in just a few years. While not as devastating, even



BIRD SURVEY: DAVID STONNER

biologists used to harvest multiple birds of the same species so they could credibly identify the bird, and sometimes they used their harvest as a way to estimate bird population numbers. These practices occurred before long-term conservation efforts, at a time when many believed that wildlife and other natural resources were limitless.

Christmas Bird Counts

Frank Chapman was an ornithologist and one of the first to write and publish a birding field

What Is Citizen Science?

Citizen science is a fun and useful way for citizens and scientists to work together to collect data and analyze bird population trends. When it comes to wildlife monitoring, there are too few biologists in the world to collect enough field data across large geographic areas. To gather enough data to allow for statistical analysis, biologists often rely on a large network of outdoor enthusiasts, in concert with trained biologists, to enhance the capacity of science and supply the needed volume of data. Citizen participation gives the public a greater understanding of scientific techniques and allows them to ask questions, gather data, and learn the value of long-term data and how group interactions provide greater understanding of bird population changes.



Missouri Department of Conservation staff participated in last year's Christmas Bird Count at Cole Camp, Missouri.

guide in 1895. *Handbook of the Birds of Eastern North America* was the most popular bird guide of its time. Chapman came up with the idea that citizens could participate in a birding activity that didn't involve negatively affecting the already diminished populations of many birds. Chapman and 26 other participants set out to count the birds that they saw and heard on Dec. 25, 1900, marking the first Christmas Bird Count. Thirteen states and two Canadian provinces participated in just

The Christmas Bird Count provides a snapshot of birds' winter locations. The information collected allows scientists to monitor health, status, and calculate long-term trends of bird populations across North America.



25 counts that first year, including one in La-Grange, Missouri.

The Christmas Bird Count is the longest-running citizen-science effort in the United States, and continues today in many countries around the world. This program, run by the National Audubon Society, recruits volunteer birders and scientists to count all the birds seen or heard within a 15-mile-diameter circle in locations across the United States and southern Canada. The count period must occur on a single day between Dec. 14 and Jan. 5, and the large survey area is usually divided into smaller

tracts, depending on the number of participating birding parties. Each party searches for bird species and counts all individuals of each species observed within their assigned area. To cover as much of the area as possible, the count lasts from before sunrise to after sunset. At the end of the day, all of the birding parties gather together to tally their findings and create a list of species and numbers for the entire survey area. The results of Missouri's Christmas Bird Counts are summarized on the National Audubon Society's website at netapp.audubon.org/cbcobservation.

BIRD SURVEY: DAVID STONNER



Great Backyard Bird Count — Help Out on a Smaller Scale

If you don't have a full day to count birds on a Christmas Bird Count, check out the Great Backyard Bird Count. Between Feb. 12–15, 2016, you can count and record the birds you see in your backyard, on your property, at a local conservation area, or anywhere. The minimum count time required is 15 minutes, but you can count the birds you see in as many places as you can over the four-day period. These data act as a snapshot of where birds are in the winter and help scientists at Cornell Lab of Ornithology and the Audubon Society gauge changes in bird numbers year to year and learn more about migration patterns. Last year, 135 countries participated in the global bird count and over 4,000 different species were counted. To learn more and get involved, visit birdcount.org.



American tree sparrow

In the winter of 2014–2015, volunteers conducted 2,459 Christmas Bird Count surveys nationwide. These surveys detected over 68 million individual birds of more than 600 bird species in the United States and Canada.

In Missouri, there are currently 27 counts conducted each year. Last winter, 500 birders spent 1,235 hours and traveled 8,051 miles searching for birds throughout their survey circles. They tallied a total of 145 species. In addition to the daytime portions of the counts, birders also surveyed during twilight and nighttime hours for owls.

How Are Christmas Bird Count and Other Bird Survey Data Used?

Data collected based on a large-area survey such as the Christmas Bird Count have been used by researchers in more than 400 scientific stud-



A Birder's Memories

Brad Jacobs' Christmas Bird Counts

My life as a birder began in February 1958 when I joined the Norman Bird Club in Greenfield, Massachusetts. One of my first activities in this group was to count birds on a day that was 10 degrees below zero with 3–4 feet of snow on the ground. Being a snow skier, I was prepared with the necessary insulation and water-repellent clothes — insulated gloves, scarves, wool pants, and jacket — and a thermos of hot chocolate. Expectations were high and daylight

hours were few, but we managed to find 27 species. I never had so much fun.

Over the years, wherever my travels took me and home happened to be, there always were Christmas Bird Counts nearby and coordinators in need of birders. I have participated in multiple counts in Arizona, Colorado, New York, and Missouri.

A count in Elfrida, Arizona, in the 1980s was fun because it held the nationwide high count for seven species of birds — like the greater roadrunner, black-chinned sparrow, and Albert's towhee — from the southwestern United States. I recall my best find was the



Rough-legged hawk

only rough-legged hawk on the count that year. One or two were seen in most years, but only in my assigned area, so I was under pressure

not to miss it. Some folks participated in this count by recording the birds they saw at their bird feeders. In those years, the total species recorded were around 140–150 and a thousand or so individual birds. Today the Elfrida count shows about 10 birders participating and only 100 or so species located. Birders grow up or move around, small towns become larger towns, and Christmas Bird Counts come and go with the flow of people.

ies. The information allows scientists to monitor health and status and calculate long-term trends of bird populations across North America. The Christmas Bird Count provides a snapshot of birds' winter locations. The Breeding Bird Survey, in contrast, is a survey conducted in the summer months to gain a snapshot of the distribution of breeding birds. Successive years of both of these bird monitoring techniques allow scientists to determine long-term seasonal trends in our continent's bird populations and help them spot species' declines.

Want to Get Involved?

The organizers of Missouri's 27 Christmas Bird Counts are always looking for seasoned birders as well as novices interested in getting started. Every survey party should include experienced birders, or those with the ability to identify birds through sight and sound, as well as beginner and intermediate birders that can help locate birds. The more eyes looking and ears listening for birds during the Christmas Bird Counts the better.

For beginners, working with experienced birders is one of the best ways to improve birding skills. Anecdotes, birding stories, and conversations about field markings and habitats are all part of the fun of honing your bird identification



Ring-billed gull

skills. Likewise, mentoring new birders is a great way for experienced birders to spread a love for birds and ensure that birding and bird monitoring continue in the future. If you have time, participating in several counts is a great way to get started birding and develop your skills quickly. Visit audubon.org/content/join-christmas-bird-count to join a Christmas Bird Count and visit audubon.org/audubon-near-you?state=MO to find and join an Audubon Chapter in Missouri.

Christmas Bird Counts bring enjoyment to many birders and supply extremely valuable data to scientists and conservationists to help them better understand where bird species spend the winter on a continental scale. And nothing creates a tighter bond and more memorable stories amongst birders than birding for 24 hours in freezing-cold temperatures. So find your local Audubon Chapter, grab your binoculars and long-johns, and be a part of the 116th Christmas Bird Count. You'll find out what "brrrding" is all about. ▲

Sarah Kendrick is the outreach and marketing supervisor in Wildlife Division. She has a master's in avian ecology and persuaded Brad to use the word "brrrding" in this article. Brad Jacobs is a wildlife ecologist in the Wildlife Division and the state ornithologist.



Hooded mergansers

RING-BILLED GULL AND HOODED MERGANSERS: NOPPADOL PAOTHONG

Northern Pintail

A NORTHERN PINTAIL (*Anas acuta*), lacking its usual elegance, fights a fierce headwind on landing at Marais Temps Clair Conservation Area. I captured this image during my third hour hiding along the shoreline of one of the area’s pools. As illustrated here, photographing waterfowl in extreme conditions often results in the most compelling images.

A large group of “pins,” the nickname for this species among waterfowlers, had been feeding and loafing across the lake, well out of range, since before sunrise. My optimism was waning fast as the flock showed no interest in relocating. As thoughts of a warm breakfast began to dominate my daydreams, a U.S. Fish and Wildlife Service survey vehicle rounded the corner where the pintails were concentrated. I watched with satisfaction as the entire group lifted off and approached my hiding place, almost hanging in the air with the 40 mph wind at their bills. As they entered the range of my 500 mm lens, I began tracking this single drake as it reversed thrust for landing, its whip-tail bent in the gust.

Pintails are dabbling ducks, feeding on grain, seeds, weeds, aquatic insects, and other morsels. They are considered fine table fare, not unlike the mallard, teal, and gadwall. Breeding and nesting occurs in the northern United States, Canada, and even farther north.

It’s no surprise that the northern pintail is one of the most beloved waterfowl among hunters and bird watchers. The drake’s long neck, graceful lines, and sweeping tail are exquisite, especially when the bird is in flight. Although muted in color, mostly chocolate-brown, cream-white, and gray, much of the pintail’s plumage is tightly striated in contrasting shades, and the back feathers, edged in white, adorn the bird like fine, pointed drapes (see inset photo). Even the bill of the drake pintail is eye-catching in black with slate-blue flanks. The hen pintail is much more subdued, mostly tan and brown, but identifiable in flight by the same lithe profile as the male.

The northern pintail is listed as a common migrant in Missouri with few documented nesting records. I have photographed them at a variety of locations from waterfowl hunting areas to the Missouri and Mississippi rivers. As with all waterfowl, I prefer photographing them in spring when their plumage is at its best, but I’ve found magnificent specimens in the fall, as well. I often find overwintering pintails in backwater sloughs of the Mississippi River.

This past winter, I encountered a large group of mid-winter pintails in a slough on the Upper Mississippi Conservation Area in St. Charles County. I sat in the snow each morning for several days, watching them feed and interact. Every once in a while, a drake would go on alert, stretching its long neck high into the air to evaluate its surroundings. During one of those moments, I captured the image featured in the inset. I’ve photographed almost every waterfowl visitor to Missouri, but none as svelte as the northern pintail.

—*Story and photograph by Danny Brown*

 (main) 500mm lens + 1.4 teleconverter • f/5.6 • 1/2000 sec • ISO 400

 (inset) 500mm lens + 1.4 teleconverter • f/6.3 • 1/320 sec • ISO 400



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Visit on.mo.gov/1M3cWgI to learn more about Missouri’s plants and animals.*



Deer Ridge Conservation Area

This aptly named Lewis County area offers fantastic deer hunting as well as fishing, hiking, and bird-watching.

BEFORE WHITE-TAILED DEER and wild turkeys had a chance to repopulate Missouri, the people of Lewis County saw the need for conservation. Through land deeds and strong local support, they helped the Conservation Department put Deer Ridge Conservation Area on the map. Today, Deer Ridge encompasses nearly 7,000 acres and boasts over 10 miles of stream frontage, hundreds of oak woodland hills, food plots, the James B. Jenkins shooting range, 225 acres of wetlands, primitive campsites, and a 48-acre lake that provides excellent panfish, like sunfish and crappie.

Efforts to actively manage the woodland ecosystems on the area began about 10 years ago when the deer population on Deer Ridge dipped to fewer than 100. At that time, the odds of seeing a deer were slim. Woodland management activities include tree-thinning projects and prescribed burning. In fact, nearly 1,000 acres of woodland are in rotation for prescribed burning every two to three years. These burns open up the canopy and encourage the growth of woodland grasses and plants, which provide an extra food source for deer in late spring and summer and contribute to improved nutrition and overall health.

The results of this management have been beneficial for many wildlife species, especially deer. The deer population jumped to 400 with a density of approximately 30-40 deer per square mile. The area offers good browse, escape cover, and abundant acorns from multiple species of oak. Now, true to its name, the area is a deer paradise.

Hunters who are accustomed to the natural patterns of deer movement and are up to the



24–70mm lens • f/2.8 • 1/200 sec • ISO 100 | by David Stonner

challenge will find Deer Ridge an enjoyable place to visit for their next archery or rifle hunt.

Other hunting opportunities on the area include dove, rabbit, squirrel, and turkey, and open waterfowl hunting in the wetland, depending on fall precipitation.

A great diversity of habitats makes for great birding, with 119 total species recorded for the area. For a birding checklist for the area, visit mobirds.org/CACHE/AreaChecklist.aspx?site=542.

—Jason Jacobson, area manager



Deer Ridge Conservation Area

Recreation Opportunities: Hunting, wildlife viewing, fishing, outdoor photography, bird-watching, camping, hiking

Unique Features: Middle and North Fabius River bottoms, white oak-dominated woodland and forests, 20-mile network of trails

For More Information: Call 573-248-2530 or visit mdc.mo.gov/a5703



MDC

DISCOVER nature

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

BASIC PISTOL PLUS

NOV. 1 • SUNDAY • 2–3:30 P.M.

*Kansas City Region, Lake City Range,
28505 East Truman Road, Buckner, MO 64016
Registration required, call 816-249-3194
Ages 18 and older*

This course continues where the Basic Pistol course ends. The topics of discussion include purchasing a firearm, legalities of owning a firearm, ammunition facts, and cleaning and storage. We also will work on your marksmanship skills on the range.

NATURE NUTS — OUTDOOR COOKING

NOV. 7 • SATURDAY • 10–11:30 A.M.

*Ozark Region, Twin Pines Conservation
Education Center, Rt. 1 Box 1998,
Winona, MO 65588*

*Registration required, call 573-325-1381
Ages 7-12*

Learn to clean and then cook the many game animals available in the fall using Dutch ovens and other outdoor methods.



DUTCH OVEN COOKING: CLIFF WHITE; FOX SQUIRREL: NOPPADOL PAOTHONG

NATURE CENTER AT NIGHT: MISSOURI'S ELK

NOV. 12 • THURSDAY • 5–8 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 information*

All ages, families

In the past several years, Missouri has been fortunate to welcome elk back home. Stop by and learn more about these amazing ungulates and find out how our Missouri elk population is doing. Naturalist-led programs begin at 5:30 and 7 p.m. Youth and adult groups welcome.

BIRD FEEDER WORKSHOP

NOV. 22 • SUNDAY • 2–3:30 P.M.

*Southwest Region, Shepherd of the Hills
Fish Hatchery and Conservation Center,
483 Hatchery Road, Branson, MO 65616
Reservation required, call 417-334-4865*

Ages 5 and older, families

This is our annual woodworking workshop in which families get to make and take home their own wooden bird feeder. In addition to going step-by-step making the houses, you will also learn the best seed to attract birds and a few tips on discouraging squirrels. One feeder per family. Bring a hammer.

6

IDEAS FOR FAMILY FUN



Fox squirrel

SHOPPING ALTERNATIVES: SQUIRRELY SQUIRRELS

NOV. 27 • FRIDAY • 10 A.M.–2 P.M.

*Central Region, Runge Conservation
Nature Center, 330 Commerce Drive,
Jefferson City, MO 65109*

*No registration required, call 573-526-5544
for more information*

All ages

Need a break from the squirrely, crazy shopping lines? Come to Runge! Get to know our Missouri squirrels: gray, fox, thirteen-lined, and flying. We will have squirrel games, crafts, and exploratory stations. Don't let the holiday season drive you nuts. Relax by the fire and allow nature to soothe you.

DISCOVER NATURE — BEGINNING YOUTH .22 RIMFIRE RIFLE SHOOTING

NOV. 28 • SATURDAY • 8–9:30 A.M.

*St. Louis Region, Jay Henges Shooting Range
and Outdoor Education Center,
1100 Antire Road, High Ridge, MO 63049*

*Registration required, call 636-938-9548 ext. 0
or email Henges.Range@mdc.mo.gov*

Ages 9–15

Youth who have no experience shooting .22 caliber rimfire rifles are invited to participate in this session to learn the safe and proper techniques of shooting in a controlled environment. Firearms, ammunition, and safety equipment is provided. All youth must be accompanied by an adult.



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I Am Conservation

Tim Belleville of Fenton has been bowhunting in urban areas around St. Louis for many years. "I started bowhunting in 1980 on urban properties owned by friends who were nursery owners and were encountering considerable plant damage due to the high deer population," said Belleville. In 2004, his daughter's 5th-grade teacher, who was part of a newly formed group called the Certified Bow Hunters of St. Louis County, approached Belleville and invited him to join the group. The following year, he was put in charge of the organization. "As a group, we have harvested over 1,100 deer in the last 10 years in the St. Louis County area," said Belleville. Most of the meat is donated through Share the Harvest and to a Native American group that "uses every part of the deer, including tendons and bones for thread and tools." The group has made presentations at local schools about the importance of deer as a source of food, clothing, and tools. "There are no natural predators of adult deer in this urban environment," said Belleville. "Without management practices like bowhunting, their population would increase well beyond the sustainability of their habitat." Belleville said that residents were skeptical at first. "Urban bowhunting is a very sensitive issue," said Belleville. "We do not solicit by knocking on doors. Contact has been primarily by word of mouth from a resident where we have hunted. A hunting record of ethics, safety, and effectiveness has spoken for itself." —*photograph by David Stonner*